ZCC Cutting Tools
Europe GmbH

Catalogo Principale

Version 2026

– IT –

Benvenuti alla ZCC Cuttting Tools Europe

Questa ultima versione del nostro catalogo principale offre una panoramica completa dell'intera gamma dei nostri prodotti standard. Il team di ZCC Cutting Tools ed io siamo lieti di presentarvi ancora una volta la nostra gamma di prodotti e soluzioni in continua crescita e tecnologicamente migliorate per l'ottimizzazione personalizzata della qualità e dell'efficienza della vostra produzione, su misura per le vostre esigenze.

Oltre ai nostri nuovi cataloghi di prodotti, che in genere vengono pubblicati due volte all'anno, consultate regolarmente la nostra gamma di prodotti e servizi in continua evoluzione e le relative innovazioni di ZCC-CT.

"Il valore aggiunto si ottiene con la collaborazione" è e resta un'autentica esigenza, nonché la nostra promessa ai clienti da oltre 20 anni. La nostra offerta si estende quindi ben oltre i contenuti di questo catalogo.
Oltre allo sviluppo e al collaudo di soluzioni speciali specifiche per i clienti e all'ottimizzazione dei processi dei clienti nei centri tecnologici e dimostrativi presso la sede centrale europea di Düsseldorf e l'ufficio vendite di Birmingham/Regno Unito, La nostra offerta include anche servizi completi come la gestione degli utensili e la fornitura di dati sugli utensili, la preparazione degli utensili e la formazione sui prodotti e sulle tecnologie applicative.

Questo catalogo generale è suddiviso in tre principali aree di applicazione. Nella parte A che segue troverete gli utensili per tornitura; nella parte B, gli utensili per fresatura, e nella parte C gli utensili per foratura. Inoltre, ZCC-CT ha dedicato un intero catalogo separato ai sistemi di utensili e agli utensili di alesatura. Se avete bisogno di ulteriori cataloghi e informazioni supplementari su questi o altri argomenti, contattate il vostro referente personale o il nostro team di vendita interno.

Vi ringraziamo per l'interesse e la fiducia, e ci auguriamo una proficua collaborazione. Il vostro team di ZCC Cutting Tools Europe GmbH è sempre a vostra completa disposizione.

Q. Zhao
Amministratore delegato di ZCC Cutting Tools Europe GmbH

Sede principale di ZCC Cutting Tools, Zhuzhou, Cina

Sede principale di ZCC Cutting Tools Europe GmbH, Düsseldorf, Germania

Sede Centrale Europea

ZCC Cutting Tools Europe GmbH

www.zccct-europe.com
Wanheimer Str. 57, 40472 Düsseldorf, Germany
Tel.: +49 (0)211-989240-0
Fax: +49 (0)211-989240-111
E-mail: info@zccct-europe.com

Filiale Francia

ZCC Cutting Tools Europe GmbH

Succursale Française

www.zccct-europe.com
14, Allée Charles Pathé, 18000 Bourges, France
Tel.: +33 (0)2 45 41 01 40
Fax: +33 (0)2 48 66 19 46
E-mail: ventes@zccct-europe.com

Succursale Italia

ZCC Cutting Tools Europe GmbH

Italy Branch

www.zccct-europe.com
Via Giuseppe di Vittorio 24
20068 Peschiera Borromeo (Milano), Italia
Tel.: +49 (0)211-989240-390
+39 (0)2 39261 156
E-mail: infoit@zccct-europe.com

Filiale Regno Unito

ZCC Cutting Tools Europe GmbH

UK Division

www.zccct-europe.com
Technology & Demonstration Centre UK
Block 1D & 1E Grazebrook Industrial Park, Hulbert Drive
Dudley, West Midlands, DY2 0BE
Tel.: +44 (0)330 441 8766
E-mail: infouk@zccct-europe.com

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Member of Minmetals Group

Sede principale di ZCC Cutting Tools, Zhuzhou, Cina

Produzione di utensili

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Inserti in metallo duro e cermet

Negativo, bilaterale – Finitura

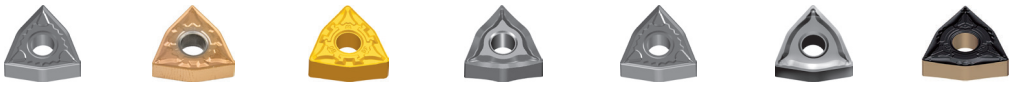
	CNEG-NF	CNMG-ADF	CNMG-DF	CNMG-EF	CNMG-SF	CNMG-XF
Lunghezza tagl.	12	12	09 12	09 12	09 12	12
Pagina	A57	A56	A56	A56	A57	A57

	DNEG-NF	DNEG-NGF	DNMG-ADF	DNMG-DF	DNMG-EF	DNMG-FM	DNMG-SF	DNMG-XF
Lunghezza tagl.	15	15	11 15	11 15	11 15	15	11 15	11 15
Pagina	A82	A82	A75	A76	A81	A81	A76	A77

	SNMG-ADF	SNMG-DF	SNMG-EF	SNMG-SF	SNMG-XF
Lunghezza tagl.	12	12	09 12 15	09 12	12
Pagina	A92	A92	A93	A92	A94

	TNMG-ADF	TNMG-DF	TNMG-EF	TNMG-FM	TNMG-SF	TNMG-XF
Lunghezza tagl.	16	16 22	11 16 22	16	16	16
Pagina	A110	A110	A112	A113	A111	A112

	VNEG-NF	VNEG-NGF	VNMG-ADF	VNMG-DF	VNMG-EF	VNMG-SF	VNMG-XF
Lunghezza tagl.	16	16	16	16	16	16	16
Pagina	A122	A123	A122	A122	A122	A123	A124



	WNEG-NF	WNMG-ADF	WNMG-DF	WNMG-EF	WNMG-NF	WNMG-SF	WNMG-XF
Lunghezza tagl.	08	06 08	06 08	06 08	06	06 08	06 08
Pagina	A128	A127	A127	A128	A128	A127	A129

Negativo, bilaterale, raschiante – Finitura

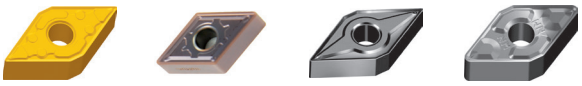
	CNMG-WG	DNMX-WG	TNMX-WG	WNMG-WG
Lunghezza tagl.	12	11 15	16	08
Pagina	A55	A75	A110	A128

Inserti in metallo duro e cermet

Negativo, bilaterale – Asportazione media

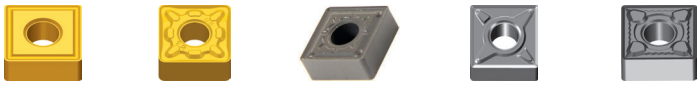
	CNMG	CNMG-DM	CNMG-EG	CNMG-EM	CNMG-NM	
Lunghezza tagl.	12	09 12 16 19	12	12 16	12	
Pagina	A73	A60	A61	A61	A63	

	CNMG-PM	CNMG-TC	CNMG-TK	CNMG-XM	CNMG-XMH	CNMG-ZM	
Lunghezza tagl.	09 12 16 19	12 16	12	12 16 19	12 16	12 16	
Pagina	A58	A63	A63	A59	A59	A62	



	DNMG-DM	DNMG-EG	DNMG-EM	DNMG-NM	
Lunghezza tagl.	11 15	15	11 15	15	
Pagina	A78	A84	A83	A85	

	DNMG-PM	DNMG-TC	DNMG-TK	DNMG-XM	DNMG-XMH	DNMG-ZM	
Lunghezza tagl.	11 15	15	15	11 15	11 15	15	
Pagina	A79	A85	A86	A77	A77	A80	



	SNMG	SNMG-DM	SNMG-EG	SNMG-EM	SNMG-NM	
Lunghezza tagl.	12	09 12 15 19	12	12 15	12	
Pagina	A105	A96	A96	A97	A98	

	SNMG-PM	SNMG-TC	SNMG-TK	SNMG-XM	SNMG-ZM	
Lunghezza tagl.	09 12 15 19	12 15	12	12 15 19	12	
Pagina	A95	A97	A97	A94	A95	

	TNMG	TNMG-DM	TNMG-EG	TNMG-EM	TNMG-PM	TNMG-TC	TNMG-XM	TNMG-ZM	
Lunghezza tagl.	16 22 27 33	11 16 22	16	16 22	11 16 22	16 22	16 22	16	
Pagina	A120	A114	A116	A116	A114	A116	A113	A115	

Inserti in metallo duro e cermet

Negativo, bilaterale – Asportazione media

VNMG-DM	VNMG-EM	VNMG-NM	
16	16	16	Lunghezza tagl.
A125	A125	A125	Pagina

VNMG-PM	VNMG-SNR	VNMG-TC	VNMG-XM	VNMG-ZM	
16	16	16	16	16	Lunghezza tagl.
A126	A126	A126	A124	A126	Pagina

WNMG-DM	WNMG-EG	WNMG-EM	WNMG-NM	
06 08	08	06 08	08	Lunghezza tagl.
A130	A130	A130	A132	Pagina

WNMG-PM	WNMG-TC	WNMG-TK	WNMG-XM	WNMG-XMH	WNMG-ZM	
06 08	08	08	06 08	06 08	06 08	Lunghezza tagl.
A131	A132	A132	A129	A129	A131	Pagina

RNMG	
12	Lunghezza tagl.
A135	Pagina

Negativo, bilaterale – Asportazione media - sgrossatura

CNMA	DNMA	SNMA	SNUN	TNMA	WNMA	PNMX-XH	ONMX-XH	
12 16 19	15	12 15 19	12 19	16 22	06 08	09	05	Lunghezza tagl.
A73	A88	A106	A108	A121	A133	A137	A136	Pagina

Negativo, bilaterale – Sgrossatura

CNMG-DR	CNMG-XLR	CNMG-ER	CNMG-SNR	DNMG-XLR	DNMG-DR	DNMG-ER	DNMG-SNR	
12 16 19 25	12 16 19	12 16 19	12 16 19	15	15	15	15	Lunghezza tagl.
A64	A66	A68	A65	A87	A86	A88	A87	Pagina

Inserti in metallo duro e cermet

Negativo, bilaterale – Sgrossatura

	SNMG-LR	SNMG-XLR	SNMG-DR	SNMG-ER	SNMG-SNR	
Lunghezza tagl.	19	15	12 15 19 25	12 15 19	12 19	
Pagina	A100	A100	A98	A99	A99	

	TNMG-DR	TNMG-ER	TNMG-XLR	TNMG-SNR
Lunghezza tagl.	16 22 27	16 22	16	16
Pagina	A117	A118	A117	A115

	WNMG-XLR	WNMG-DR	WNMG-SNR
Lunghezza tagl.	08	06 08	08
Pagina	A133	A133	A131

Negativo, monolaterale – Sgrossatura

	CNMM	CNMM-DR	CNMM-ER	CNMM-HDR	CNMM-HPR	CNMM-LR
Lunghezza tagl.	19	12 16 19 25	25	12 16 19 25	19 25	12 16 19 25
Pagina	A70	A67	A68	A71	A72	A70

	DNMM-XLR	DNMM-DR	DNMM-ER	DNMM-HDR	DNMM-LR
Lunghezza tagl.	15	15	15	15	15
Pagina	A90	A89	A89	A89	A90

	SNMM	SNMM-DR	SNMM-ER	SNMM-HDR	SNMM-HPR	SNMM-LR
Lunghezza tagl.	19 25	15 19 25	15 25	12 15 19 25	19 25	12 15 19 25
Pagina	A107	A101	A101	A103	A104	A102

	TNMM	TNMM-DR	TNMM-HDR	TNMM-LR
Lunghezza tagl.	16 22	16 22 27	22 27	16
Pagina	A121	A118	A119	A118

Inserti in metallo duro e cermet

Forma speciale – Finitura

CNMG-RF	CNMM-RF	CNMM-RH	KNUX	LNUX-RF	LNUX-RH	LNUX-RR	
19	19	19	16	19 30	19 30	19 30	Lunghezza tagl.
A138	A138	A138	A140	A139	A139	A139	Pagina

Positivo – Finitura di precisione

CCGT-SF	CCGT-QF	CCGT-USF	CPGT-SF	DCGT-QF	DCGT-SF	DCGT-USF	DPGT-SF	
06 09 12	06 09	06 09 12	06 09	07 11	07 11	07 11	07 11	Lunghezza tagl.
A141	A141	A142	A151	A152	A152	A153	A160	Pagina

TBGH	TCGT-SF	TPGH	TPGT-SF	
06	06 09 11	09 11	09 11	Lunghezza tagl.
A168	A169	A175	A176	Pagina

VCGT-QF	VCGT-SF	VBGT-QF	VBGT-SF	
11 16	11 16	11 16	11	Lunghezza tagl.
A182	A182	A179	A179	Pagina

Positivo – Finitura

CCMT-AHF	CCMT-EF	CCMT-HF	CCMT-XF	CPMT-HF	
06 09 12	06 09 12	06 09 12	06 09	06	Lunghezza tagl.
A143	A144	A143	A144	A151	Pagina

DCMT-AHF	DCMT-EF	DCMT-HF	DCMT-XF	
07 11	07 11	07 11	07 11	Lunghezza tagl.
A154	A155	A155	A155	Pagina

Inserti in metallo duro e cermet

Positivo – Finitura

	SCMT-AHF	SCMT-EF	SCMT-HF	SCMT-XF	
Lunghezza tagl.	09	09	09	09	
Pagina	A163	A163	A164	A163	

	TCMT-AHF	TCMT-EF	TCMT-HF	TCMT-XF	
Lunghezza tagl.	11 16	09 11 16	09 11 16	09 11 16	
Pagina	A170	A171	A170	A170	

	VBET-NF	VBET-NGF	VBMT-AHF	VBMT-EF	VBMT-XF	
Lunghezza tagl.	16	16	16	11 16	11 16	
Pagina	A178	A180	A177	A177	A177	

	VCGT-HF	VCGT-NF	VCMT-AHF	VCMT-EF	VCMT-XF	
Lunghezza tagl.	11	16	16	16	11 16	
Pagina	A183	A183	A187	A187	A186	

Positivo – Asportazione media

	CCMT-EM	CCMT-HM	CCMT-XM	CCMW	CPGW	CPMT-HM	
Lunghezza tagl.	06 09 12	06 09 12	09 12	09 12	06	09	
Pagina	A145	A147	A146	A148	A151	A151	

	DCMT-EM	DCMT-HM	DCMT-XM	DCMW	
Lunghezza tagl.	07 11 15	07 11	07 11	11	
Pagina	A156	A157	A156	A158	

	SCMT-EM	SCMT-HM	SCMT-XM	SPMW	
Lunghezza tagl.	09 12	09 12	09 12	09 12	
Pagina	A163	A164	A164	A167	

Inserti in metallo duro e cermet

Positivo – Asportazione media

TCMT	TCMT-EM	TCMT-HM	TCMT-XM	TCMW	
22	09 11 16 22	09 11 16	16	16	Lunghezza tagl.
A173	A171	A172	A171	A172	Pagina

VBMT-EM	VBMT-HM	VBMT-XM	VCMT-EM	VCMT-XM	
11 16	16	16	16	16	Lunghezza tagl.
A180	A180	A180	A187	A187	Pagina

Positivo – Sgrossatura

CCMT-HR	CCMT-TC	DCMT-HR	RCMT · RCGT	RCMX	RCMX-PV	SCMT-HR	TCMT-HR	
06 09 12	06 09 12	11	08 10 12 16 20 25	08 10 12 16 20 25 32	32	09 12	09 11 16 22	Lunghezza tagl.
A148	A148	A158	A161	A162	A162	A165	A172	Pagina

VBMT-HR	VBMT-SNR	
16	16	Lunghezza tagl.
A181	A181	Pagina

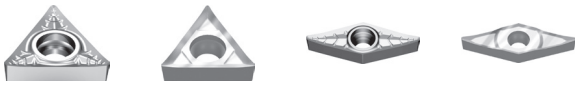
Positivo – Lavorazione alluminio

CCGX-LC	CCGX-LH	DCGX-LC	DCGX-LH	
06 09 12	06 09 12	07 11	07 11	Lunghezza tagl.
A149	A150	A158	A159	Pagina

SCGX-LC	SCGX-LH	RCGX-LH	
09 12	09 12	08 12	Lunghezza tagl.
A165	A166	A161, B108, B112	Pagina

Inserti in metallo duro e cermet

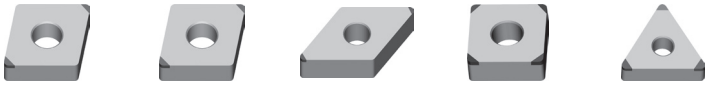
Positivo – Lavorazione alluminio



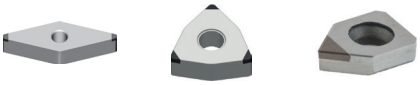
	TCGX-LC	TCGX-LH	VCGX-LC	VCGX-LH	
Lunghezza tagl.	09 11 16	09 11 16	11 16 22	11 16 22	
Pagina	A174	A174	A184	A185	

Inserti in PCBN & PCD

Negativo

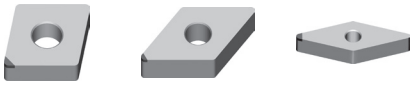


	CNGA-2W	CNGA-2	DNGA-2	SNGA-4	TNGA-3	
Lunghezza tagl.	12	12	15	12	16	
Pagina	A191	A190	A192	A193	A194	



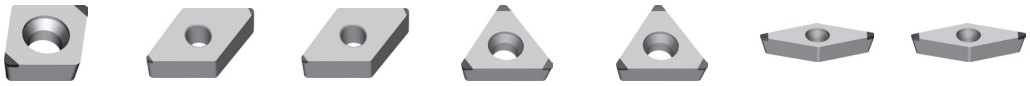
	VNGA-2	WNGA-3	ZNEX	
Lunghezza tagl.	16	08	04	
Pagina	A195	A196	A197	

	CNGN	CNGN-M	RNGN	SNGN	SNGN-M	TNGN	WNGN	WNGN-M	
Lunghezza tagl.	09 12	12	09 12	12	12	11	08	08	
Pagina	A205	A205	A206	A207	A207	A208	A209	A209	



	CNGA	DNGA	VNGA	
Lunghezza tagl.	12	15	16	
Pagina	A210	A211	A212	

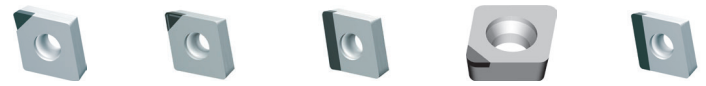
Positivo



	CCGW-2	DCGW	DCGW-2	TCGW-3W	TCGW-3	VBGW-2	VCGW-2	
Lunghezza tagl.	06 09 12	11	07 11	11	11 16	11 16	11 16	
Pagina	A198	A201	A200	A202	A202	A203	A204	

Inserti in PCBN & PCD

Positivo



CCGT	CCGT-1MED	CCGT-L	CCGW	CCGW-L	
06 09 12	06 09	09 12	06 12	06 12	Lunghezza tagl.
A213	A213	A214	A215	A216	Pagina

DCGT	DCGT-1MED	DCGW	
07 11	07 11	07 11	Lunghezza tagl.
A217	A218	A219	Pagina

TCGT	TCGT-1MED	TCGT-L	TCGW	TCGW-L	
11 16	11 16	09 11 16	11 16	11 16	Lunghezza tagl.
A220	A220	A221	A222	A223	Pagina

VBGT	VBGT-1MED	VBGW	VCGT	VCGT-1MED	VCGW	
11 16	16	11 16	11 16	11 16	11 16 22	Lunghezza tagl.
A224	A224	A225	A226	A227	A228	Pagina

Inserti ceramici

Negativo

CNGA	CNGN	CNGX	DNGA	DNGN	DNGX	
12 16	12 16	12	15	15	15	Lunghezza tagl.
A232	A233	A234	A235	A237	A238	Pagina

RNGA	RNGN	SNGA	SNGN	SNGX	TNGA	TNGN	
12	06 09 12 15 19 25	12	09 12 15 19	12	16 22	16 22	Lunghezza tagl.
A239	A240	A242	A243	A245	A246	A247	Pagina

VNGA	WNGA	
16	08	Lunghezza tagl.
A248	A249	Pagina

Inserti ceramici

Positivo

RCGX	RPGN	TPGN	
06 09 12 19	12	11 16	Lunghezza tagl.
A250	A251	A252	Pagina

Portautensili esterni

Portautensile con bloccaggio doppio

DCKNR/L	DCLNR/L	DDJNR/L	DSBNR/L	DTGNR/L	DVJNR/L	DVVNN	DWLNR/L	
75°	95°	93°	75°	90°	93°	72,5°	95°	Angolo
A263	A262	A264	A265	A266	A268	A267	A269	Pagina

Portautensile con bloccaggio a leva

PCBNR/L	PCKNR/L	PCLNR/L	PDJNR/L	PDNNR/L	PSBNR/L	PSDNN	PSKNR/L	
75°	75°	95°	93°	63°	75°	45°	75°	Angolo
A270	A271	A272	A274	A275	A276	A278	A279	Pagina

PSSNR/L	PTFNR/L	PTGNR/L	PTTNR/L	PWLNR/L	
45°	91°	90°	60°	95°	Angolo
A280	A281	A283	A282	A285	Pagina

Portautensile con sistema di serraggio dotato di leva di fissaggio (raffreddamento interno)

PCBNR/LC	PCLNR/LC	PDJNR/LC	PSBNR/LC	PWLNR/LC	
75°	95°	93°	75°	95°	Angolo
A286	A287	A288	A289	A290	Pagina

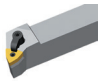
Portautensile con sistema di bloccaggio a staffa / perno

MCBNR/L	MCLNR/L	MDJNR/L	MDPNN	MRDNN	MRGNR/L	MSBNR/L	MSDNN	
75°	95°	93°	62,5°	45°	90°	75°	45°	Angolo
A291	A292	A294	A295	A307	A308	A296	A299	Pagina

Portautensili esterni

Portautensile con sistema di bloccaggio a staffa / perno

MSKNR/L	MSRNR/L	MTFNR/L	MTGNR/L	MTJNR/L	MTJNR/L-Z	MVJNR/L	MVVNN	
75°	75°	90°	90°	93°	93°	93°	72,5°	Angolo
A298	A297	A303	A300	A301	A302	A305	A304	Pagina



MWLNR/L	
95°	Angolo
A306	Pagina

Portautensile con bloccaggio a vite

SCACR/L	SCLCR/L	SDACR/L	SDJCR/L	SDNCN	SRDCN	SRGCR/L	SSBCR/L	
90°	95°	90°	93°	63°	45°	90°	75°	Angolo
A309	A310	A311	A312	A313	A329	A331	A320	Pagina

SSDCN	SSKCR/L	SSSCR/L	STACR/L	STFCR/L	STGCR/L	STTCR/L	SVABR/L	
45°	75°	45°	90°	90°	90°	60°	90°	Angolo
A321	A322	A323	A324	A325	A326	A327	A315	Pagina

SVHBR/L	SVJBR/L	SVJCR/L	SVVBN	SVVCN	SWACR/L	
107,5°	93°	93°	90°	72,5°	90°	Angolo
A317	A314	A319	A316	A318	A328	Pagina

SOXNR/L	SPXNR/L	
67°	67°	Angolo
A332	A333	Pagina

Portautensile con bloccaggio a staffa

CKJNR/L	CKNNR/L	
93°	63°	Angolo
A334	A335	Pagina

Portautensili esterni

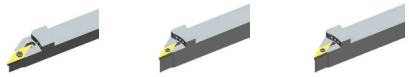
Portautensili per inserti ceramici e CBN completo

CCLNR/L	**CDJNR/L**	**CRDNN**	**CSDNN**	**CSKNR/L**	**CSRNR/L**	**CTJNR/L**	**CTUNR/L**	
95°	93°	45°	45°	75°	75°	93°	93°	Angolo
A336	A338	A342	A343	A340	A341	A337	A339	Pagina

JCLNR/L	**JDJNR/L**	**JSDNN**	
95°	93°	45°	Angolo
A344	A345	A346	Pagina

Fantine mobili

SCACR/L-SC	**SCLCR/L-SC**	**SDACR/L-SC**	**SDHCR/L-SC**	**SDJCR/L-SC**	**SDNCN-SC**	
90°	95°	90°	107,5°	93°	63°	Angolo
A350	A351	A352	A353	A354	A355	Pagina



SVACR/L-SC	**SVJBR/L-SC**	**SVJCR/L-SC**	
90°	93°	93°	Angolo
A356	A357	A358	Pagina

Tecnologia ferroviaria

RW-PCLNR/L	**RW-PLANR/L**	**RW-PLFNR/L**	
90°	90°	90°	Angolo
A364	A362	A363	Pagina

Barre alesatrici

Barre alesatrici in acciaio con bloccaggio a leva –

A*-PCLNR/L**	**A***-PDSNR/L**	**A***-PDUNR/L**	**A***-PSKNR/L**	**A***-PTFNR/L**	**A***-PWLNR/L**	
95°	45°	93°	75°	90°	95°	Angolo
A370	A372	A373	A375	A376	A378	Pagina

Barre alesatrici

Barre alesatrici in acciaio con bloccaggio a leva –

S***-PCLNR/L	S***-PDSNR/L	S***-PDUNR/L	S***-PSKNR/L	S***-PTFNR/L	S***-PWLNR/L	
95°	45°	93°	75°	90°	95°	Angolo
A370	A372	A373	A375	A376	A378	Pagina

Barre alesatrici in acciaio con bloccaggio a vite –

A***-SCLCR/L	A***-SDQCR/L	A***-SDUCR/L	A***-SDZCR/L	
95°	107,5°	93°	95°	Angolo
A379	A381	A382	A383	Pagina

S***-SCFCR/L	S***-SCLCR/L	S***-SCLPR/L	S***-SDQCR/L	S***-SDQPR/L	S***-SDUCR/L	S***-SDUPR/L	S***-SDZCR/L	
90°	95°	95°	107,5°	107,5°	93°	93°	95°	Angolo
A398	A379	A394	A381	A395	A382	A396	A383	Pagina

A***-SSKCR/L	A***-STFCR/L	A***-SVQBR/L	A***-SVUBR/L	
75°	90°	107,5°	93°	Angolo
A384	A386	A391	A392	Pagina

S***-SSKCR/L	S***-STFCR/L	S***-STUPR/L	S***-SVJCR/L	S***-SVQBR/L	S***-SVQCR/L	S***-SVUBR/L	S***-SVUCR/L	
75°	90°	93°	93°	107,5°	107,5°	93°	93°	Angolo
A384	A386	A397	A388	A391	A389	A392	A390	Pagina

Barre alesatrici in metallo duro integrale con bloccaggio a vite –

C***-SCLCR/L	C***-SCLPR/L	C***-SDQPR/L	C***-SDUCR/L	C***-SDUPR/L	C***-STUPR/L	
95°	95°	107,5°	93°	93°	93°	Angolo
A401	A400	A402	A405	A404	A406	Pagina

C***-SVQCR/L	C***-SVUCR/L	C***-SZLNR/L	
93°	93°	95°	Angolo
A409	A410	A411	Pagina

Barre alesatrici

Barre alesatrici in metallo duro integrale con bloccaggio a vite –

E*-SCLCR/L**	**E***-SCLPR/L**	**E***-SDQCR/L**	**E***-SDUCR/L**	**E***-STFCR/L**	**E***-STFPR/L**	
95°	95°	107,5°	93°	90°	90°	Angolo
A401	A400	A403	A405	A407	A408	Pagina

E*-SVUCR/L**	
93°	Angolo
A410	Pagina

Inserti negativi

Finitura

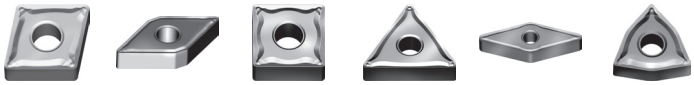
XF P

Geometria bilaterale per la finitura nel campo di applicazione P. Controllo del truciolo ottimale con forze di taglio ridotte.

RF P

Geometria bilaterale per cicli che spaziano dalla finitura all'asportazione media.

SF P M K



Rompitruciolo bilaterale in combinazione con gradi Cermet. Geometria molto affilata con controllo del truciolo migliorato e elevata finitura superficiale. Ideale per lavorazioni con profondità di taglio e avanzamento ridotti.

DF P K

Rompitruciolo bilaterale con elevato controllo del truciolo. Adatto alla finitura e l´asportazione media di acciaio e ghise.

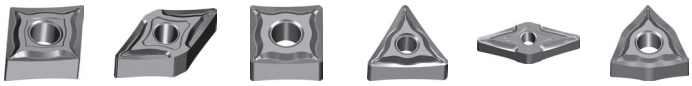
ADF P M

Rompitruciolo bilaterale rettificato con elevato controllo del truciolo. Ampio campo di applicazione grazie all'eccellente bilanciamento di affilatezza e stabilità del tagliente.

Inserti negativi

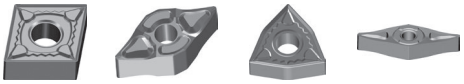
Finitura

EF M S



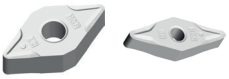
Rompitruciolo bilaterale con tagliente affilato e grande angolo di spoglia per la finitura di acciai inossidabili.

NF S M



Rompitruciolo bilaterale con tagliente rettificato e grande angolo di spoglia per la finitura. Classe E per una migliore ripetibilità.

NGF S M



Rompitruciolo bilaterale con tagliente rettificato e grande angolo di spoglia per la finitura. Classe E per una migliore ripetibilità.

Raschiante

WG P M K

Rompitruciolo bilaterale con geometria raschiante. Permette una finitura superficiale costante in caso di raddoppio dell´avanzamento.

Asportazione media

XM P

Geometria bilaterale per l'asportazione media nel campo di applicazione P. Controllo del truciolo ottimale in caso di avanzamenti elevati e ridotti.

Inserti negativi

Asportazione media

XMH P K

Geometria bilaterale per l'asportazione media nel campo di applicazione P. Eccellente controllo del truciolo con forze di taglio ridotte grazie al tagliente a progettazione positiva.

DM P K

Rompitruciolo bilaterale per lavorazione media. Ampio campo di applicazione grazie all'eccellente bilanciamento di affilatezza e stabilità del tagliente.

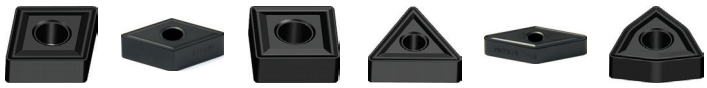
ZM P

Rompitruciolo bilaterale per l'asportazione media. Ampia gamma di applicazioni grazie al tagliente stabile e all'ampio angolo di spoglia. Particolarmente adatto alla lavorazione dell'acciaio.

PM P K

Rompitruciolo bilaterale per lavorazione media. Ampio campo di applicazione per acciaio e ghise.

TC K P



Rompitruciolo bilaterale con tagliente periferico. Affidabilità di processo grazie alla più elevata stabilità del tagliente.

Inserti negativi

Asportazione media

TK K

Geometria bilaterale per l'asportazione media nel campo di applicazione K. Straordinaria combinazione di affilatura del tagliente e resistenza agli impatti.

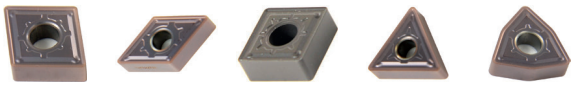
NM S M

Rompitruciolo bilaterale con tagliente affilato e grande angolo di spoglia per la lavorazione media di materiali a difficile asportazione.

EM M S

Rompitruciolo bilaterale con tagliente affilato e grande angolo di spoglia. Affidabilità di processo nella lavorazione media di acciai inossidabili.

EG M S



Rompitruciolo bilaterale con tagliente rettificato e grande angolo di spoglia. Ampio campo di applicazione nella lavorazione media di acciai inossidabili.

Basic P K

Rompitruciolo bilaterale con tagliente periferico per lavorazione universale di acciaio e ghise.

Inserti negativi

Asportazione media

XH P M

Geometria bilaterale per asportazioni di finiture e taglio medio in applicazioni P e M. Eccellente controllo dei trucioli ad alte velocità di avanzamento.

Sgrossatura

DR Bilaterale P K

Rompitruciolo bilaterale con angolo di spoglia positivo e tagliente stabile per sgrossatura leggera e media di acciaio e ghise.

DR Monolaterale P K

Rompitruciolo monolaterale con angolo di spoglia positivo e tagliente stabile per sgrossatura leggera e media di acciaio e ghise.

XLR Bilaterale P K M

Geometria bilaterale per la sgrossatura media nel campo di applicazione P. Eccellente controllo del truciolo con forze di taglio ridotte grazie al tagliente a progettazione positiva.

XLR Monolaterale P K M

Geometria monolaterale per la sgrossatura media nel campo di applicazione P. Eccellente controllo del truciolo con forze di taglio ridotte grazie al tagliente a progettazione positiva.

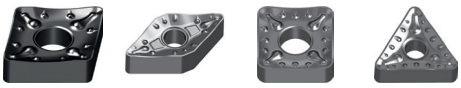
Inserti negativi

Sgrossatura

RH P

Geometria bilaterale per operazioni dall'asportazione media alla sgrossatura.

LR P M



Rompitruciolo monolaterale con tagliente curvo e geometria a bugna dal design unico. Pressione di taglio ridotta per affidabilità di processo. Sgrossatura leggera di acciaio e acciaio inossidabile.

ER Bilaterale M S

Rompitruciolo bilaterale con grande angolo di spoglia per basse forze di taglio Adatto per la sgrossatura di acciai inossidabili.

ER Monolaterale M S

Rompitruciolo monolaterale con grande angolo di spoglia per basse forze di taglio. Adatto per la sgrossatura di acciai inossidabili.

HDR P K

Rompitruciolo monolaterale con elevata stabilità del tagliente e resistenza alla deformazione. Particolarmente adatto per la sgrossatura con profondità di taglio elevate di acciaio e acciaio inossidabile.

Inserti negativi

Sgrossatura

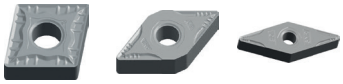
HPR P K

Rompitruciolo monolaterale con elevata stabilità del tagliente e ampia tasca del rompitruciolo. Particolarmente adatto per la sgrossatura pesante di acciaio e ghise.

Flat K

Inserto bilaterale senza rompitruciolo. Versione stabile del tagliente grazie alla mancanza di microgeometria. Particolarmente adatto per la sgrossatura di ghise.

SNR M S N



Rompitruciolo bilaterale per sgrossatura. Ampio campo di applicazione grazie all'eccellente bilanciamento di affilatezza e stabilità del tagliente.

Lavorazione alluminio

LH N S

Rompitruciolo monolaterale per la lavorazione di leghe di alluminio. Tagliente affilato con angolo di spoglia positivo. Classe G per un'elevata ripetibilità.

Inserti in PCBN & PCD

Flat N H

Con angolo esterno in CBN e PCD brasato. Per la lavorazione di acciaio temprato (CBN) o metalli non ferrosi (PCD).

Inserti negativi

Inserti in PCBN & PCD

Flat H K

Inserto in CBN integrale per la lavorazione di acciaio e ghise.

Inserti ceramici

Flat K H

Inserti ceramici per la lavorazione di acciaio temprato, basso, e ghise.

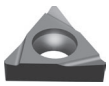
Inserti positivi

Finitura di precisione

USF P M

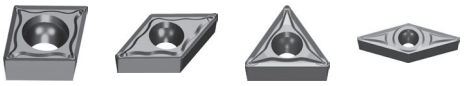
Rompitruciolo monolaterale per finitura di precisione. Tagliente a spigolo vivo con profonde scanalature, particolarmente adatto per la lavorazione di pezzi di piccole dimensioni. Classe G per un'elevata ripetibilità.

R/L P M



Rompitruciolo monolaterale per finitura di precisione. Particolarmente adatto per ottime finiture superficiali. Classe G per un'elevata ripetibilità.

SF P M

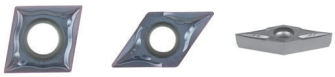


Rompitruciolo monolaterale in combinazione con gradi Cermet. Geometria molto affilata con controllo del truciolo migliorato e elevata finitura superficiale. Ideale per lavorazioni con profondità di taglio e avanzamento ridotti.

Inserti positivi

Finitura

QF P M S



Rompitruciolo monolaterale con massimo controllo dei trucioli. Adatto per la lavorazione media e di finitura di acciaio e acciaio inossidabile.

XF P

Geometria monolaterale per la finitura nel campo di applicazione P. Controllo del truciolo ottimale con forze di taglio ridotte.

HF P K

Rompitruciolo monolaterale con elevato controllo del truciolo. Adatto la finitura e l´asportazione media di acciaio e ghise.

AHF M S P

Rompitruciolo monolaterale rettificato con elevato controllo del truciolo. Ampio campo di applicazione grazie all'eccellente bilanciamento di affilatezza e stabilità del tagliente.

EF M S

Rompitruciolo monolaterale con tagliente affilato e grande angolo di spoglia per la finitura di acciai inossidabili.

Inserti positivi

Finitura

NF M S

Rompitruciolo monolaterale con tagliente rettificato e grande angolo di spoglia per la finitura. Classe E per una migliore ripetibilità.

NGF M S

Rompitruciolo monolaterale con tagliente rettificato e grande angolo di spoglia per la finitura. Classe E per una migliore ripetibilità.

Asportazione media

XM P

Geometria monolaterale per l'asportazione media nel campo di applicazione P. Controllo del truciolo ottimale in caso di avanzamenti elevati e ridotti.

TC K P

Rompitruciolo monolaterale con elevato controllo del truciolo. Adatto la finitura e l´asportazione media di acciaio e ghise.

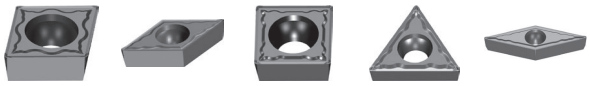
HM P K

Rompitruciolo monolaterale per lavorazione media. Ampio campo di applicazione grazie all'eccellente bilanciamento di affilatezza e stabilità del tagliente.

Inserti positivi

Asportazione media

EM M S



Rompitruciolo monolaterale con tagliente affilato e grande angolo di spoglia. Affidabilità di processo nella lavorazione media di acciai inossidabili.

Basic P K

Rompitruciolo monolaterale con tagliente periferico per lavorazione universale di acciaio e ghise.

Sgrossatura

Flat K

Inserto monolaterale senza rompitruciolo. Versione stabile del tagliente grazie alla mancanza di microgeometria. Particolarmente adatto per la sgrossatura di ghise.

HR P K

Rompitruciolo monolaterale con angolo di spoglia positivo e tagliente stabile per sgrossatura leggera e media di acciaio e ghise.

SNR S M

Rompitruciolo monolaterale per sgrossatura. Ampio campo di applicazione grazie all'eccellente bilanciamento di affilatezza e stabilità del tagliente.

Inserti positivi

Sgrossatura

Basic P K

Rompitruciolo monolaterale con tagliente periferico per lavorazione universale di acciaio e ghise.

Lavorazione alluminio

LC N

Rompitruciolo monolaterale con versione del tagliente straordinaria. Tagliente affilato con angolo di spoglia positivo. Classe G per un'elevata ripetibilità.

LH N

Rompitruciolo monolaterale per la lavorazione di leghe di alluminio. Tagliente affilato con angolo di spoglia positivo. Classe G per un'elevata ripetibilità.

Inserti in PCBN & PCD

Flat N H

Con angolo esterno in CBN o PCD brasato. Per la lavorazione di acciaio temprato (CBN) o metalli non ferrosi (PCD).

MED N

Geometria riportata al laser per la finitura e l'asportazione media.

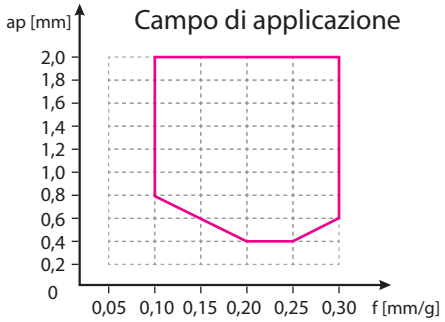
Note

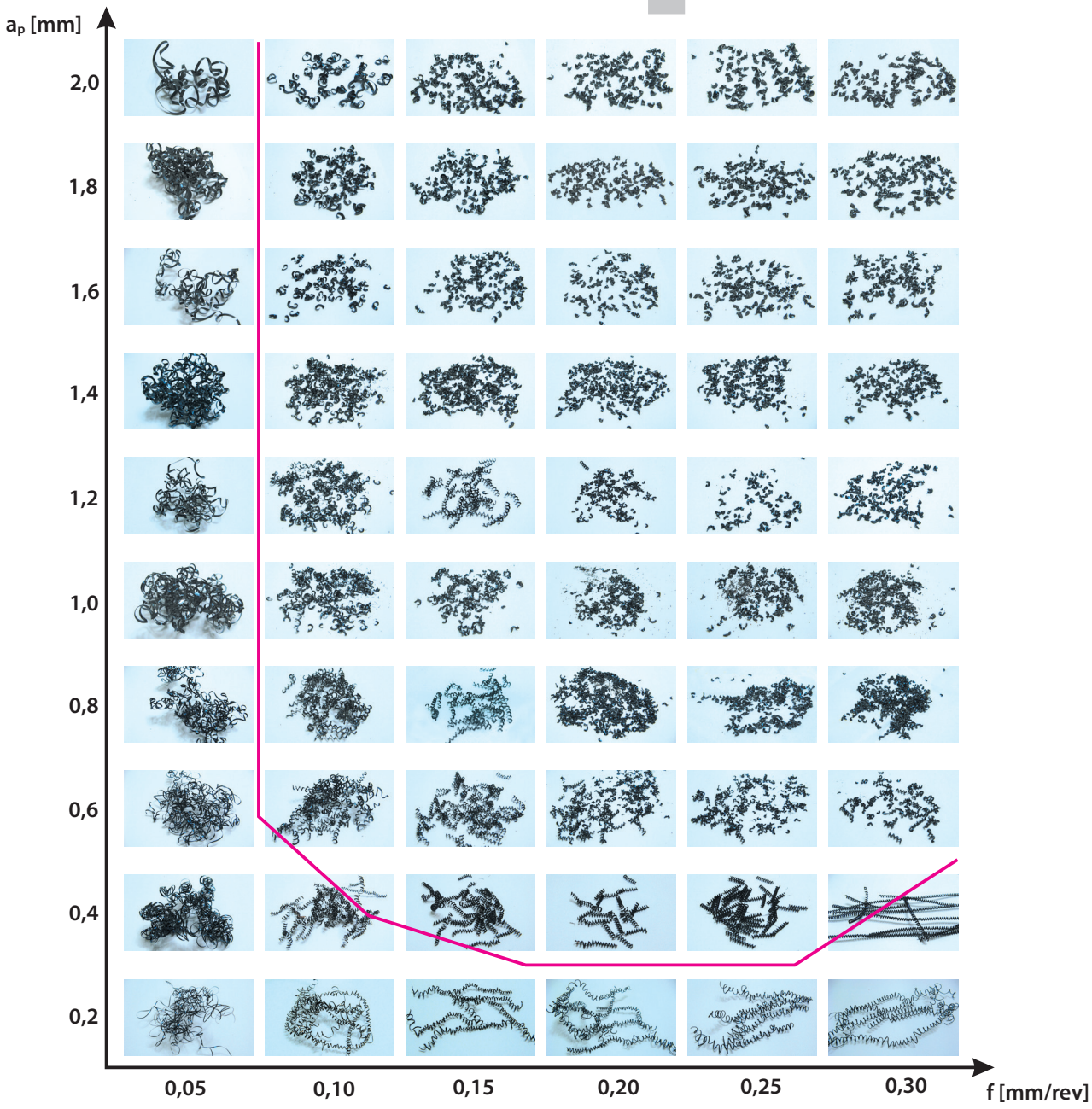
Tornitura generale

Campo di applicazione dei rompitrucioli

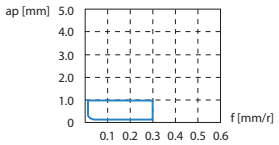
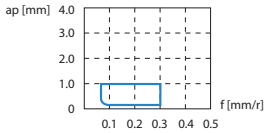
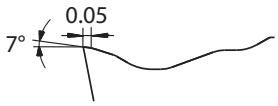
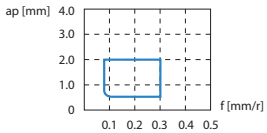
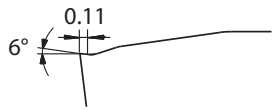
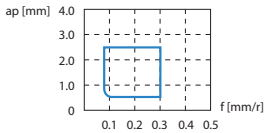
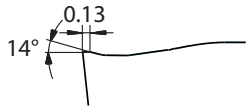
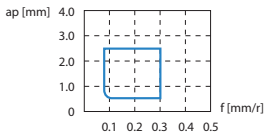
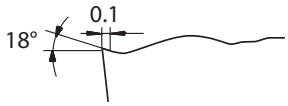
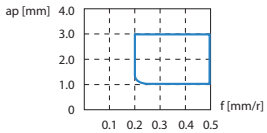
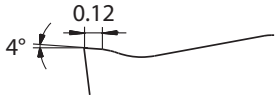
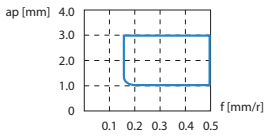
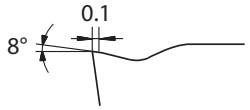
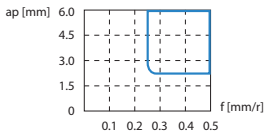
Esempio

Inserto:	CNMG120408-DF
Portautensile:	PCLNL2525M12
Materiale:	C45 Acciaio
V_C:	200 m/min

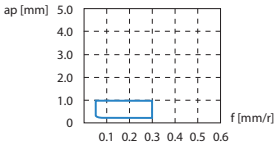
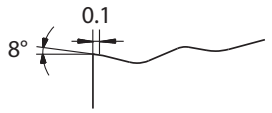
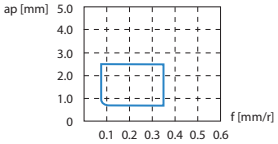
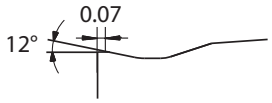
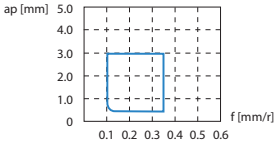
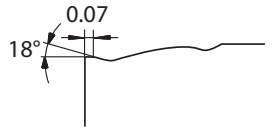
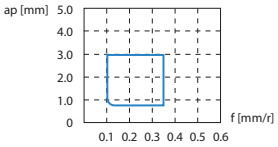
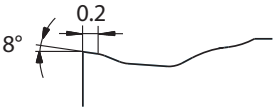
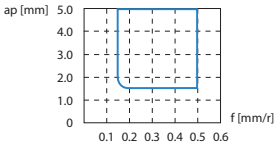
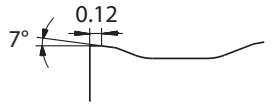
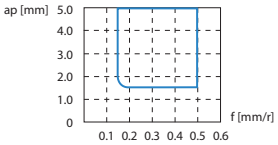
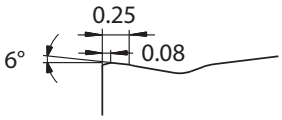
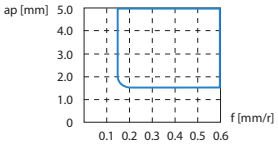
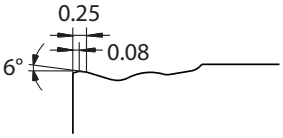
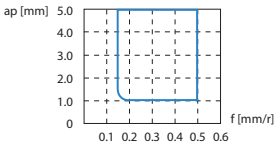
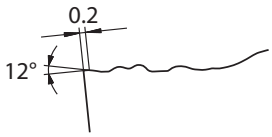
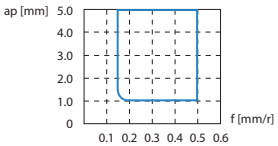
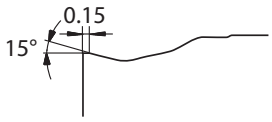
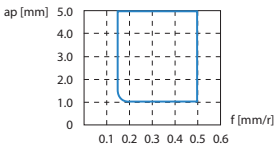
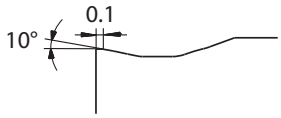
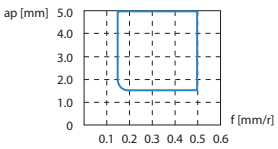
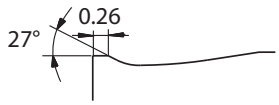




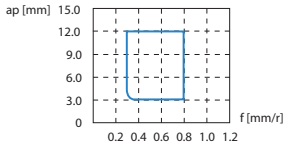
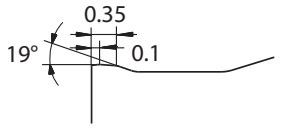
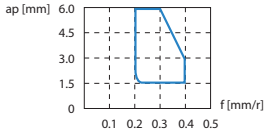
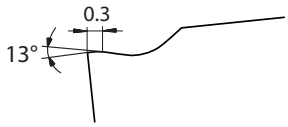
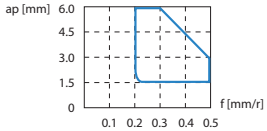
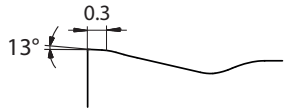
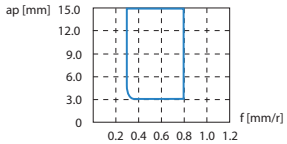
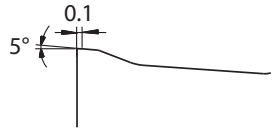
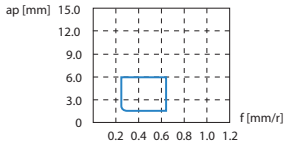
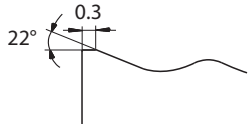
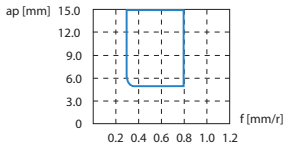
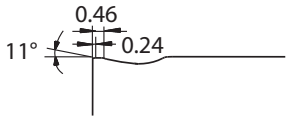
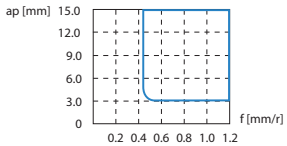
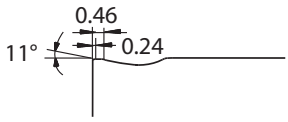
P Inserti positivi

Rompitruciolo	Applicazione		Campo di applicazione	Versione tagliente
QF	Finitura di precisione			
SF	Finitura di precisione			
HF	Finitura			
AHF	Finitura			
XF	Finitura			
HM	Asportazione media			
XM	Asportazione media			
HR	Sgrossatura			

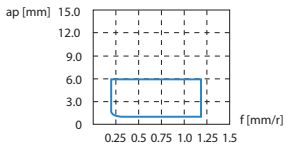
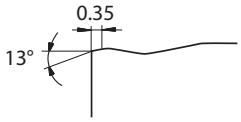
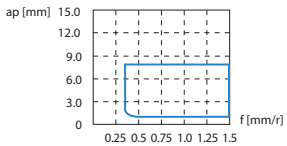
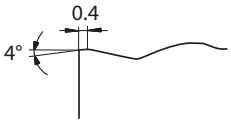
P Inserti negativi

Rompitruciolo	Applicazione		Campo di applicazione	Versione tagliente
SF	Finitura di precisione	●		
DF	Finitura	● ✱		
XF	Finitura	● ✱		
ADF	Finitura	● ✱		
DM	Asportazione media	● ✱		
PM	Asportazione media	● ✱ ✱		
ZM	Asportazione media	● ✱ ✱		
XMH	Asportazione media	● ✱		
XM	Asportazione media	● ✱		
WG	Asportazione media	● ✱		
Basic	Asportazione media	● ✱		

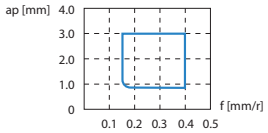
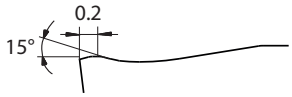
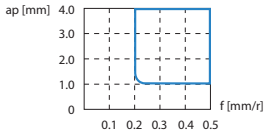
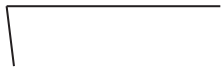
P Inserti negativi

Rompitruciolo	Applicazione		Campo di applicazione	Versione tagliente
DR	Sgrossatura			
XLR	Sgrossatura			
XLR (monolaterale)				
DR (monolaterale)	Sgrossatura			
LR (monolaterale)	Sgrossatura			
HDR (monolaterale)	Sgrossatura			
HPR (monolaterale)	Sgrossatura			

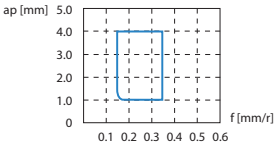
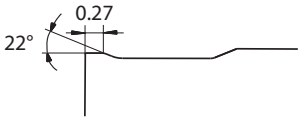
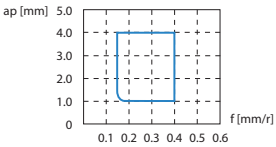
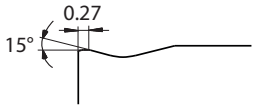
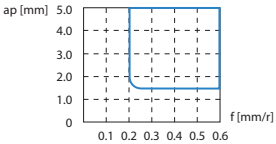
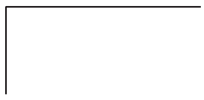
P Inserti negativi (tecnologia ferroviaria)

Rompitruciolo	Applicazione		Campo di applicazione	Versione tagliente
RF	Finitura			
RH	Sgrossatura			

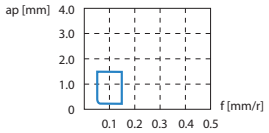
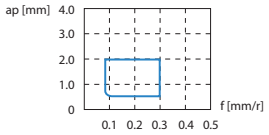
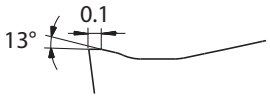
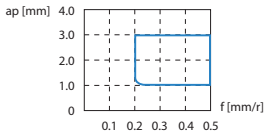
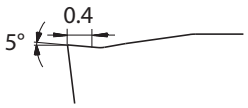
K Inserti positivi

Rompitruciolo	Applicazione		Campo di applicazione	Versione tagliente
TC	Asportazione media			
Flat	Sgrossatura			

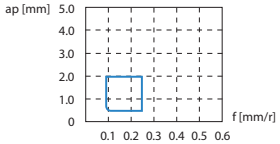
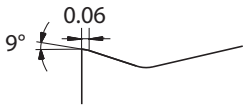
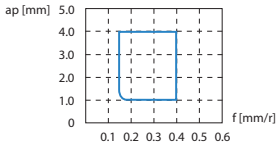
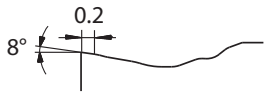
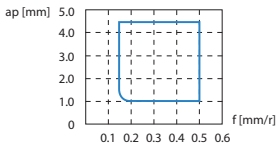
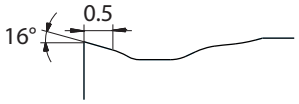
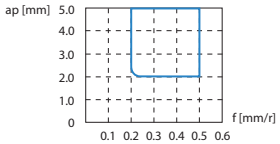
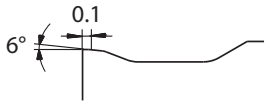
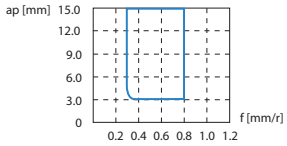
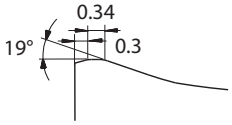
K Inserti negativi

Rompitruciolo	Applicazione		Campo di applicazione	Versione tagliente
TK	Asportazione media			
TC	Asportazione media			
Flat	Sgrossatura			

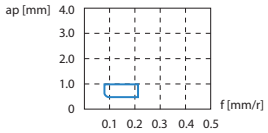
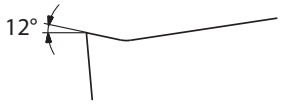
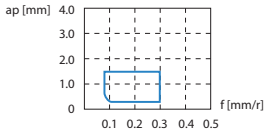
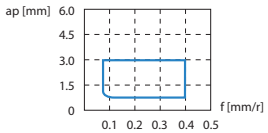
M Inserti positivi

Rompitruciolo	Applicazione		Campo di applicazione	Versione tagliente
USF	Finitura di precisione			
EF	Finitura			
EM	Asportazione media			

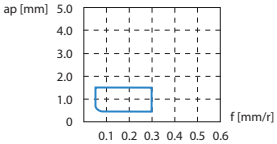
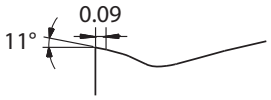
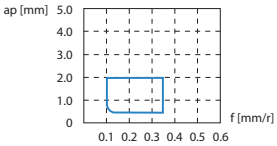
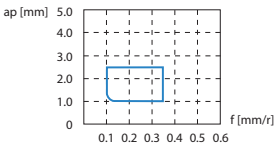
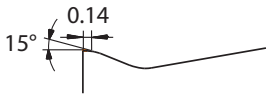
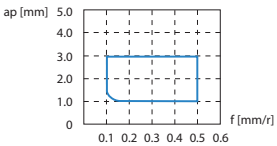
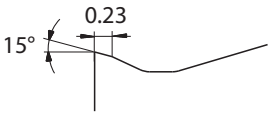
M Inserti negativi

Rompitruciolo	Applicazione		Campo di applicazione	Versione tagliente
EF	Finitura			
EM	Asportazione media			
EG	Asportazione media			
ER	Sgrossatura			
ER (monolaterale)	Sgrossatura			

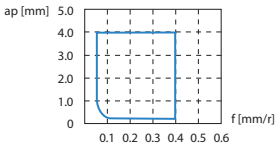
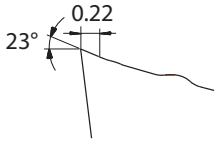
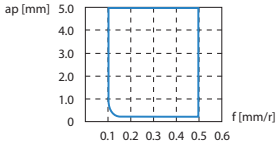
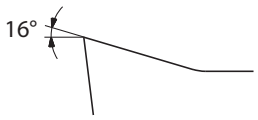
S Inserti positivi

Rompitruciolo	Applicazione		Campo di applicazione	Versione tagliente
NF	Finitura			
NGF	Finitura			
SNR	Sgrossatura			

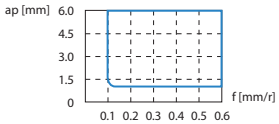
S Inserti negativi

Rompitruciolo	Applicazione		Campo di applicazione	Versione tagliente
NF	Finitura			
NGF	Asportazione media			
NM	Asportazione media			
SNR	Sgrossatura			

N Inserti positivi

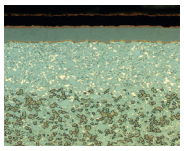
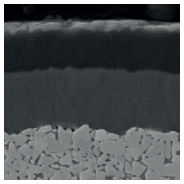
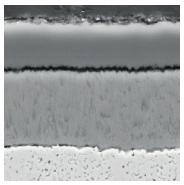
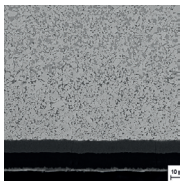
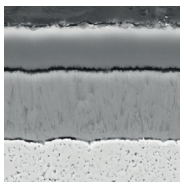
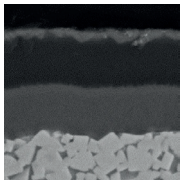
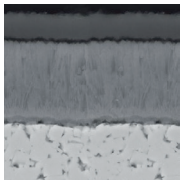
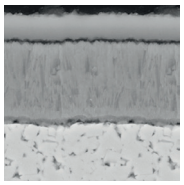
Rompitruciolo	Applicazione		Campo di applicazione	Versione tagliente
LC	Finitura	●		
LH	Finitura	●		

N Inserti positivi

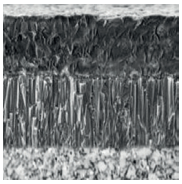
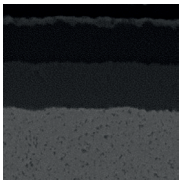
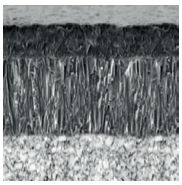
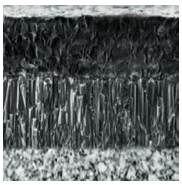
Rompitruciolo	Applicazione		Campo di applicazione	Versione tagliente
LH	Asportazione media	●		

Note

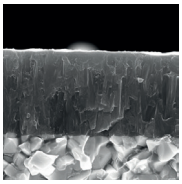
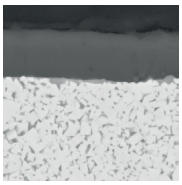
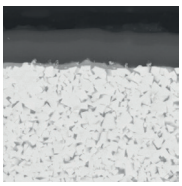
Metallo duro rivestito CVD

Grado	ISO	Microstruttura	Descrizione gradi
YBC103	P05 – P15		Grado P10 con eccellente resistenza all'usura ad alte velocità di taglio. Il processo di sinterizzazione di ultima generazione e le tecnologie di rivestimento CVD consentono un'ampia gamma di applicazioni nell'area dei materiali P.
YB6315	P05 – P20		Grado di metallo duro con rivestimento in CVD P10-P20 adatto per lavorazioni dalla finitura all´asportazione media di acciaio, acciaio fuso e acciai al cromo. Eccellente caratteristiche per elevata velocità di taglio e temperatura, con eccellente resisten
YBC152	P10 – P20		Grado di metallo duro con rivestimento in CVD P10-P20 adatto per lavorazioni dalla finitura all´asportazione media di acciaio e acciaio fuso. Eccellenti caratteristiche per elevate velocità di taglio e temperature, con eccellente resistenza all´usura.
YBC203	P15 – P25		Grado P20 con eccellente resistenza all'usura e tenacia e resistenza alla frattura per una lavorazione sicura. L'innovativa procedura di sinterizzazione e le tecnologie di rivestimento CVD permettono di operare con un ampio spettro di applicazioni nel campo del materiale P.
YBC252	P20 - P35		Grado di metallo duro con rivestimento in CVD P20-P35 adatto per lavorazioni dall´asportazione media alla sgrossatura di acciaio e acciaio fuso. Resistenza all´usura e tenacità ottimizzate per un ampio campo di applicazioni.
YBC352	P20 - P40		Grado di metallo duro con rivestimento in CVD P20-P40 adatto per la sgrossatura di acciaio e acciaio fuso. Resistenza all´usura e tenacità ottimizzate per un ampio campo di applicazioni.
YBM153	M10 - M25		Grado di metallo duro con rivestimento in CVD M10-M25 adatto per lavorazioni dalla finitura all´asportazione media di acciai inossidabili. Elevata resistenza all´usura e alla deformazione ad alte velocità di taglio.
YBM253	M15 - M35		Grado di metallo duro con rivestimento in CVD M15-M35 adatto per lavorazioni da media fino alla sgrossatura di acciai inossidabili in un ampio campo di applicazioni. Elevata resistenza all´usura e alla deformazione per alte velocità di taglio. Metallo dur

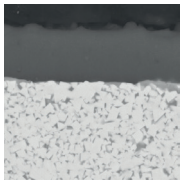
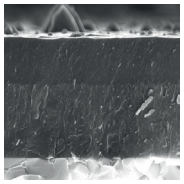
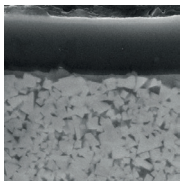
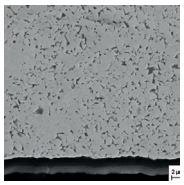
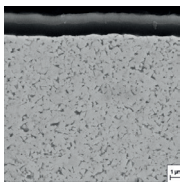
Metallo duro rivestito CVD

Grado	ISO	Microstruttura	Descrizione gradi
YBD102	K05 - K20		Grado di metallo duro rivestito in CVD K05-K20. Ottimale per l´asportazione media di ghisa, in particolare ghisa sferoidale, e acciaio pre-temprato ad alte velocità.
YB7315	K10 - K25		Grado di metallo duro con rivestimento in CVD K10-K25 per lavorazioni da media fino alla sgrossatura di materiali in ghisa. Resistenza all´usura e alla rottura migliorate ad alte velocità di taglio.
YBD152	K10 - K25		Grado di metallo duro con rivestimento in CVD K10-K25 per lavorazioni da media fino alla sgrossatura di materiali in ghisa. Elevata resistenza all´usura e alla rottura ad alte velocità di taglio.
YBD152C	K10 - K25		Grado di metallo duro con rivestimento spesso K10–K25 in CVD Al2O3 per lavorazioni da media fino alla sgrossatura di materiali in ghisa. Elevata resistenza all´usura e alla rottura ad alte velocità di taglio in combinazione con rompitruciolo TC.

Metallo duro rivestito PVD

Grado	ISO	Microstruttura	Descrizione gradi
YBG101	N05 - N20		Grado di metallo duro N05 - N20 con rivestimento in PVD per lavorazioni che spaziano dalla finitura all'asportazione media di materiali in alluminio. Il rivestimento applicato unicamente sulla superficie del vano truciolo riduce, in combinazione con il rompitruciolo in alluminio, la formazione de tagliente di riporto e assicura un taglio morbido.
YBG102	S05 - S15		Grado di metallo duro con rivestimento in PVD S05-S15 per lavorazioni dalla finitura all´asportazione media di superleghe, acciaio inossidabile e alluminio. Ottima resistenza all´usura in una vasta gamma di applicazioni.
YBG105	S05 - S20		Grado di metallo duro con rivestimento multistrato in PVD S05-S20 adatto per lavorazioni dalla finitura all´asportazione media di superleghe ma anche di acciai inossidabili. Ottima resistenza all´usura e alla temperatura in una vasta gamma di applicazioni

Metallo duro rivestito PVD

Grado	ISO	Microstruttura	Descrizione gradi
YBG205	P10 - P30 M20 - M40 S15-S25		Grado di metallo duro P10 - P30/M20 - M40/S15 - S25 con rivestimento in PVD multistrato per lavorazioni che spaziano dalla finitura all'asportazione media di acciaio inossidabile, superleghe e acciaio (fresatura). Resistenza all'usura e resistenza termica ottimali in un ampio campo di applicazione.
YBG205H	P10–P30 M20–M40 S15–S25		Metallo duro rivestito in PVD con rivestimento TiAlN per la finitura e la lavorazione media di acciaio, acciaio inox e materiali resistenti al calore. Il rivestimento offre elevata durezza, resistenza agli shock termici e alle cricche in un'ampia gamma di applicazioni.
YB9320	P10 - P30 M10 - M25		Grado di metallo duro P10 - P30/M10 - M25 con rivestimento in PVD multistrato per lavorazioni che spaziano dalla finitura all'asportazione media di acciaio inossidabile, superleghe e acciaio (scanalatura/fresatura). Resistenza all'usura ottimale grazie all'adesione migliore del rivestimento e alla maggiore resistenza termica in un ampio campo di applicazione.
YPD201	S20 – S30		Grado in metallo duro per asportazione media fino alla sgrossatura di materiali ad alta resistenza e ad alta lega. Grado ad alte prestazioni con elevata resistenza all'usura. Durezza e tensione residua bilanciate offrono un ampio spettro di applicazioni.
YBS103	S10 – S20		Grado per la lavorazione di materiali a base di nichel. Uno speciale substrato in metallo duro e l'ultima tecnologia di rivestimento PVD consentono un'ottima resistenza all'usura e un'alta stabilità termica.

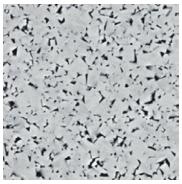
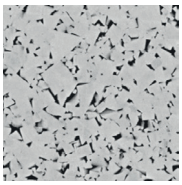
Ceramici

Grado	ISO	Microstruttura	Descrizione gradi
CA1000	K10 - K25 H10 - H25		Grado ceramico misto non rivestito K10–K25/H10–H25 per lavorazioni dalla finitura all´asportazione media di acciaio temprato e ghisa e ghisa sferoidale. Buona resistenza all´usura e tenacità alla rottura.
CM1000	K10 - K25 H10 - H25		Grado ceramico misto rivestito H10–H25/K10–K25 per cicli che spaziano dalla finitura alla lavorazione media di acciaio temprato, acciaio per utensili, acciaio HSS e ghisa sferoidale. Buona resistenza all'usura e tenacità alla frattura.

Ceramici

Grado	ISO	Microstruttura	Descrizione gradi
CN1000	K05 - K15		Grado ceramico non rivestito K05–K15 Si3N4 per lavorazioni dalla finitura all´asportazione media di ghisa grigia. Buona resistenza all´usura e stabilità termica.
CS1000	S05 - S20		Grado ceramico SiAlON non rivestito per lavorazioni che spaziano dall'asportazione media alla sgrossatura di leghe a base di Ni e cobalto con velocità di taglio da medie a basse.
CW1400	S10 - S20 H10 - H20		Grado ceramico whisker non rivestito per velocità di taglio da medie a ridotte con acciaio HSS, materiali ad alto tenore di cromo e leghe a base di cobalto anche con taglio interrotto. Buona resistenza all'usura, resistenza all'usura ad intaglio e stabilità termica.
CW1800	S10 - S25		Grado ceramico whisker non rivestito per cicli che spaziano dalla finitura alla sgrossatura di leghe a base di Ni come Inconel, Nimonic o Hastelloy. Buona resistenza all'usura, resistenza all'usura ad intaglio e stabilità termica.

Metallo duro non rivestito

Grado	ISO	Microstruttura	Descrizione gradi
YD101	N05 - N20 K05 - K20		Substrato in metallo duro non rivestito N05–N20/K05–K20 per lavorazioni dalla finitura all´asportazione media di alluminio e altri materiali.
YD201	N10 - N30 K10 - K30		Substrato in metallo duro non rivestito K10–K30/N10–N30 per l´asportazione media di alluminio e altri materiali.

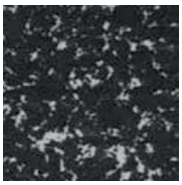
CBN

Grado	ISO	Microstruttura	Descrizione gradi
YCB112	S10 – S20		Grado CBN S10 - S20 brasato non rivestito per la lavorazione di precisione di acciaio temprato e superleghe. Resistenza all'usura e stabilità termica ottimali.
YCB113	H01 - H10		Grado CBN brasato non rivestito H01–H10 per la finitura di acciaio temprato con taglio continuo. Elevata resistenza all´usura e produttività per alte velocità di taglio.
YCB121	H10 - H25		Grado CBN brasato non rivestito H10–H25 per lavorazioni dalla finitura all´asportazione media di acciaio temprato con taglio da continuo a leggermente interrotto. Buona resistenza all´usura e tenacità per impiego universale.
YCB131	H20 - H35		Grado CBN brasato non rivestito H20–H35 per lavorazioni dalla finitura all´asportazione media di acciaio temprato con taglio interrotto. Buona resistenza all´usura e tenacità ottimale per affidabilità di processo.
YCB113C	H01 - H10		Grado CBN H01 - H10 brasato rivestito per la finitura di acciaio temprato con taglio continuo. Elevata resistenza all'usura e produttività con elevate velocità di taglio.
YCB121C	H10 - H25		Grado CBN H10 - H25 brasato rivestito per lavorazioni dalla finitura all'asportazione media di acciaio temprato con taglio da liscio a leggermente interrotto. Buona resistenza all'usura e buona tenacia per un impiego universale.
YCB131C	H20 - H25		Grado CBN H20 - H35 brasato rivestito per lavorazioni dalla finitura all'asportazione media di acciaio temprato con taglio continuo a leggermente interrotto. Buona resistenza all'usura e tenacia ottimale per un processo sicuro.
YCB215	K10 - K20		Grado CBN K10 - K20 brasato non rivestito per lavorazioni dalla finitura all'asportazione media di materiali in ghisa. Buona resistenza all'usura e conducibilità termica.

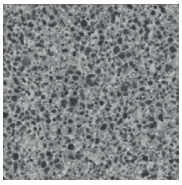
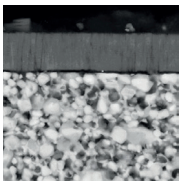
CBN

Grado	ISO	Microstruttura	Descrizione gradi
YZB630	H20 - H30		Grado CBN integrale H20 - H30 non rivestito per l'asportazione media di acciaio temprato con taglio da leggermente a mediamente interrotto. Buona combinazione di resistenza all'usura e stabilità termica.
YZB630C	H20 - H30		Grado CBN integrale H20 - H30 rivestito per l'asportazione media di acciaio temprato con taglio da leggermente a mediamente interrotto. Buona combinazione di resistenza all'usura e stabilità termica.
YZB223	K10 - K25		Grado ceramico misto non rivestito K10–K25/H10–H25 per lavorazioni dalla finitura all´asportazione media di acciaio temprato e ghisa e ghisa sferoidale. Buona resistenza all´usura e tenacità alla rottura.

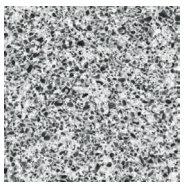
PCD

Grado	ISO	Microstruttura	Descrizione gradi
YCD421	N01 - N10		Grado non rivestito in PCD brasato N01-N10 per la finitura di leghe di alluminio con percentuali di Si minori del 12 %, materiali compositi, rame/magnesio e loro leghe. Grado a grana media con buona resistenza all'usura in una vasta gamma di applicazioni.

Cermet

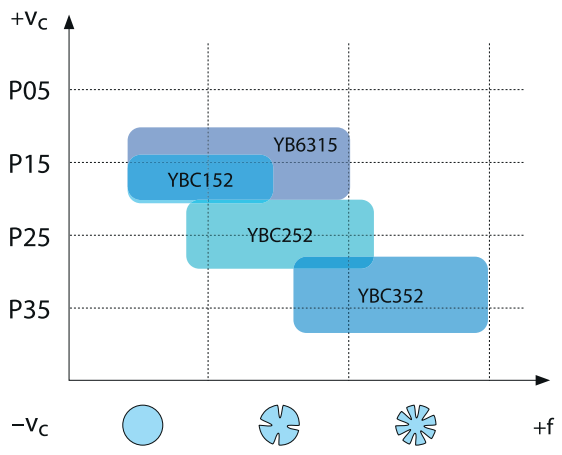
Grado	ISO	Microstruttura	Descrizione gradi
YNG151	P10 – P20		Qualità in cermet P10-P20 non rivestito per la finitura di acciaio e acciaio inossidabile. Buona resistenza alla deformazione plastica. Garantisce ottime finiture di superficie
YNG151C	P10 – P20		Qualità in cermet P10-P20 rivestito per la finitura di acciaio e acciaio inossidabile. Buona resistenza alla deformazione plastica. Garantisce ottime finiture di superficie.

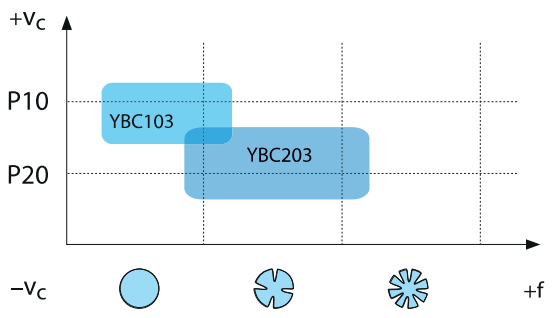
Cermet

Grado	ISO	Microstruttura	Descrizione gradi
YNT251	P05 – P15		Qualità in cermet P05-P15 non rivestito per la finitura di acciaio e acciaio inossidabile. Ottima resistenza all'usura e tenacità, soprattutto nelle operazioni di tornitura.

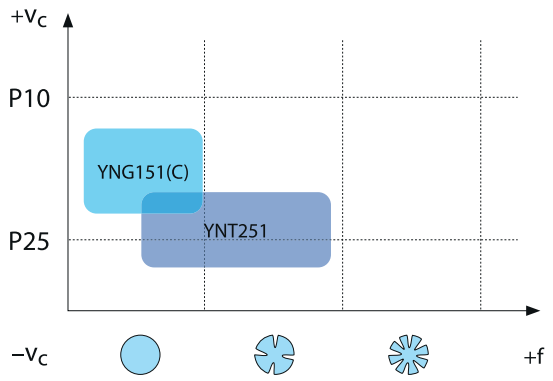
Note

Gradi di metallo duro con rivestimento in CVD per acciaio

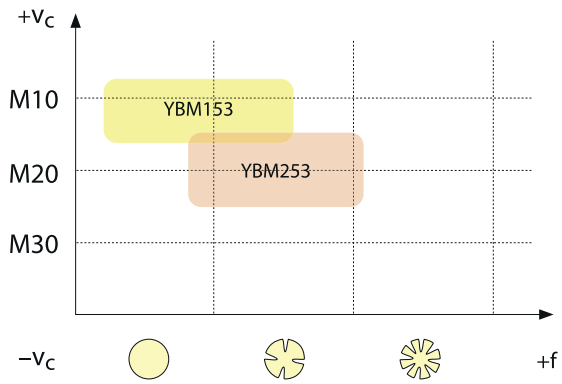




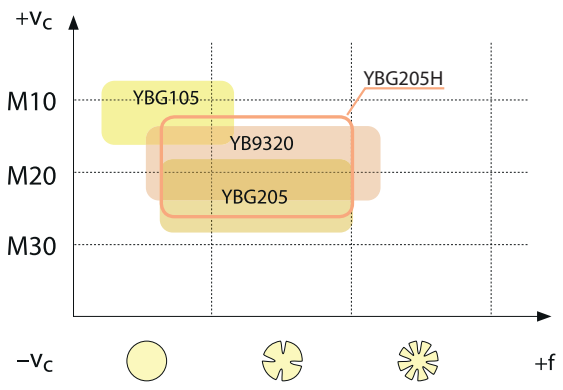
Gradi Cermet per acciaio



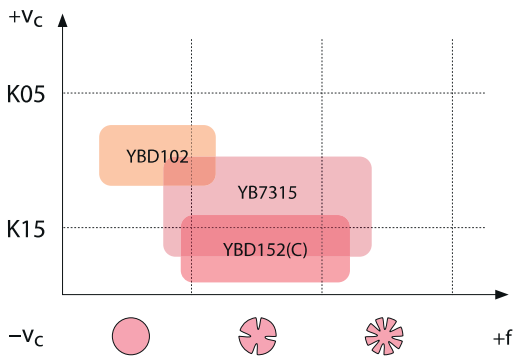
Gradi di metallo duro con rivestimento in CVD per acciaio inossidabile



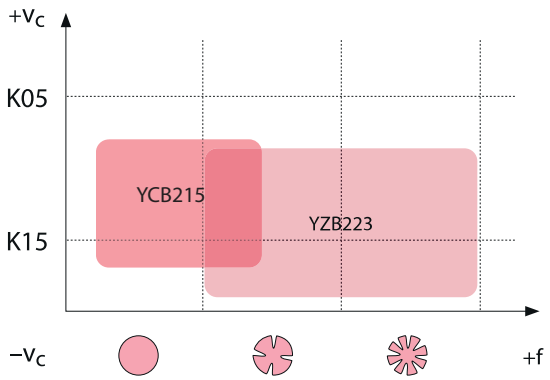
Gradi di metallo duro con rivestimento in PVD per acciaio inossidabile



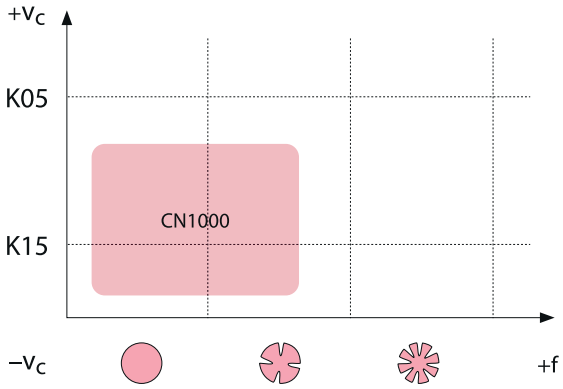
Gradi di metallo duro con rivestimento in CVD per ghisa



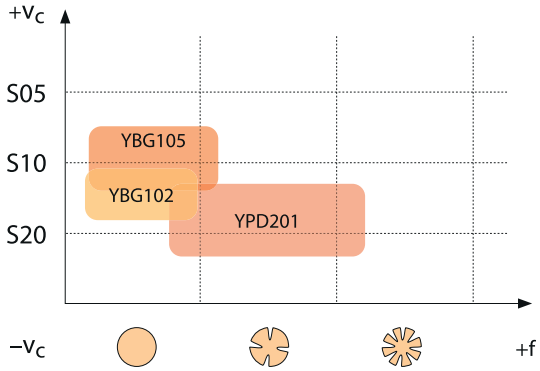
Gradi CBN per ghisa

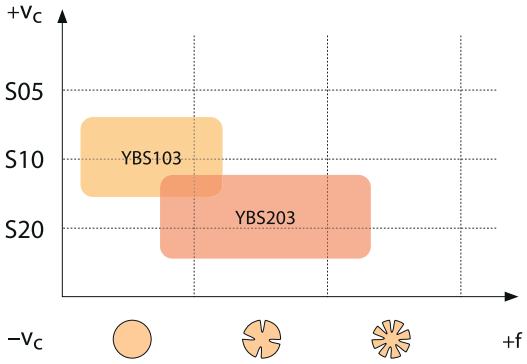


Gradi ceramici per ghisa

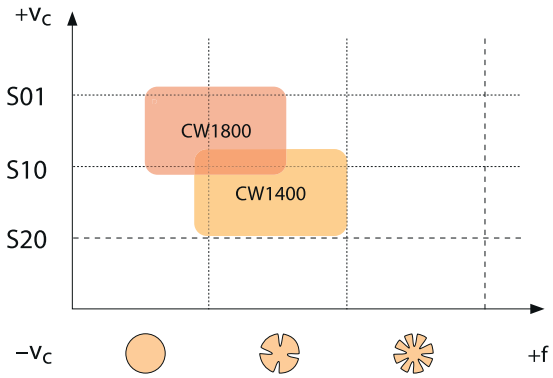


Gradi di metallo duro con rivestimento in PVD per superleghe

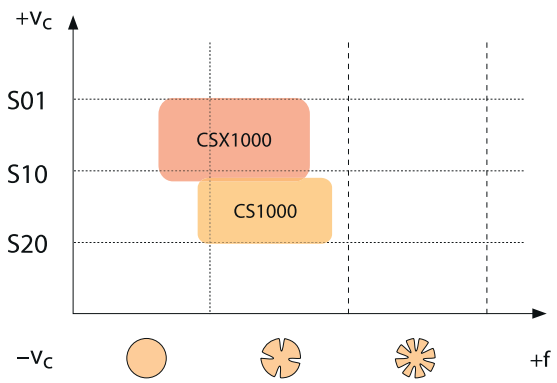




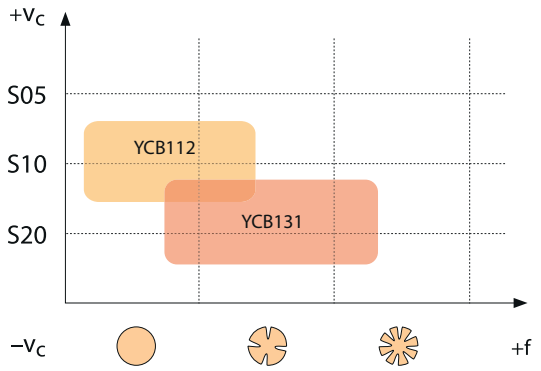
Gradi ceramici per superleghe (Whisker)



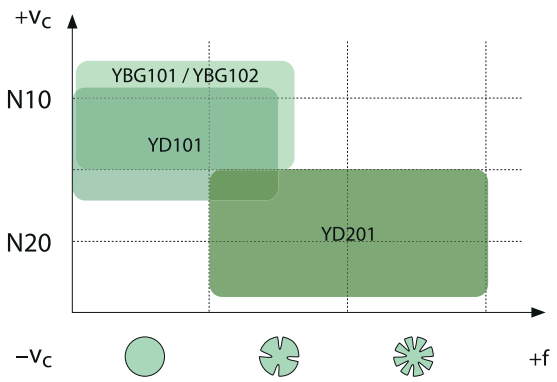
Gradi ceramici per superleghe (SiAlON)



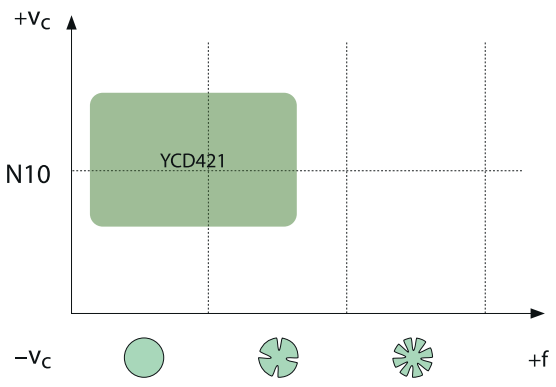
Gradi CBN per superleghe



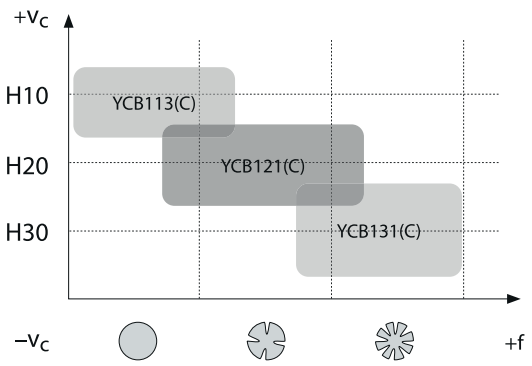
Gradi di metallo duro per metalli non ferrosi



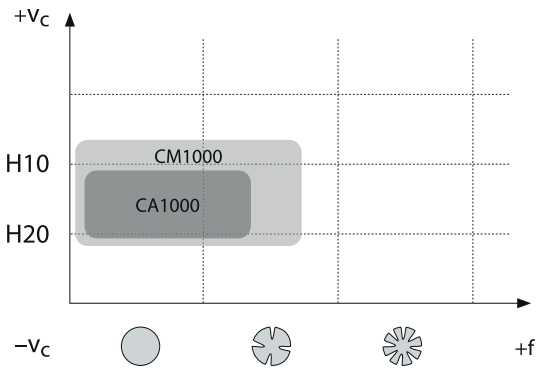
Gradi PCD per metalli non ferrosi



Gradi CBN per acciaio temprato



Gradi ceramici per acciaio temprato



Campi di applicazione dei gradi – lavorazioni di tornitura generiche

	ISO	HC[1] (CVD)	HC[1] (PVD)	HT	HC[2]	Ceramic	HW	CBN	PCD
P	P01	YBC103							
	P10	YBC103, YB6315		YNG151	YNG151C				
	P20	YB6315, YBC152, YBC203, YBC252		YNG151, YNT251	YNG151C				
	P30	YBC252, YBC352							
	P40	YBC352							
M	M01		YBG105						
	M10	YBM153	YBG105, YB9320	YNG151	YNG151C				
	M20	YBM153, YBM253	YB9320, YBG205(H)						
	M30	YBM253							
	M40								
K	K01					CN1000		YCB215	
	K10	YBD102, YBD152, YB7315, YBD152C				CN1000	YD201	YCB215, YZB223	
	K20	YB7315, YBD152C					YD201	YZB223	
	K30	YBD152C							
N	N01								
	N10		YBG101, YBG102				YD101		YCD421
	N20		YBG102				YD101, YD201		YCD421
	N30						YD201		
S	S01		YBS103			CSX1000		YCB112	
	S10		YBS103, YBG102, YBG105, YB9320, YPD201			CSX1000, CS1000, CW1400, CW1800		YCB112, YCB131	
	S20		YBG105, YB9320, YPD201			CS1000, CW1400, CW1800		YCB131	
	S30								
H	H01								
	H10					CA1000, CM1000		YCB113(C), YCB121(C), YCB131(C)	
	H20					CA1000, CM1000		YCB121(C), YCB131(C)	
	H30							YCB131(C)	

P	Acciaio
M	Acciaio inossidabile
K	Ghisa
N	Metalli non ferrosi
S	Materiali a difficile asportazione
H	Materiali ad elevata durezza

HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Metallo duro non rivestito

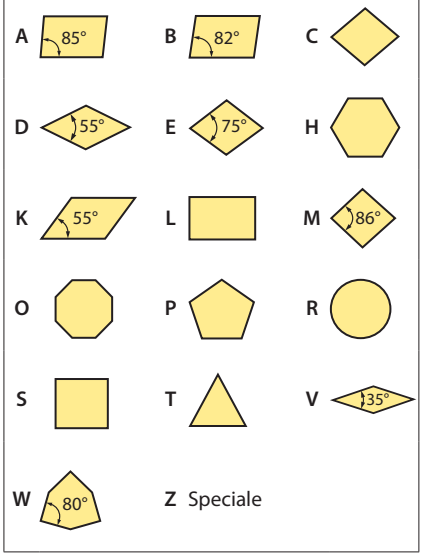
Tornitura generale

Codice ISO – indicazioni generali inserti per tornitura

Standard ISO

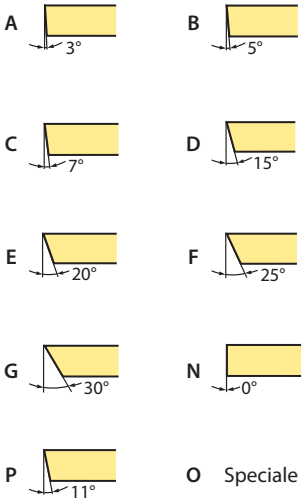
T	N	M	G	22	04	08	(N)	–	DM
1	2	3	4	5	6	7	8		9

Forma dell'inserto



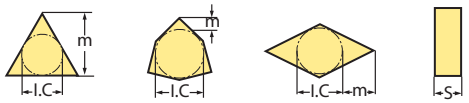
1

Angolo di spoglia inferiore



2

Grado di tolleranza

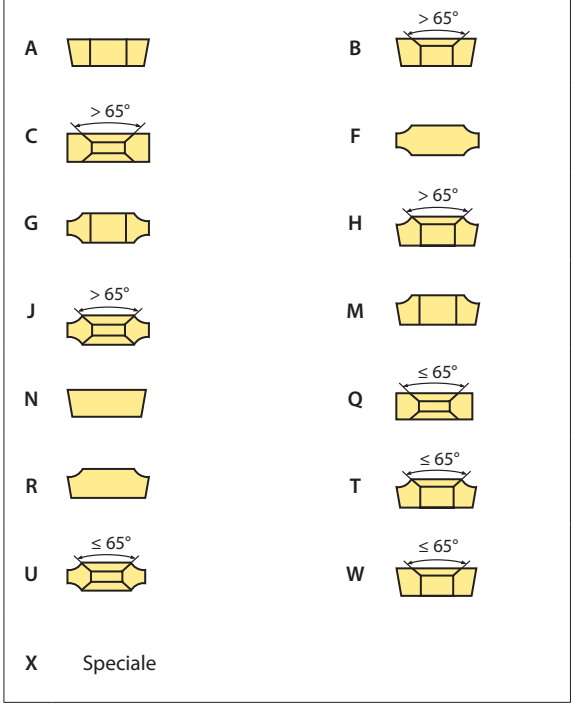


Code	I.C [mm]	m [mm]	S [mm]
A	±0,025	±0,005	±0,025
C	±0,025	±0,013	±0,025
E	±0,025	±0,025	±0,025
F	±0,013	±0,005	±0,025
G	±0,025	±0,025	±0,130
H	±0,013	±0,013	±0,025
J	±0,05–0,15	±0,005	±0,025
K	±0,05–0,15	±0,013	±0,025
L	±0,05–0,15	±0,025	±0,025
M	±0,05–0,15	±0,08–0,20	±0,130
N	±0,05–0,15	±0,08–0,20	±0,025
U	±0,08–0,25	±0,13–0,38	±0,130

3

Caratteristiche di fissaggio (metrico)

Forma dell'inserto



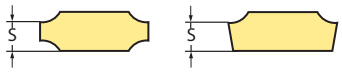
4

Lunghezza tagliente [mm]

I.C [mm]	Forma dell'inserto C	D	R	S	T	V	W	K
3,97					06			
5,0			05					
5,56					09			
6,0			06					
6,35	06	07			11	11		
8,0			08					
9,525	09	11	09	09	16	16	06	16
10,0			10					
12,0			12					
12,7	12	15	12	12	22	22	08	
15,875	16		15	15	27			
16,0		19	16					
19,05	19		19	19	33			
20,0			20					
25,0	25	25	25					
25,4			25	25				
31,75			31					
32			32					

5

Spessore dell'inserto S [mm]



Code	S	Code	S
00	0,79	**T5**	5,95
T0	0,99	**06**	6,35
01	1,59	**T6**	6,75
T1	1,98	**07**	7,94
02	2,38	**09**	9,52
T2	2,58	**T9**	9,72
03	3,18	**11**	11,11
T3	3,97	**12**	12,70
04	4,76		
T4	4,96		
05	5,56		

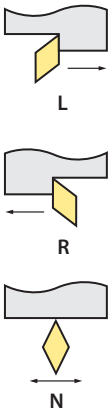
6

Raggio di punta r [mm]

Code	r
00	–
02	0,2
04	0,4
08	0,8
12	1,2
16	1,6
20	2,0
24	2,4
32	3,2
X	Speciale
MO	Inserti tondi

7

Direzione di taglio



8

Panoramica rompitrucioli
(da pagina A16)

9

Standard ANSI

T	N	M	G	4	3	2	(N)	–	DM
1	2	3	4	5	6	7	8		9

Cerchio inscritto

Code	[mm]	Pollici
2	6.35	0.250
3	9.525	0.375
4	12.7	0.500
5	15.875	0.625
6	19.05	0.750
8	25.4	1.000

5

Spessore dell'inserto

Code	[mm]	Pollici
2	3.18	0.125
3	4.76	0.187
4	6.35	0.250
5	7.94	0.313
6	9.52	0.375

6

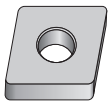
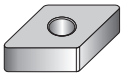
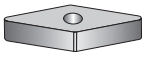
Raggio di punta

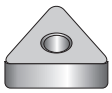
Code	[mm]	Pollici
0	0.2	0.008
1	0.4	0.016
2	0.8	0.031
3	1.2	0.047
4	1.6	0.063
5	2.0	0.079
6	2.4	0.094

7

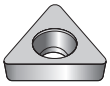
Tabella comparativa per inserti per tornitura generale (sistema metrico/imperiale)

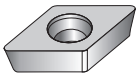
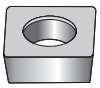
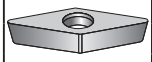
Angolo negativo/Inserto

	ISO	Pollici
Tipo C Forma dell'inserto 	090304	321
	090308	322
	120404	431
	120408	432
	120412	433
	120416	434
	160608	542
	160612	543
	160616	544
	190608	642
	190612	643
	190616	644
	190624	646
	250724	856
	250732	858
	250924	866
	250932	868
Tipo D Forma dell'inserto 	110404	331
	110408	332
	110412	333
	150404	431
	150408	432
	150412	433
	150604	441
	150608	442
	150612	443
	150616	444
	190608	542
	190612	543
Tipo V Forma dell'inserto 	160404	331
	160408	332
	160412	333
Tipo R Forma dell'inserto	0903MO	32
	1204MO	43

	ISO	Pollici
Tipo W Forma dell'inserto	06T304	3(2.5)1
	06T308	3(2.5)2
	06T312	3(2.5)3
	060404	331
	060408	332
	060412	333
	080404	431
	080408	432
	080412	433
Tipo T Forma dell'inserto 	113304	221
	110308	222
	160404	331
	160408	332
	160412	333
	220404	431
	220408	432
	220412	433
	220416	434
	270608	542
	270612	543
	270616	544
Tipo S Forma dell'inserto	090304	321
	090308	322
	090312	323
	120404	431
	120408	432
	120412	433
	120416	434
	150608	542
	150612	543
	150616	544
	190412	633
	190424	636
	190612	643
	190616	644
	250724	856
	250732	858
	250924	866
	250932	868

Angolo positivo/Inserto

	ISO	Pollici
Tipo C Forma dell'inserto	060202	2(1.5)0
	060204	2(1.5)1
	060208	2(1.5)2
	09T302	3(2.5)0
	09T304	3(2.5)1
	09T308	3(2.5)2
	120404	431
	120408	432
	120412	433
Tipo T Forma dell'inserto 	06T102	1.2(1.2)0
	06T104	1.2(1.2)1
	06T108	1.2(1.2)2
	090202	1.8(1.5)0
	090204	1.8(1.5)1
	090208	1.8(1.5)2
	110202	2(1.5)0
	110204	2(1.5)1
	110208	2(1.5)2
	110302	220
	110304	221
	110308	222
	16T302	30
	16T304	31
	16T308	32
	16T312	33
	160400	330
	220408	432
	220412	433
	220416	434
	270408	532
	27041 2	533
	330612	643
	330616	644

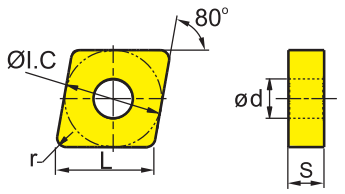
	ISO	Pollici
Tipo D Forma dell'inserto 	070202	2(1.5)0
	070204	2(1.5)1
	070208	2(1.5)2
	11T302	3(2.5)0
	11T304	3(2.5)1
	11T308	3(2.5)2
	11T312	3(2.5)3
Tipo S Forma dell'inserto 	060204	2(1.5)1
	09T302	3(2.5)0
	09T304	3(2.5)1
	09T308	3(2.5) 2
	120404	431
	120408	432
	120412	433
	150404	531
	150408	532
	150412	533
	190408	632
	190412	633
	190416	634
Tipo V Forma dell'inserto 	110202	2(1.5)0
	110204	2(1.5)1
	110208	2(1.5)2
	110302	220
	110304	221
	110308	222
	160402	330
	160404	331
	160408	332
	160412	333

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

CNMG	L	I.C	S	d
12 04	12,9	12,7	4,76	5,16

CN** Inserti negativi



	HC¹ (CVD)												HC¹ (PVD)							HT		HC²	HW	
	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
P	●	●	●	✱	✱	✱										✱	✱	✱		●	✱	●		
M							○	✱						○	○	✱	✱	✱	○	○	✱	○		
K									●	✱	✱	✱												
N													●	●									●	✱
S														●	●	✱	✱	✱	●				●	✱
H																								

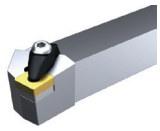
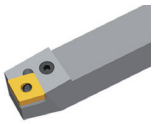
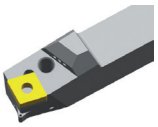
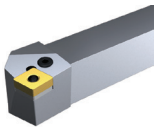
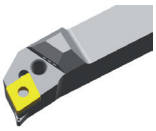
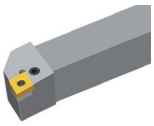
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
WG Raschiante	**CNMG120404-WG**	0,4	0,25-3,00	0,05-0,25			○																					
	CNMG120408-WG	0,8	0,5-5,0	0,15-0,70			●		○																			
	CNMG120412-WG	1,2	0,8-6,0	0,20-0,75			●																					

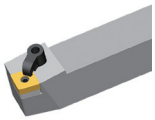
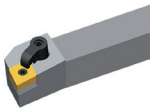
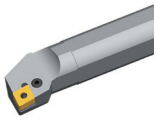
● In magazzino ○ Su richiesta

disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DCKNR/L	DCLNR/L	PCBNR/L	PCBNR/LC	PCKNR/L	PCLNR/LC	PCLNR/L
Kr: 75°	Kr: 95°	Kr: 75°	Kr: 75°	Kr: 75°	Kr: 95°	Kr: 95°
						
A263	A262	A270	A286	A271	A287	A272

MCBNR/L	MCLNR/L	S***-PCLNR/L
Kr: 75°	Kr: 95°	Kr: 95°
		
A291	A292	A370

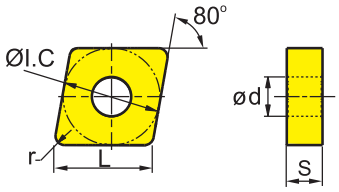
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

CNMG	L	I.C	S	d
09 03	9,7	9,525	3,18	3,81
12 04	12,9	12,7	4,76	5,16

CN** Inserti negativi



	HC¹ (CVD)												HC¹ (PVD)						HT		HC²	HW	
P	●	●	●	⊛	⊛	⊛										⊛	⊛	⊛	●	⊛	●		
M							●	⊛					●	●	⊛	⊛	⊛	●	●	⊛	●		
K									●	⊛	⊛	⊛											
N													●	●								●	⊛
S													●	●	⊛	⊛	⊛	●				●	⊛
H																							

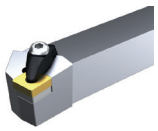
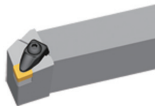
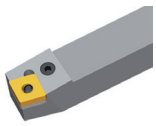
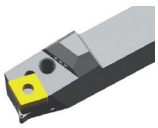
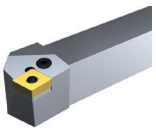
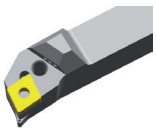
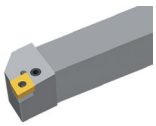
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
ADF Finitura	**CNMG120404-ADF**	0,4	0,5-3,0	0,05-0,30		●														●		●						
	CNMG120408-ADF	0,8	0,5-3,0	0,1-0,4		●														○		●			●			
	CNMG120412-ADF	1,2	0,8-3,0	0,15-0,50		○																●			●			
DF Finitura	**CNMG090304-DF**	0,4	0,25-1,50	0,07-0,30			○		○																			
	CNMG090308-DF	0,8	0,3-1,5	0,1-0,3			●																					
	CNMG120404-DF	0,4	0,25-1,50	0,07-0,30			●		○																			
	CNMG120408-DF	0,8	0,3-1,5	0,1-0,4			●		○																			
	CNMG120412-DF	1,2	0,35-1,50	0,10-0,35			○		○																			
EF Finitura	**CNMG090304-EF**	0,4	0,5-2,0	0,05-0,20							○									●	○							
	CNMG090308-EF	0,8	0,5-2,0	0,05-0,25							○									●	○							
	CNMG120404-EF	0,4	0,5-2,5	0,05-0,20							●									●	●							
	CNMG120408-EF	0,8	0,5-2,5	0,05-0,25							●									●	●							
	CNMG120412-EF	1,2	0,5-2,5	0,10-0,35							○									○	○							

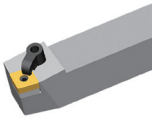
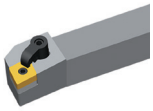
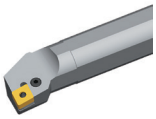
● In magazzino ○ Su richiesta

disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DCKNR/L	DCLNR/L	PCBNR/L	PCBNR/LC	PCKNR/L	PCLNR/LC	PCLNR/L
Kr: 75°	Kr: 95°	Kr: 75°	Kr: 75°	Kr: 75°	Kr: 95°	Kr: 95°
						
A263	A262	A270	A286	A271	A287	A272

MCBNR/L	MCLNR/L	A***-PCLNR/L
Kr: 75°	Kr: 95°	Kr: 95°
		
A291	A292	A370

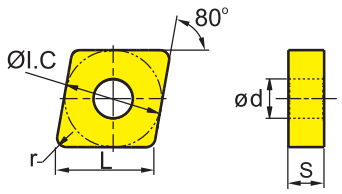
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

CN**	L	I.C	S	d
09 03	9,7	9,525	3,18	3,81
12 04	12,9	12,7	4,76	5,16

CN** Inserti negativi



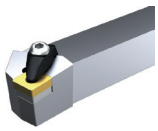
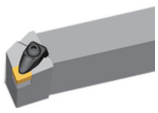
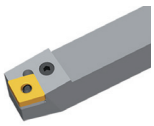
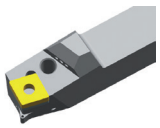
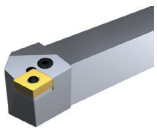
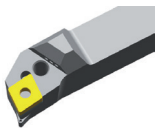
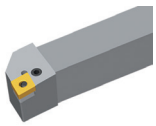
	HC¹ (CVD)											HC¹ (PVD)							HT		HC²	HW	
	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
P	●	●	●	⊛	⊛	⊛									⊛	⊛	⊛		●	●	⊛	●		
M							○	⊛						○	○	⊛	⊛	⊛	○	○	⊛	○		
K									●	⊛	⊛	⊛												
N													●	●									●	⊛
S														●	○	⊛	⊛	⊛	●				●	⊛
H																								

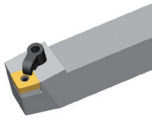
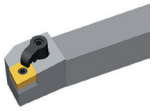
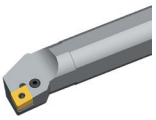
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
NF Finitura	**CNEG120404-NF**	0,4	0,2-2,5	0,05-0,30															●									
	CNEG120408-NF	0,8	0,2-2,5	0,10-0,35															●								○	
	CNEG120412-NF	1,2	0,2-2,5	0,13-0,40															○									
SF Finitura	**CNMG090304-SF**	0,4	0,05-0,50	0,05-0,30																						●		
	CNMG120404-SF	0,4	0,1-1,5	0,05-0,30																						●		
	CNMG120408-SF	0,8	0,1-1,5	0,10-0,35																						●		
XF Finitura	**CNMG120404-XF**	0,4	0,5-2,5	0,1-0,25	●			●																				
	CNMG120408-XF	0,8	0,5-2,5	0,1-0,30	●			●																				
	CNMG120412-XF	1,2	0,5-2,5	0,1-0,35	●			●																				

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DCKNR/L	DCLNR/L	PCBNR/L	PCBNR/LC	PCKNR/L	PCLNR/LC	PCLNR/L
Kr: 75°	Kr: 95°	Kr: 75°	Kr: 75°	Kr: 75°	Kr: 95°	Kr: 95°
						
A263	A262	A270	A286	A271	A287	A272

MCBNR/L	MCLNR/L	A***-PCLNR/L
Kr: 75°	Kr: 95°	Kr: 95°
		
A291	A292	A370

Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

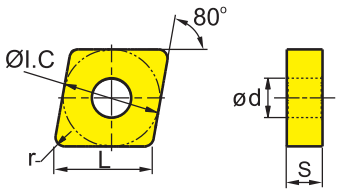
Tornitura generale Inserti negativi

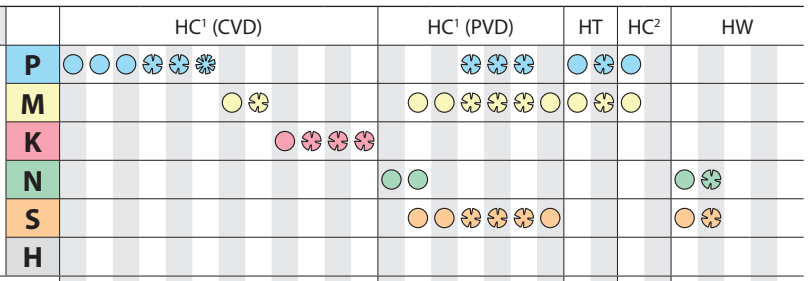
Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

CNMG	L	I.C	S	d
09 03	9,7	9,525	3,18	3,81
12 04	12,9	12,7	4,76	5,16
16 06	16,1	15,875	6,35	6,35
19 06	19,3	19,05	6,35	7,94

CN** Inserti negativi



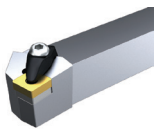
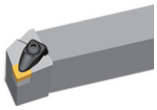
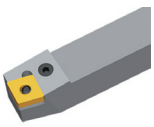
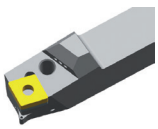
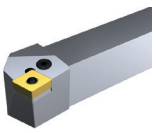
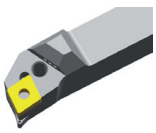
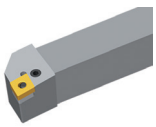


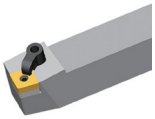
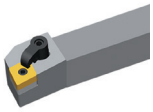
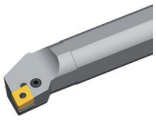
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
PM Media Lavor.	**CNMG090304-PM**	0,4	0,4-4,0	0,1-0,3					○																			
	CNMG090308-PM	0,8	0,5-4,0	0,15-0,50					○																			
	CNMG120404-PM	0,4	0,4-5,5	0,1-0,3			○		●				○		●													
	CNMG120408-PM	0,8	0,5-5,5	0,15-0,50			●		●	○			●		●													
	CNMG120412-PM	1,2	0,8-5,5	0,18-0,60			●		●						●													
	CNMG120416-PM	1,6	1,0-5,5	0,23-0,65			○		○				○		○													
	CNMG160608-PM	0,8	0,5-7,2	0,15-0,50			○		●				○		○													
	CNMG160612-PM	1,2	0,8-7,2	0,18-0,60			○		●				○		●													
	CNMG160616-PM	1,6	1,0-7,2	0,23-0,65					●						○													
	CNMG190608-PM	0,8	0,5-8,6	0,15-0,50					●																			
	CNMG190612-PM	1,2	0,8-8,6	0,18-0,60					○						●													
	CNMG190616-PM	1,6	1,0-8,6	0,23-0,65					○						○													

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DCKNR/L	DCLNR/L	PCBNR/L	PCBNR/LC	PCKNR/L	PCLNR/LC	PCLNR/L
Kr: 75°	Kr: 95°	Kr: 75°	Kr: 75°	Kr: 75°	Kr: 95°	Kr: 95°
						
A263	A262	A270	A286	A271	A287	A272

MCBNR/L	MCLNR/L	A***-PCLNR/L
Kr: 75°	Kr: 95°	Kr: 95°
		
A291	A292	A370

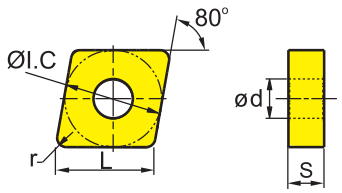
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

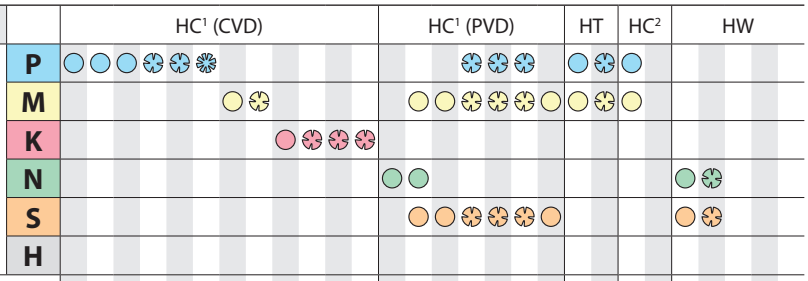
CNMG	L	I.C	S	d
12 04	12,9	12,7	4,76	5,16
16 06	16,1	15,875	6,35	6,35
19 06	19,3	19,05	6,35	7,94

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

CN** Inserti negativi



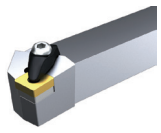
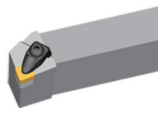
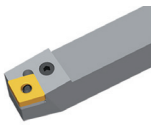
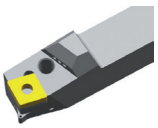
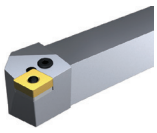
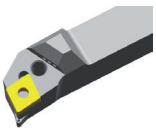
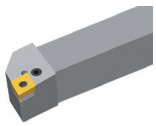


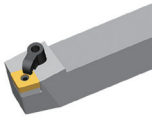
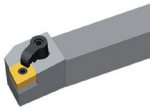
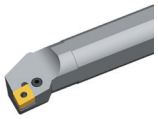
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
XM Media Lavor.	**CNMG120404-XM**	0,4	1-4,2	0,2-0,3	●			○																				
	CNMG120408-XM	0,8	1-4,2	0,2-0,4	●			●																				
	CNMG120412-XM	1,2	1-4,2	0,2-0,6	●			●																				
	CNMG120416-XM	1,6	1-4,2	0,2-0,65	●			●																				
	CNMG160608-XM	0,8	1-5,6	0,2-0,4	●			●																				
	CNMG160612-XM	1,2	1-5,6	0,2-0,6	●			●																				
	CNMG160616-XM	1,6	1-5,6	0,2-0,65	○			●																				
	CNMG190608-XM	0,8	1-6,65	0,2-0,4	●			●																				
	CNMG190612-XM	1,2	1-6,65	0,2-0,6	○			●																				
	CNMG190616-XM	1,6	1-6,65	0,2-0,65	○			●																				
XMH Media Lavor.	**CNMG120408-XMH**	0,8	1,0-4,2	0,2-0,4	○			●																				
	CNMG120412-XMH	1,2	1,0-4,2	0,2-0,6	○			○																				
	CNMG160608-XMH	0,8	1,0-5,6	0,2-0,4	○			○																				
	CNMG160612-XMH	1,2	1,0-5,6	0,2-0,6	○			○																				
	CNMG160616-XMH	1,6	1,0-5,6	0,2-0,8	○			○																				

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DCKNR/L	DCLNR/L	PCBNR/L	PCBNR/LC	PCKNR/L	PCLNR/L	PCLNR/L
Kr: 75°	Kr: 95°	Kr: 75°	Kr: 75°	Kr: 75°	Kr: 95°	Kr: 95°
						
A263	A262	A270	A286	A271	A287	A272

MCBNR/L	MCLNR/L	S***-PCLNR/L
Kr: 75°	Kr: 95°	Kr: 95°
		
A291	A292	A370

Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

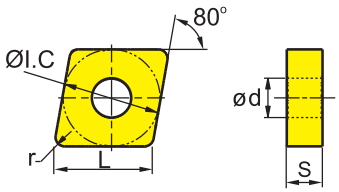
Tornitura generale Inserti negativi

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

CNMG	L	I.C	S	d
09 03	9,7	9,525	3,18	3,81
12 04	12,9	12,7	4,76	5,16
16 06	16,1	15,875	6,35	6,35
19 06	19,3	19,05	6,35	7,94

CN** Inserti negativi



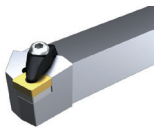
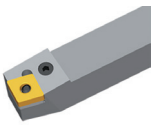
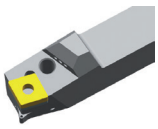
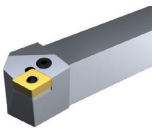
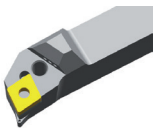
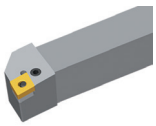
	HC[1] (CVD)												HC[1] (PVD)						HT		HC[2]		HW		
P	●	●	●	⊛	⊛	⊛										⊛	⊛	⊛	●	⊛	●				
M							○	⊛					○	○	⊛	⊛	⊛	○	○	⊛	○				
K									●	⊛	⊛	⊛													
N													●	●									●	⊛	
S													●	●	⊛	⊛	⊛	●					●	⊛	
H																									

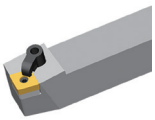
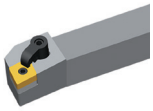
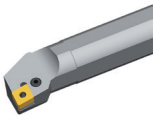
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
DM Media Lavor.	**CNMG090304-DM**	0,4	0,4-4,0	0,1-0,3			○		○																			
	CNMG090308-DM	0,8	0,5-4,0	0,15-0,50			○		●																			
	CNMG090312-DM	1,2	0,5-3,0	0,1-0,4					○																			
	CNMG120404-DM	0,4	0,4-5,5	0,1-0,3			●		●																			
	CNMG120408-DM	0,8	0,5-5,5	0,15-0,50		○	●		●	●	○	●																
	CNMG120412-DM	1,2	0,8-5,5	0,18-0,60		○	●		●		○	○																
	CNMG120416-DM	1,6	1,0-5,5	0,23-0,65			○		○																			
	CNMG160608-DM	0,8	0,5-7,2	0,15-0,50			○		●																			
	CNMG160612-DM	1,2	0,8-7,2	0,18-0,60			●		●																			
	CNMG160616-DM	1,6	1,0-7,2	0,23-0,65			○		●																			
	CNMG190608-DM	0,8	0,5-8,6	0,15-0,50			○		●																			
	CNMG190612-DM	1,2	0,8-8,6	0,18-0,60			●		●																			
	CNMG190616-DM	1,6	1,0-8,6	0,23-0,65					●																			

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DCKNR/L	DCLNR/L	PCBNR/L	PCBNR/LC	PCKNR/L	PCLNR/LC	PCLNR/L
Kr: 75°	Kr: 95°	Kr: 75°	Kr: 75°	Kr: 75°	Kr: 95°	Kr: 95°
						
A263	A262	A270	A286	A271	A287	A272

MCBNR/L	MCLNR/L	A***-PCLNR/L
Kr: 75°	Kr: 95°	Kr: 95°
		
A291	A292	A370

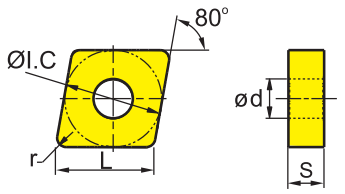
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

CNMG	L	I.C	S	d
12 04	12,9	12,7	4,76	5,16
16 06	16,1	15,875	6,35	6,35

CN** Inserti negativi



	HC¹ (CVD)												HC¹ (PVD)							HT		HC²	HW	
P	○	○	○	✱	✱	✱										✱	✱	✱		○	✱	○		
M								○	✱					○	○	✱	✱	✱	○	○	✱	○		
K										○	✱	✱	✱											
N														○	○								○	✱
S															○	✱	✱	✱	○				○	✱
H																								

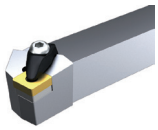
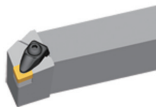
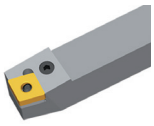
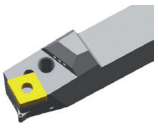
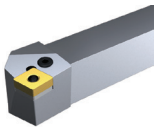
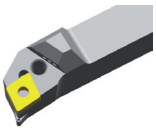
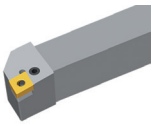
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
EG Media Lavor.	**CNMG120404-EG**	0,4	0,5-4,0	0,05-0,30							●	●								○								
	CNMG120408-EG	0,8	0,5-4,0	0,1-0,4							●	●								●	●	○						
	CNMG120412-EG	1,2	0,5-4,0	0,2-0,5								●								●	●	●						
EM Media Lavor.	**CNMG120404-EM**	0,4	0,5-4,0	0,05-0,30							●	●								●	●							
	CNMG120408-EM	0,8	0,5-5,7	0,15-0,45							●	●								●	●							
	CNMG120412-EM	1,2	0,5-5,7	0,25-0,60							●	●								●	○							
	CNMG120416-EM	1,6	0,5-4,5	0,25-0,55							○										●							
	CNMG160608-EM	0,8	0,5-7,2	0,15-0,45							○	●								●	○							
	CNMG160612-EM	1,2	0,5-7,2	0,25-0,60							●	●								●	○							
	CNMG160616-EM	1,6	0,5-7,2	0.25-0.6																	○							

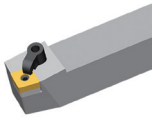
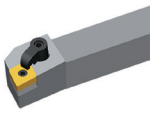
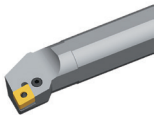
● In magazzino ○ Su richiesta

disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DCKNR/L	DCLNR/L	PCBNR/L	PCBNR/LC	PCKNR/L	PCLNR/LC	PCLNR/L
Kr: 75°	Kr: 95°	Kr: 75°	Kr: 75°	Kr: 75°	Kr: 95°	Kr: 95°
						
A263	A262	A270	A286	A271	A287	A272

MCBNR/L	MCLNR/L	S***-PCLNR/L
Kr: 75°	Kr: 95°	Kr: 95°
		
A291	A292	A370

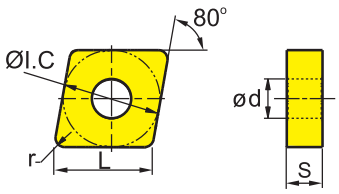
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

CNMG	L	I.C	S	d
12 04	12,9	12,7	4,76	5,16
16 06	16,1	15,875	6,35	6,35

CN** Inserti negativi



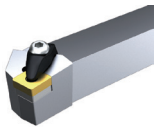
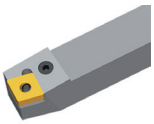
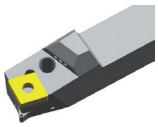
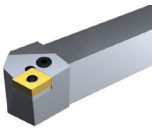
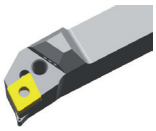
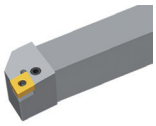
	HC¹ (CVD)												HC¹ (PVD)						HT		HC²		HW	
	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
P	○	○	○	⊛	⊛	⊛										⊛	⊛	⊛		○	⊛	○		
M							○	⊛						○	○	⊛	⊛	⊛	○	○	⊛	○		
K									○	⊛	⊛	⊛												
N													○	○									○	⊛
S														○	○	⊛	⊛	⊛	○				○	⊛
H																								

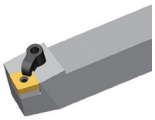
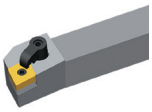
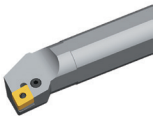
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
ZM	**CNMG120404-ZM**	0,4	0,5-3,0	0,05-0,30		●																						
	CNMG120408-ZM	0,8	0,5-4,0	0,1-0,5		○																						
	CNMG120412-ZM	1,2	0,5-4,5	0,15-0,6		●																						
	CNMG120416-ZM	1,6	1,0-5,0	0,2-0,7		○																						
Media Lavor.	**CNMG160612-ZM**	1,2	1,0-6,0	0,2-0,8		○																						

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DCKNR/L	DCLNR/L	PCBNR/L	PCBNR/LC	PCKNR/L	PCLNR/LC	PCLNR/L
Kr: 75°	Kr: 95°	Kr: 75°	Kr: 75°	Kr: 75°	Kr: 95°	Kr: 95°
						
A263	A262	A270	A286	A271	A287	A272

MCBNR/L	MCLNR/L	S***-PCLNR/L
Kr: 75°	Kr: 95°	Kr: 95°
		
A291	A292	A370

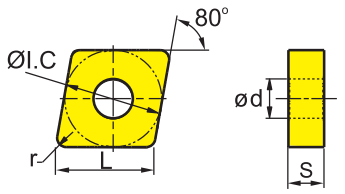
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

CNMG	L	I.C	S	d
12 04	12,9	12,7	4,76	5,16
16 06	16,1	15,875	6,35	6,35

CN** Inserti negativi



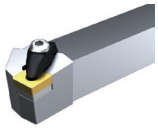
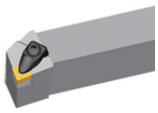
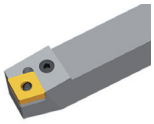
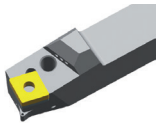
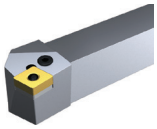
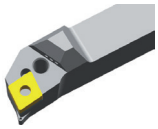
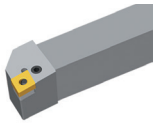
	HC¹ (CVD)												HC¹ (PVD)							HT		HC²	HW	
P	●	●	●	✱	✱	✱										✱	✱	✱		●	✱	●		
M								○	✱					○	○	✱	✱	✱	○	○	✱	○		
K										●	✱	✱	✱											
N														●	●								●	✱
S															○	✱	✱	✱	○				○	✱
H																								

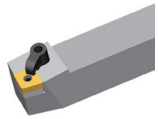
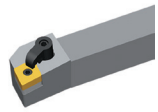
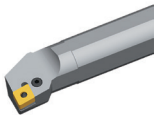
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
NM	**CNMG120404-NM**	0,4	0,2-3,0	0,05-0,30														○	●				●					
	CNMG120408-NM	0,8	0,2-4,0	0,1-0,5														○	●	●		●					○	
	CNMG120412-NM	1,2	0,2-4,0	0,2-0,6														○	●									
Media Lavor.																												
TC	**CNMG120404-TC**	0,4	0,5-5,0	0,08-0,40										○		●												
	CNMG120408-TC	0,8	0,5-5,0	0,15-0,50										●		●												
	CNMG120412-TC	1,2	0,5-5,0	0,2-0,6										●		●												
	CNMG120416-TC	1,6	0,5-5,0	0,20-0,65										●		○												
Media Lavor.	**CNMG160608-TC**	0,8	1-7	0,15-0,50										●		●												
	CNMG160612-TC	1,2	1-7	0,2-0,6										●		●												
	CNMG160616-TC	1,6	1-7	0,20-0,65										●		○												
TK	**CNMG120408-TK**	0,8	0,5-5,0	0,15-0,50										○														
	CNMG120412-TK	1,2	0,5-5,0	0,2-0,6										○														
	CNMG120416-TK	1,6	0,5-5,0	0,20-0,65										○														
Media Lavor.																												

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DCKNR/L	DCLNR/L	PCBNR/L	PCBNR/LC	PCKNR/L	PCLNR/LC	PCLNR/L
Kr: 75°	Kr: 95°	Kr: 75°	Kr: 75°	Kr: 75°	Kr: 95°	Kr: 95°
						
A263	A262	A270	A286	A271	A287	A272

MCBNR/L	MCLNR/L	S***-PCLNR/L
Kr: 75°	Kr: 95°	Kr: 95°
		
A291	A292	A370

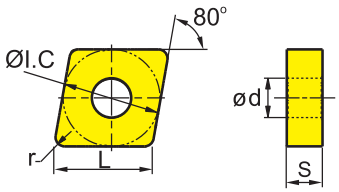
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

CNMG	L	I.C	S	d
12 04	12,9	12,7	4,76	5,16
16 06	16,1	15,875	6,35	6,35
19 06	19,3	19,05	6,35	7,94
25 09	25,79	25,4	9,525	9,12

Inserti - Tornitura

- ● Buone condizioni di lavorazione
- ⊛ Condizioni di lavorazione normali
- ⊛ Condizioni di lavorazione sfavorevoli

CN** Inserti negativi



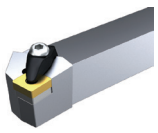
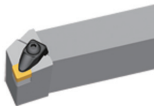
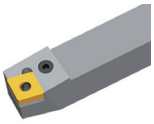
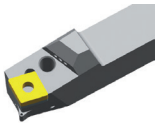
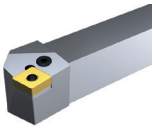
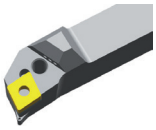
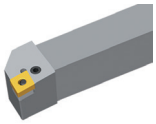
	HC¹ (CVD)												HC¹ (PVD)						HT		HC²		HW		
P	●	●	●	⊛	⊛	⊛									⊛	⊛	⊛		●	⊛	●				
M							○	⊛					○	○	⊛	⊛	⊛	○	○	⊛	○				
K									●	⊛	⊛	⊛													
N													●	●									●	⊛	
S													●	●	⊛	⊛	⊛	●					●	⊛	
H																									

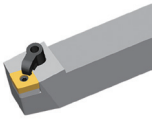
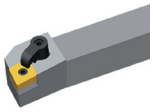
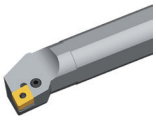
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
DR Sgrossatura	**CNMG120408-DR**	0,8	0,7-7,0	0,2-0,5		○	●		●	○			○		●													
	CNMG120412-DR	1,2	1-7	0,25-0,70		○	●		●	●			○		●													
	CNMG120416-DR	1,6	1,5-7,0	0,32-0,75			○		●						●													
	CNMG160608-DR	0,8	0,7-8,0	0,2-0,5					●				○		○													
	CNMG160612-DR	1,2	1-8	0,25-0,70		○	●	●	●	○			○		●													
	CNMG160616-DR	1,6	1,5-8,0	0,3-0,8	○	○	○		●	●					○													
	CNMG160624-DR	2,4	3,0-7,0	0,25-0,65			○																					
	CNMG190608-DR	0,8	0,7-10,0	0,2-0,5			○		●				○		○													
	CNMG190612-DR	1,2	1-10	0,25-0,70			●		●	○			○		●													
	CNMG190616-DR	1,6	1,5-10,0	0,3-0,8	●		●	●	●	●			○		●													
	CNMG190624-DR	2,4	2-10	0,32-0,90		○		●	●						○													
	CNMG250924-DR	2,4	2-15	0,4-1,0	○			○	●																			

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DCKNR/L	DCLNR/L	PCBNR/L	PCBNR/LC	PCKNR/L	PCLNR/LC	PCLNR/L
Kr: 75°	Kr: 95°	Kr: 75°	Kr: 75°	Kr: 75°	Kr: 95°	Kr: 95°
						
A263	A262	A270	A286	A271	A287	A272

MCBNR/L	MCLNR/L	S***-PCLNR/L
Kr: 75°	Kr: 95°	Kr: 95°
		
A291	A292	A370

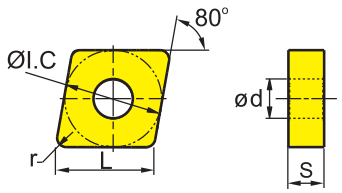
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- ● Buone condizioni di lavorazione
- ✲ Condizioni di lavorazione normali
- ✲ Condizioni di lavorazione sfavorevoli

CNMG	L	I.C	S	d
12 04	12,9	12,7	4,76	5,16
16 06	16,1	15,875	6,35	6,35
19 06	19,3	19,05	6,35	7,94

CN** Inserti negativi



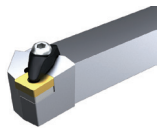
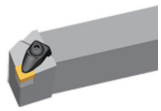
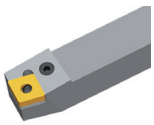
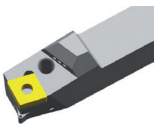
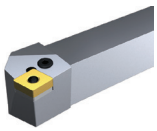
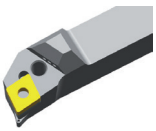
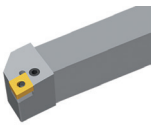
	HC¹ (CVD)											HC¹ (PVD)							HT		HC²	HW	
P	●	●	●	✲	✲	✲								✲	✲	✲			●	✲	●		
M							●	✲					●	●	✲	✲	✲	●	●	✲	●		
K									●	✲	✲	✲											
N													●	●								●	✲
S													●	●	✲	✲	✲	●				●	✲
H																							

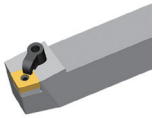
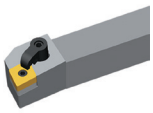
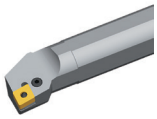
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
SNR Sgrossatura	**CNMG120408-SNR**	0,8	1-3	0,1-0,4														●		●		●					
	CNMG120412-SNR	1,2	1-3	0,2-0,6														●		●		●					
	CNMG120416-SNR	1,6	1,0-3,0	0,15-0,35																		○					
	CNMG160608-SNR	0,8	2-6	0,1-0,4														●				●					○
	CNMG160612-SNR	1,2	2,0-6,0	0,1-0,45														○				○					
	CNMG160616-SNR	1,6	2,0-6,0	0,1-0,5																		○					
	CNMG190616-SNR	1,6	2-7	0,2-0,6														○				●					○

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DCKNR/L	DCLNR/L	PCBNR/L	PCBNR/LC	PCKNR/L	PCLNR/LC	PCLNR/L
Kr: 75°	Kr: 95°	Kr: 75°	Kr: 75°	Kr: 75°	Kr: 95°	Kr: 95°
						
A263	A262	A270	A286	A271	A287	A272

MCBNR/L	MCLNR/L	S***-PCLNR/L
Kr: 75°	Kr: 95°	Kr: 95°
		
A291	A292	A370

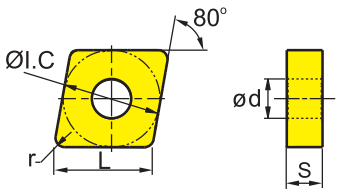
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

CNMG	L	I.C	S	d
12 04	12,9	12,7	4,76	5,16
16 06	16,1	15,875	6,35	6,35
19 06	19,3	19,05	6,35	7,94

CN** Inserti negativi



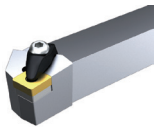
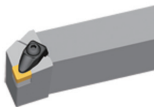
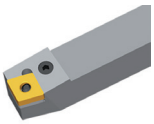
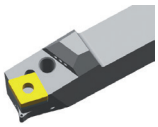
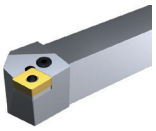
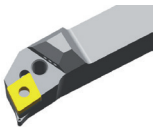
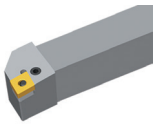
	HC¹ (CVD)												HC¹ (PVD)						HT		HC²	HW	
	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
P	○	○	○	❁	❁	❁										❁	❁	❁		○	❁	○		
M							○	❁						○	○	❁	❁	❁	○	○	❁	○		
K									○	❁	❁	❁												
N													○	○									○	❁
S														○	○	❁	❁	❁	○				○	❁
H																								

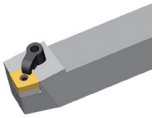
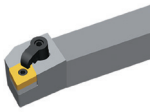
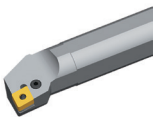
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
XLR Sgrossatura	**CNMG120408-XLR**	0,8	1,5-6,0	0,2-0,40	●			●																				
	CNMG120412-XLR	1,2	1,5-6,0	0,2-0,50	●			●																				
	CNMG120416-XLR	1,6	1,5-6,0	0,2-0,55	●			●																				
	CNMG160608-XLR	0,8	1,5-7,0	0,2-0,40	●			●																				
	CNMG160612-XLR	1,2	1,5-7,0	0,2-0,50	●			●																				
	CNMG160616-XLR	1,6	1,5-7,0	0,2-0,55	●			●																				
	CNMG190612-XLR	1,2	2,5-7,8	0,2-0,55	○			●																				
	CNMG190616-XLR	1,6	2,5-7,8	0,2-0,60	○			●				○																
	CNMG190624-XLR	2,4	2,5-7,8	0,20-0,65	○			○																				

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DCKNR/L	DCLNR/L	PCBNR/L	PCBNR/LC	PCKNR/L	PCLNR/LC	PCLNR/L
Kr: 75°	Kr: 95°	Kr: 75°	Kr: 75°	Kr: 75°	Kr: 95°	Kr: 95°
						
A263	A262	A270	A286	A271	A287	A272

MCBNR/L	MCLNR/L	S***-PCLNR/L
Kr: 75°	Kr: 95°	Kr: 95°
		
A291	A292	A370

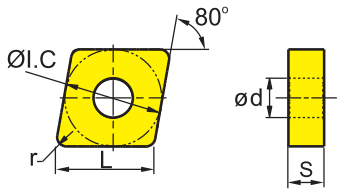
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

CNMM	L	I.C	S	d
12 04	12,9	12,7	4,76	5,16
16 06	16,1	15,875	6,35	6,35
19 06	19,3	19,05	6,35	7,94
25 09	25,79	25,4	9,525	9,12

Inserti - Tornitura

- ● Buone condizioni di lavorazione
- ⊛ Condizioni di lavorazione normali
- ⊛ Condizioni di lavorazione sfavorevoli

CN** Inserti negativi



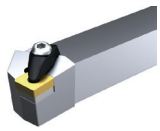
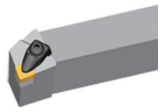
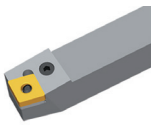
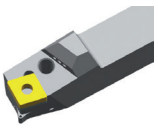
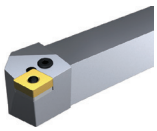
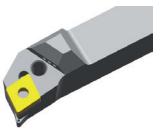
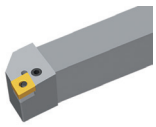
	HC¹ (CVD)												HC¹ (PVD)							HT		HC²	HW	
	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
P	●	●	●	⊛	⊛	⊛										⊛	⊛	⊛		●	⊛	●		
M							●	⊛						●	●	⊛	⊛	⊛	●	●	⊛	●		
K									●	⊛	⊛	⊛												
N													●	●									●	⊛
S														●	●	⊛	⊛	⊛	●				●	⊛
H																								

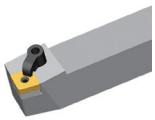
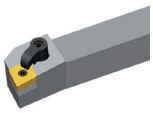
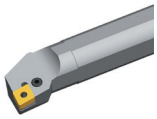
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
DR Sgrossatura	**CNMM120412-DR**	1,2	1,0-7,5	0,25-0,70		○	○		○	○	○	○																
	CNMM160612-DR	1,2	1,0-9,5	0,25-0,70			○		○																			
	CNMM160616-DR	1,6	1,5-9,5	0,32-0,90			○		○	○																		
	CNMM190608-DR	0,8	0,7-10,0	0,2-0,5			○																					
	CNMM190612-DR	1,2	1-12	0,25-0,70		○	●		○	○		○																
	CNMM190616-DR	1,6	1,5-12,0	0,32-0,90			○		●	●																		
	CNMM190624-DR	2,4	2-12	0,35-1,20		○	●		●																			
	CNMM250924-DR	2,4	2,0-12,5	0,2-1,2			●		●	○																		

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DCKNR/L	DCLNR/L	PCBNR/L	PCBNR/LC	PCKNR/L	PCLNR/LC	PCLNR/L
Kr: 75°	Kr: 95°	Kr: 75°	Kr: 75°	Kr: 75°	Kr: 95°	Kr: 95°
						
A263	A262	A270	A286	A271	A287	A272

MCBNR/L	MCLNR/L	S***-PCLNR/L
Kr: 75°	Kr: 95°	Kr: 95°
		
A291	A292	A370

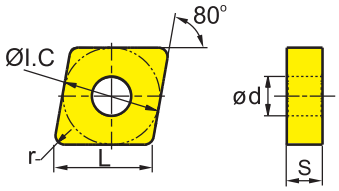
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

CN**	L	I.C	S	d
12 04	12,9	12,7	4,76	5,16
16 06	16,1	15,875	6,35	6,35
19 06	19,3	19,05	6,35	7,94
25 07	25,79	25,4	7,94	9,12
25 09	25,79	25,4	9,525	9,12

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

CN** Inserti negativi



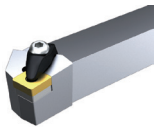
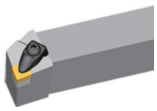
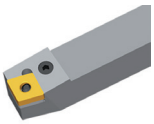
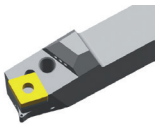
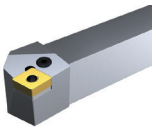
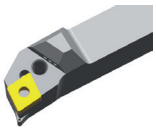
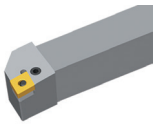
	HC¹ (CVD)												HC¹ (PVD)						HT		HC²		HW		
	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201	
P	●	●	●	⊛	⊛	⊛										⊛	⊛	⊛		●	⊛	●			
M							○	⊛						○	○	⊛	⊛	⊛	○	○	⊛	○			
K									●	⊛	⊛	⊛													
N													●	●									●	⊛	
S														●	●	⊛	⊛	⊛	●				●	⊛	
H																									

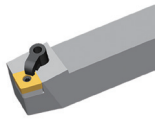
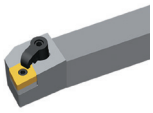
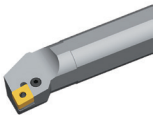
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
ER Sgrossatura	**CNMG120408-ER**	0,8	2,0-7,6	0,15-0,55								○								○								
	CNMG120412-ER	1,2	2,0-7,6	0,25-0,80								○																
	CNMG160612-ER	1,2	2-10	0,35-0,80								○																
	CNMG160616-ER	1,6	2-10	0,45-1,00								○																
	CNMG190612-ER	1,2	2,0-11,4	0,35-1,00					○			○								○								
	CNMG190616-ER	1,6	2,0-11,4	0,45-1,10								○																
ER Sgrossatura	**CNMM250724-ER**	2,4	2,0-12,5	0,3-1,4					○																			
	CNMM250732-ER	3,2	2,0-12,5	0,45-1,80					○																			
	CNMM250924-ER	2,4	2,0-12,5	0,3-1,4	○			●	●			○																
	CNMM250932-ER	3,2	2,0-12,5	0,45-1,80					●																			

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DCKNR/L	DCLNR/L	PCBNR/L	PCBNR/LC	PCKNR/L	PCLNR/LC	PCLNR/L
Kr: 75°	Kr: 95°	Kr: 75°	Kr: 75°	Kr: 75°	Kr: 95°	Kr: 95°
						
A263	A262	A270	A286	A271	A287	A272

MCBNR/L	MCLNR/L	S***-PCLNR/L
Kr: 75°	Kr: 95°	Kr: 95°
		
A291	A292	A370

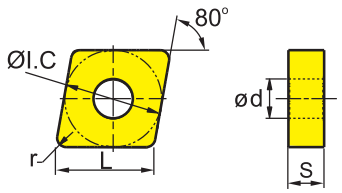
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

CN**	L	I.C	S	d
12 04	12,9	12,7	4,76	5,16
16 06	16,1	15,875	6,35	6,35
19 06	19,3	19,05	6,35	7,94

CN** Inserti negativi



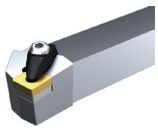
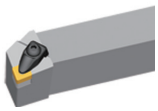
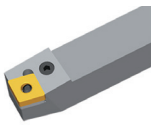
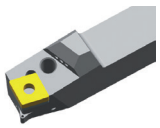
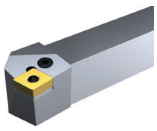
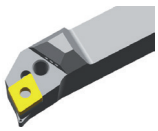
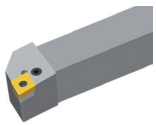
	HC¹ (CVD)											HC¹ (PVD)							HT		HC²	HW	
P	●	●	●	❁	❁	❁									❁	❁	❁		●	❁	●		
M							○	❁					○	○	❁	❁	❁	○	○	❁	○		
K									●	❁	❁	❁											
N													●	●								●	❁
S													●	●	❁	❁	❁	●				●	❁
H																							

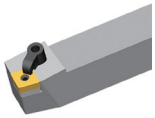
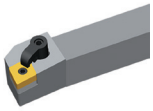
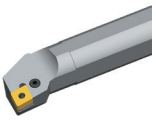
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
LR Sgrossatura	**CNMG120408-LR**	0,8	1,0-5,0	0,15-0,5	○																							
	CNMG120416-LR	1,6	1,0-5,0	0,23-0,5	○																							
	CNMG190616-LR	1,6	1,0-7,0	0,20-0,65				○				○																
XLR Sgrossatura	**CNMM120408-XLR**	0,8	1,5-6,0	0,2-0,4	○			○																				
	CNMM120412-XLR	1,2	1,5-6,0	0,2-0,5	○			○				○																
	CNMM120416-XLR	1,6	1,5-6,0	0,2-0,55	○			○																				
	CNMM160612-XLR	1,2	1,5-7,0	0,2-0,55	○			○																				
	CNMM160616-XLR	1,6	1,5-7,0	0,2-0,60	○			○																				
	CNMM160624-XLR	2,4	1,5-7,0	0,2-0,65	○																							
	CNMM190612-XLR	1,2	2,0-7,8	0,2-0,55	○			○																				
	CNMM190616-XLR	1,6	2,0-7,8	0,2-0,6	○			○																				
	CNMM190624-XLR	2,4	2,0-7,8	0,2-0,65	○			○		○																		

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DCKNR/L	DCLNR/L	PCBNR/L	PCBNR/LC	PCKNR/L	PCLNR/LC	PCLNR/L
Kr: 75°	Kr: 95°	Kr: 75°	Kr: 75°	Kr: 75°	Kr: 95°	Kr: 95°
						
A263	A262	A270	A286	A271	A287	A272

MCBNR/L	MCLNR/L	S***-PCLNR/L
Kr: 75°	Kr: 95°	Kr: 95°
		
A291	A292	A370

Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

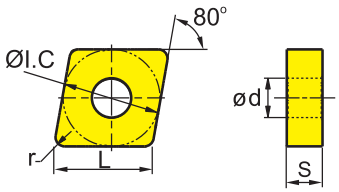
Tornitura generale Inserti negativi

CNMM	L	I.C	S	d
12 04	12,9	12,7	4,76	5,16
16 06	16,1	15,875	6,35	6,35
19 06	19,3	19,05	6,35	7,94
25 09	25,79	25,4	9,525	9,12

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

CN** Inserti negativi



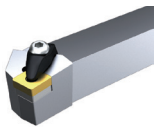
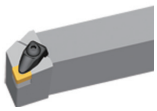
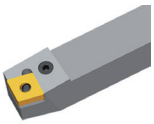
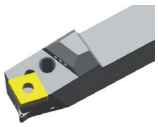
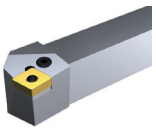
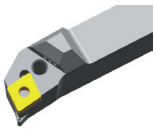
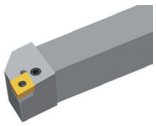
	HC¹ (CVD)												HC¹ (PVD)						HT		HC²		HW		
P	○	○	○	⊛	⊛	⊛										⊛	⊛	⊛	○	⊛	○				
M								○	⊛					○	○	⊛	⊛	⊛	○	⊛	○				
K										○	⊛	⊛	⊛												
N														○	○								○	⊛	
S														○	○	⊛	⊛	⊛	○				○	⊛	
H																									

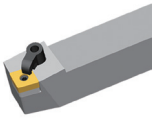
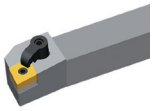
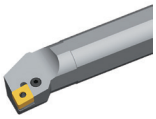
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
Basic	**CNMM190624**	2,4	1,0-12	0,2-1,2					○																			
Media Lavor.																												
LR	**CNMM120408-LR**	0,8	1-5	0,1-0,5			○		○																			
	CNMM120412-LR	1,2	2-6	0,2-0,7			○		○			○																
	CNMM120416-LR	1,6	2,0-6,5	0,25-0,80					○																			
	CNMM160608-LR	0,8	1-7	0,2-0,6			○		○																			
	CNMM160612-LR	1,2	1,0-7,5	0,2-0,7			○		○			○																
	CNMM160616-LR	1,6	1,0-8,5	0,25-0,80	○		○	○	○																			
Sgrossatura	**CNMM190612-LR**	1,2	2,0-10,5	0,2-0,7			○		○																			
	CNMM190616-LR	1,6	2,0-10,5	0,3-1,0			○		○			○																
	CNMM190624-LR	2,4	2,0-10,5	0,3-1,1					○																			
	CNMM250924-LR	2,4	2,0-12,5	0,3-1,2			○		●																			

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DCKNR/L	DCLNR/L	PCBNR/L	PCBNR/LC	PCKNR/L	PCLNR/LC	PCLNR/L
Kr: 75°	Kr: 95°	Kr: 75°	Kr: 75°	Kr: 75°	Kr: 95°	Kr: 95°
						
A263	A262	A270	A286	A271	A287	A272

MCBNR/L	MCLNR/L	S***-PCLNR/L
Kr: 75°	Kr: 95°	Kr: 95°
		
A291	A292	A370

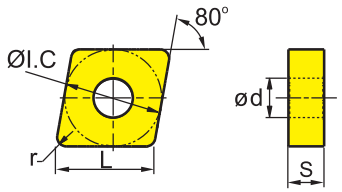
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

CNMM	L	I.C	S	d
12 04	12,9	12,7	4,76	5,16
16 06	16,1	15,875	6,35	6,35
19 06	19,3	19,05	6,35	7,94
25 09	25,79	25,4	9,525	9,12

Inserti - Tornitura

- ● Buone condizioni di lavorazione
- ⊛ Condizioni di lavorazione normali
- ⊛ Condizioni di lavorazione sfavorevoli

CN** Inserti negativi



	HC¹ (CVD)												HC¹ (PVD)							HT		HC²	HW	
P	●	●	●	⊛	⊛	⊛										⊛	⊛	⊛		●	⊛	●		
M								●	⊛					●	●	⊛	⊛	⊛	●	●	⊛	●		
K										●	⊛	⊛	⊛											
N														●	●								●	⊛
S														●	●	⊛	⊛	⊛	●				●	⊛
H																								

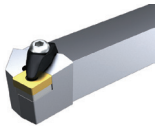
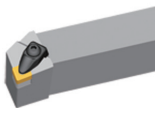
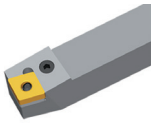
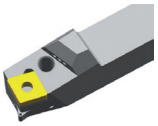
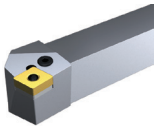
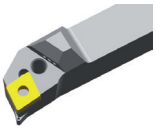
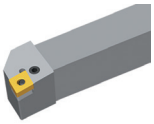
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
HDR Sgrossatura	**CNMM120408-HDR**	0,8	1-7	0,2-0,6			●		●																			
	CNMM120412-HDR	1,2	1-7	0,3-0,8			○		○																			
	CNMM120416-HDR	1,6	1-7	0,4-1,0			○		●																			
	CNMM160612-HDR	1,2	1,5-7,5	0,3-0,8			○		○																			
	CNMM160616-HDR	1,6	1,5-8,5	0,4-1,0			○		○																			
	CNMM160624-HDR	2,4	1,5-10,5	0,8-1,2			○		○																			
	CNMM190608-HDR	0,8	2,0-12,5	0,3-0,7			○																					
	CNMM190612-HDR	1,2	2,0-12,5	0,35-0,80			○		○																			
	CNMM190616-HDR	1,6	2,0-12,5	0,5-1,1			○	●	●							○												
	CNMM190624-HDR	2,4	2,0-12,5	0,8-1,2					○																			
	CNMM250924-HDR	2,4	2,0-12,5	0,8-1,4	○		○	●	○																			

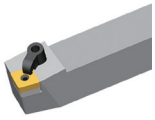
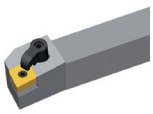
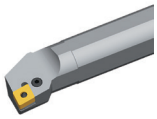
● In magazzino ○ Su richiesta

disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DCKNR/L	DCLNR/L	PCBNR/L	PCBNR/LC	PCKNR/L	PCLNR/LC	PCLNR/L
Kr: 75°	Kr: 95°	Kr: 75°	Kr: 75°	Kr: 75°	Kr: 95°	Kr: 95°
						
A263	A262	A270	A286	A271	A287	A272

MCBNR/L	MCLNR/L	S***-PCLNR/L
Kr: 75°	Kr: 95°	Kr: 95°
		
A291	A292	A370

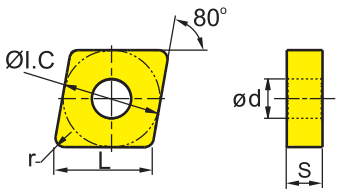
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

CNMM	L	I.C	S	d
19 06	19,3	19,05	6,35	7,94
25 09	25,79	25,4	9,525	9,12

CN** Inserti negativi



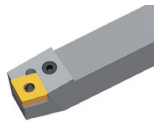
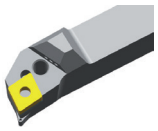
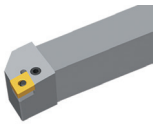
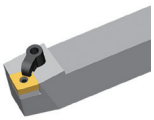
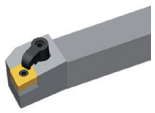
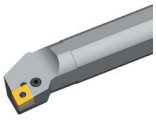
	HC¹ (CVD)												HC¹ (PVD)						HT		HC²		HW		
	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201	
P	●	●	●	⊛	⊛	⊛										⊛	⊛	⊛		●	⊛	●			
M							○	⊛						○	○	⊛	⊛	⊛	○	○	⊛	○			
K									●	⊛	⊛	⊛													
N													●	●									●	⊛	
S														●	●	⊛	⊛	⊛	●				●	⊛	
H																									

	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
HPR Sgrossatura	**CNMM190616-HPR**	1,6	2,0-10,5	0,5-1,0					○																			
	CNMM190624-HPR	2,4	2,0-10,5	0,7-1,4					○																			
	CNMM250924-HPR	2,4	2,0-12,5	0,7-1,4					●	●																		

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

PCBNR/L	PCLNR/LC	PCLNR/L	MCBNR/L	MCLNR/L	S***-PCLNR/L
Kr: 75°	Kr: 95°	Kr: 95°	Kr: 75°	Kr: 95°	Kr: 95°
					
A270	A287	A272	A291	A292	A370

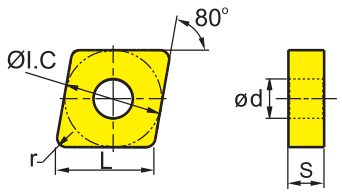
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

CN**	L	I.C	S	d
12 04	12,9	12,7	4,76	5,16
16 06	16,1	15,875	6,35	6,35
19 06	19,3	19,05	6,35	7,94

Inserti - Tornitura

- ○ Buone condizioni di lavorazione
- ✲ Condizioni di lavorazione normali
- ❁ Condizioni di lavorazione sfavorevoli

CN** Inserti negativi



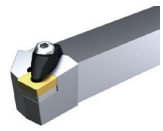
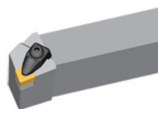
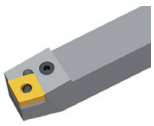
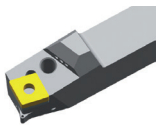
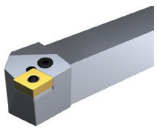
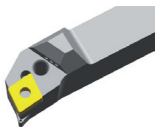
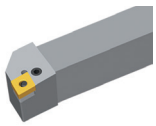
	HC¹ (CVD)											HC¹ (PVD)							HT		HC²	HW	
	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
P	○	○	○	✲	✲	❁										✲	✲	✲		○	✲	○		
M							○	✲						○	○	✲	✲	✲	○	○	✲	○		
K									○	✲	✲	✲												
N													○	○									○	✲
S														○	○	✲	✲	✲	○				○	✲
H																								

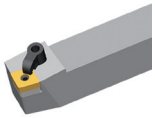
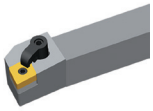
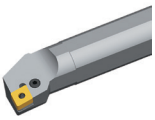
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
Flat	**CNMA120404**	0,4	0,2-5,0	0,05-0,40									○															
	CNMA120408	0,8	0,2-5,0	0,05-0,50									●	●	●	●												
	CNMA120412	1,2	0,2-5,0	0,1-0,6									○	●	●	●												
	CNMA120416	1,6	0,2-5,0	0,10-0,65									●		●	○												
	CNMA160608	0,8	0,2-7,0	0,1-0,5									○															
	CNMA160612	1,2	0,2-7,0	0,1-0,6									○		○													
	CNMA160616	1,6	0,2-7,0	0,15-0,65									○		●													
	CNMA190612	1,2	0,2-8,0	0,15-0,70									○		○													
	CNMA190616	1,6	0,2-8,0	0,15-0,70									○		●													
Basic	**CNMG120404**	0,4	0,1-5,0	0,05-0,50					○																			
	CNMG120408	0,8	0,1-5,0	0,1-0,6					○																			
	CNMG120412	1,2	0,1-5,0	0,1-0,7			○		○																			

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DCKNR/L	DCLNR/L	PCBNR/L	PCBNR/LC	PCKNR/L	PCLNR/LC	PCLNR/L
Kr: 75°	Kr: 95°	Kr: 75°	Kr: 75°	Kr: 75°	Kr: 95°	Kr: 95°
						
A263	A262	A270	A286	A271	A287	A272

MCBNR/L	MCLNR/L	S***-PCLNR/L
Kr: 75°	Kr: 95°	Kr: 95°
		
A291	A292	A370

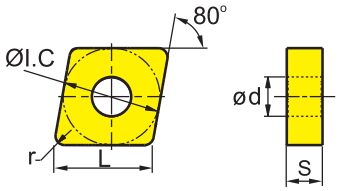
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

CNEG	L	I.C	S	d
12 04	12,9	12,7	4,76	5,16
16 06	16,1	15,875	6,35	6,35

CN** Inserti negativi



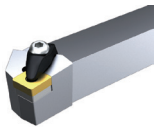
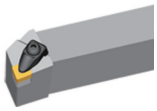
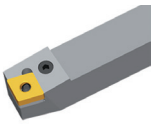
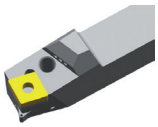
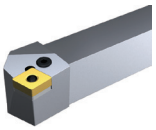
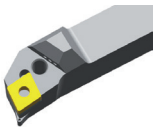
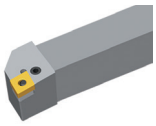
	HC¹ (CVD)												HC¹ (PVD)						HT		HC²	HW	
P	●	●	●	⊛	⊛	⊛										⊛	⊛	⊛	●	⊛	●		
M								○	⊛					○	○	⊛	⊛	○	○	⊛	○		
K										●	⊛	⊛	⊛										
N														●	●							●	⊛
S														●	●	⊛	⊛	⊛	●			●	⊛
H																							

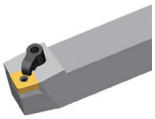
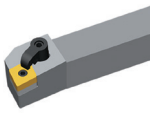
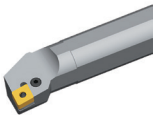
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
LH Lavorazione Al.	**CNEG120404-LH**	0,4	1,5-7,0	0,15-0,30																	●						●	
	CNEG120408-LH	0,8	1,5-7,0	0,20-0,50																	○						●	
	CNEG120412-LH	1,2	1,5-7,0	0,25-0,60																	●						●	
	CNEG120416-LH	1,6	1,5-7,0	0,25-0,70																	●						●	
	CNEG160608-LH	0,8	1,5-10,0	0,20-0,50																	●						●	
	CNEG160612-LH	1,2	1,5-10,0	0,25-0,60																	●						●	
	CNEG160616-LH	1,6	1,5-10,0	0,25-0,70																	●						●	

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DCKNR/L	DCLNR/L	PCBNR/L	PCBNR/LC	PCKNR/L	PCLNR/LC	PCLNR/L
Kr: 75°	Kr: 95°	Kr: 75°	Kr: 75°	Kr: 75°	Kr: 95°	Kr: 95°
						
A263	A262	A270	A286	A271	A287	A272

MCBNR/L	MCLNR/L	S***-PCLNR/L
Kr: 75°	Kr: 95°	Kr: 95°
		
A291	A292	A370

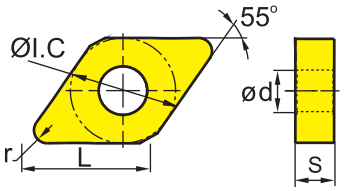
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

DN**	L	I.C	S	d
11 04	11,6	9,525	4,76	3,81
15 04	15,5	12,7	4,76	5,16
15 06	15,5	12,7	6,35	5,16

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

DN** Inserti negativi



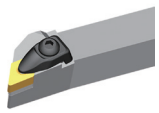
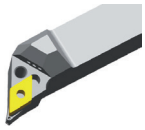
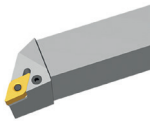
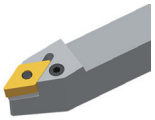
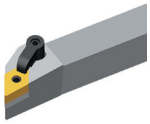
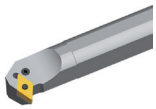
	HC¹ (CVD)											HC¹ (PVD)							HT		HC²	HW	
	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
P	●	●	●	✱	✱	✱										✱	✱	✱		●	✱	●		
M							○	✱						○	○	✱	✱	✱	○	○	✱	○		
K									●	✱	✱	✱												
N													●	●									●	✱
S														●	●	✱	✱	✱	●				●	✱
H																								

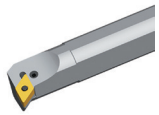
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
WG	**DNMX110404-WG**	0,4	0,2-1,5	0,08-0,30			○																					
	DNMX110408-WG	0,8	0,5-3,5	0,15-0,50			●		○																			
	DNMX150408-WG	0,8	0,5-5,0	0,15-0,70			○																					
	DNMX150608-WG	0,8	0,5-5,0	0,15-0,70			○		○																			
Raschiante	**DNMX150612-WG**	1,2	0,8-6,0	0,20-0,75			○																					
ADF	**DNMG110408-ADF**	0,8	0,5-2,5	0,1-0,3		●																						
	DNMG150404-ADF	0,4	0,5-3,0	0,1-0,25																			○					
	DNMG150604-ADF	0,4	0,5-3,0	0,1-0,25		○																●			○			
	DNMG150608-ADF	0,8	0,5-3,0	0,1-0,3		○														●		●			○			
Finitura	**DNMG150612-ADF**	1,2	0,5-3,0	0,1-0,35		○																●						

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DDJNR/L	PDJNR/LC	PDJNR/L	PDNNR/L	MDJNR/L	MDPNN	S***-PDSNR/L
Kr: 93°	Kr: 93°	Kr: 93°	Kr: 63°	Kr: 93°	Kr: 62°30'	Kr: 62°30'
						
A264	A288	A274	A275	A294	A295	A372

A***-PDUNR/L
Kr: 93°

A373

Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

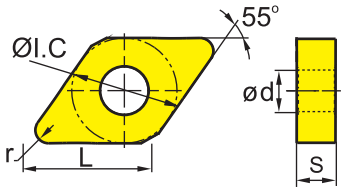
Tornitura generale Inserti negativi

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

DNMG	L	I.C	S	d
11 04	11,6	9,525	4,76	3,81
15 04	15,5	12,7	4,76	5,16
15 06	15,5	12,7	6,35	5,16

DN** Inserti negativi



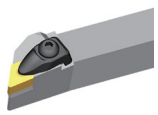
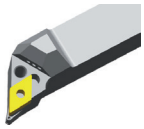
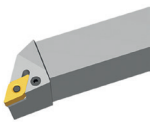
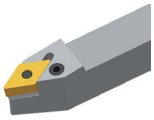
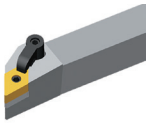
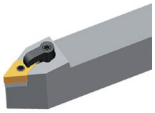
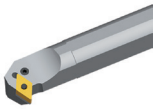
	HC¹ (CVD)												HC¹ (PVD)						HT		HC²	HW	
P	○	○	○	✲	✲	✲									✲	✲	✲		○	✲	○		
M							○	✲						○	○	✲	✲	✲	○	✲	○		
K									○	✲	✲	✲											
N													○	○								○	✲
S														○	○	✲	✲	✲	○			○	✲
H																							

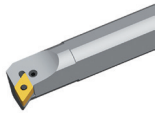
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
DF Finitura	**DNMG110404-DF**	0,4	0,15-2,00	0,08-0,25			●		○																			
	DNMG110408-DF	0,8	0,15-2,00	0,1-0,3			●		○																			
	DNMG110412-DF	1,2	0,35-1,50	0,15-0,50			○																					
	DNMG150404-DF	0,4	0,15-2,00	0,08-0,25			○		○																			
	DNMG150408-DF	0,8	0,15-2,00	0,1-0,3			○																					
	DNMG150412-DF	1,2	0,35-1,50	0,15-0,50					○																			
	DNMG150604-DF	0,4	0,15-2,00	0,18-0,60			●		●																			
	DNMG150608-DF	0,8	0,15-2,00	0,1-0,3			●		○																			
	DNMG150612-DF	1,2	0,2-2,5	0,10-0,35			●																					
SF Finitura	**DNMG110404-SF**	0,4	0,05-0,50	0,05-0,25																						●		
	DNMG150404-SF	0,4	0,05-0,50	0,05-0,25																						●		
	DNMG150408-SF	0,8	0,05-0,50	0,10-0,35																						●		
	DNMG150604-SF	0,4	0,05-0,50	0,05-0,25																						●		
	DNMG150608-SF	0,8	0,05-0,50	0,10-0,35																						●		

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DDJNR/L	PDJNR/LC	PDJNR/L	PDNNR/L	MDJNR/L	MDPNN	S***-PDSNR/L
Kr: 93°	Kr: 93°	Kr: 93°	Kr: 63°	Kr: 93°	Kr: 62°30'	Kr: 62°30'
						
A264	A288	A274	A275	A294	A295	A372

A***-PDUNR/L
Kr: 93°

A373

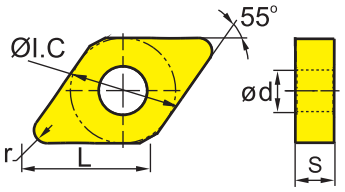
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

DNMG	L	I.C	S	d
11 04	11,6	9,525	4,76	3,81
15 06	15,5	12,7	6,35	5,16

DN** Inserti negativi



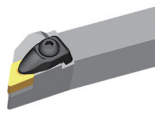
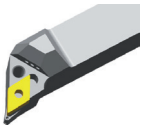
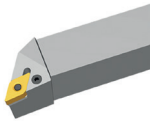
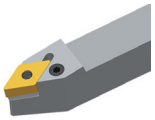
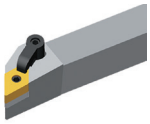
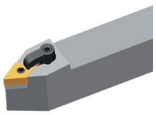
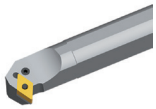
	HC¹ (CVD)											HC¹ (PVD)							HT		HC²	HW	
P	●	●	●	⊛	⊛	⊛									⊛	⊛	⊛		●	⊛	●		
M							○	⊛					○	○	⊛	⊛	⊛	○	○	⊛	○		
K									●	⊛	⊛	⊛											
N													●	●								●	⊛
S														●	⊛	⊛	⊛	●				●	⊛
H																							

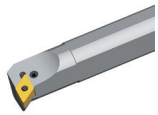
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
XF	**DNMG110404-XF**	0,4	0,5-2,0	0,1-0,25	●																							
	DNMG110408-XF	0,8	0,5-2,0	0,1-0,30	●																							
	DNMG150604-XF	0,4	0,5-2,5	0,1-0,25	●			●																				
	DNMG150608-XF	0,8	0,5-2,5	0,1-0,30	●			●																				
Finitura	**DNMG150612-XF**	1,2	0,5-2,5	0,1-0,35	●			●																				
XM	**DNMG110404-XM**	0,4	1-3,85	0,2-0,4	●			○																				
	DNMG110408-XM	0,8	1-3,85	0,2-0,4	●			○																				
	DNMG110412-XM	1,2	1-3,85	0,2-0,6	●			○																				
	DNMG150604-XM	0,4	1-5,25	0,2-0,4	●			●																				
	DNMG150608-XM	0,8	1-5,25	0,2-0,4	●			●																				
Media Lavor.	**DNMG150612-XM**	1,2	1-5,25	0,2-0,6	●			●																				
	DNMG150616-XM	1,6	1-5,25	0,2-0,65	●			●																				
XMH	**DNMG110412-XMH**	1,2	1,0-3,0	0,2-0,4	●																							
	DNMG150608-XMH	0,8	1,5-3,0	0,15-0,35	●			●																				
	DNMG150612-XMH	1,2	1,0-4,5	0,2-0,5	○			○																				
Media Lavor.																												

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DDJNR/L	PDJNR/LC	PDJNR/L	PDNNR/L	MDJNR/L	MDPNN	S***-PDSNR/L
Kr: 93°	Kr: 93°	Kr: 93°	Kr: 63°	Kr: 93°	Kr: 62°30'	Kr: 62°30'
						
A264	A288	A274	A275	A294	A295	A372

A***-PDUNR/L
Kr: 93°

A373

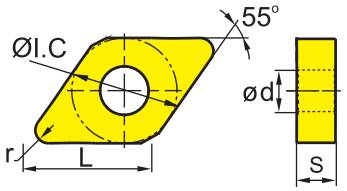
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

DNMG	L	I.C	S	d
11 04	11,6	9,525	4,76	3,81
15 04	15,5	12,7	4,76	5,16
15 06	15,5	12,7	6,35	5,16

DN** Inserti negativi



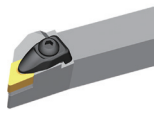
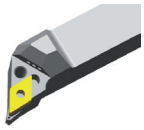
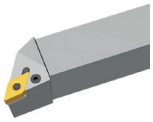
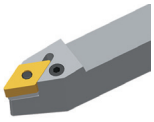
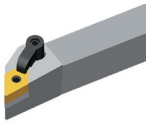
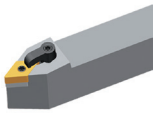
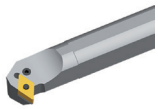
	HC¹ (CVD)												HC¹ (PVD)						HT		HC²	HW	
P	○	○	○	⊛	⊛	⊛									⊛	⊛	⊛		○	⊛	○		
M								○	⊛					○	○	⊛	⊛	⊛	○	⊛	○		
K										○	⊛	⊛	⊛										
N														○	○							○	⊛
S														○	○	⊛	⊛	⊛	○			○	⊛
H																							

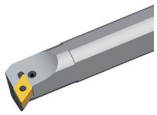
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
DM Media Lavor.	**DNMG110404-DM**	0,4	0,4-5,0	0,1-0,3			●		●																			
	DNMG110408-DM	0,8	0,5-5,0	0,15-0,50			●		●																			
	DNMG110412-DM	1,2	0,8-5,0	0,18-0,50			○		○																			
	DNMG150404-DM	0,4	0,4-6,0	0,1-0,3			●		○																			
	DNMG150408-DM	0,8	0,5-6,0	0,15-0,50			●		○																			
	DNMG150412-DM	1,2	0,8-6,0	0,18-0,60			○		○																			
	DNMG150604-DM	0,4	1-6	0,23-0,65			●		●																			
	DNMG150608-DM	0,8	0,4-6,0	0,1-0,3		○	●		●			○																
	DNMG150612-DM	1,2	0,8-6,0	0,18-0,60		○	●		●																			
	DNMG150616-DM	1,6	1-6	0,23-0,65			●		●																			

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DDJNR/L	PDJNR/LC	PDJNR/L	PDNNR/L	MDJNR/L	MDPNN	S***-PDSNR/L
Kr: 93°	Kr: 93°	Kr: 93°	Kr: 63°	Kr: 93°	Kr: 62°30'	Kr: 62°30'
						
A264	A288	A274	A275	A294	A295	A372

A***-PDUNR/L
Kr: 93°

A373

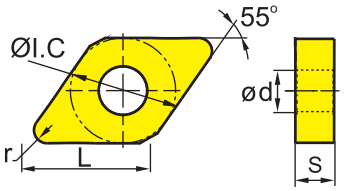
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

DNMG	L	I.C	S	d
11 04	11,6	9,525	4,76	3,81
15 04	15,5	12,7	4,76	5,16
15 06	15,5	12,7	6,35	5,16

Inserti - Tornitura

- ● Buone condizioni di lavorazione
- ✲ Condizioni di lavorazione normali
- ✲ Condizioni di lavorazione sfavorevoli

DN** Inserti negativi



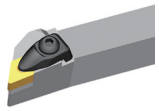
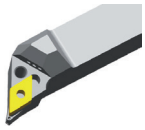
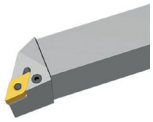
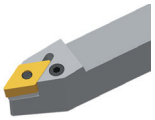
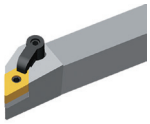
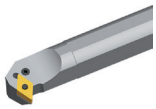
	HC¹ (CVD)											HC¹ (PVD)							HT		HC²	HW	
	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
P	●	●	●	✲	✲	✲										✲	✲	✲		●	✲	●		
M							●	✲					●	●	✲	✲	✲	●	●	●	✲	●		
K									●	✲	✲	✲												
N													●	●									●	✲
S														●	●	✲	✲	✲	●				●	✲
H																								

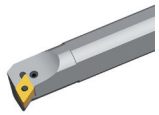
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
PM	**DNMG110404-PM**	0,4	0,4-5,0	0,1-0,3					○				○															
	DNMG110408-PM	0,8	0,5-5,0	0,15-0,50			○		○				●															
	DNMG110412-PM	1,2	0,8-5,0	0,18-0,50					○				○															
	DNMG150408-PM	0,8	0,5-6,0	0,15-0,50			○		○				○		○													
	DNMG150412-PM	1,2	0,8-6,0	0,18-0,60					○						○													
	DNMG150416-PM	1,6	1-6	0,23-0,65					○																			
Media Lavor.	**DNMG150604-PM**	0,4	0,4-6,0	0,1-0,3			○		●				●		○													
	DNMG150608-PM	0,8	0,5-6,0	0,15-0,50			●		●	●			●		●													
	DNMG150612-PM	1,2	0,8-6,0	0,18-0,60			●		●				●		●													
	DNMG150616-PM	1,6	1-6	0,23-0,65					●																			

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DDJNR/L	PDJNR/LC	PDJNR/L	PDNNR/L	MDJNR/L	MDPNN	S***-PDSNR/L
Kr: 93°	Kr: 93°	Kr: 93°	Kr: 63°	Kr: 93°	Kr: 62°30'	Kr: 62°30'
						
A264	A288	A274	A275	A294	A295	A372

A***-PDUNR/L
Kr: 93°

A373

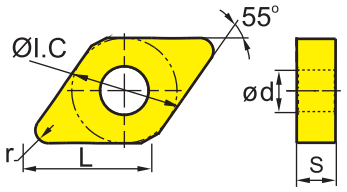
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

DNMG	L	I.C	S	d
15 04	15,5	12,7	4,76	5,16
15 06	15,5	12,7	6,35	5,16

DN** Inserti negativi



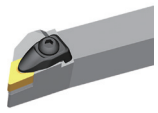
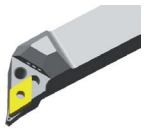
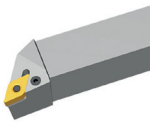
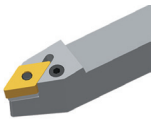
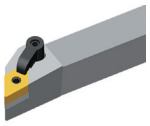
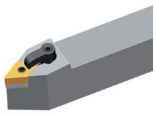
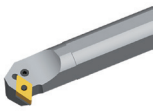
	HC[1] (CVD)												HC[1] (PVD)						HT		HC[2]		HW	
	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
P	◐	◐	◐	◐	◐	◐										◐	◐	◐		◐	◐	◐		
M							◐	◐						◐	◐	◐	◐	◐	◐	◐	◐	◐		
K									◐	◐	◐	◐												
N													◐	◐									◐	◐
S														◐	◐	◐	◐	◐	◐				◐	◐
H																								

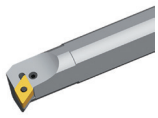
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
ZM Media Lavor.	**DNMG150404-ZM**	0,4	0,5-3,0	0,05-0,3		○																						
	DNMG150408-ZM	0,8	0,5-4,0	0,1-0,5		○																						
	DNMG150604-ZM	0,4	0,5-3,0	0,05-0,3		○																						
	DNMG150608-ZM	0,8	0,5-4,0	0,1-0,5		○																						
	DNMG150612-ZM	1,2	1,0-5,5	0,15-0,60		○			●																			

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DDJNR/L	PDJNR/LC	PDJNR/L	PDNNR/L	MDJNR/L	MDPNN	S***-PDSNR/L
Kr: 93°	Kr: 93°	Kr: 93°	Kr: 63°	Kr: 93°	Kr: 62°30'	Kr: 62°30'
						
A264	A288	A274	A275	A294	A295	A372

S***-PDUNR/L
Kr: 93°

A373

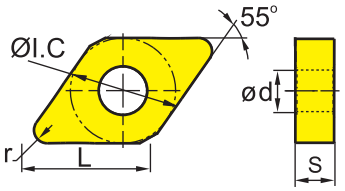
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

DNMG	L	I.C	S	d
11 04	11,6	9,525	4,76	3,81
15 04	15,5	12,7	4,76	5,16
15 06	15,5	12,7	6,35	5,16

Inserti - Tornitura

- ● Buone condizioni di lavorazione
- ⊛ Condizioni di lavorazione normali
- ⊛ Condizioni di lavorazione sfavorevoli

DN** Inserti negativi



	HC¹ (CVD)											HC¹ (PVD)							HT		HC²	HW	
P	●	●	●	⊛	⊛	⊛									⊛	⊛	⊛		●	⊛	●		
M							○	⊛					○	○	⊛	⊛	⊛	○	○	⊛	○		
K									●	⊛	⊛	⊛											
N													●	●								●	⊛
S													●	●	⊛	⊛	⊛	●				●	⊛
H																							

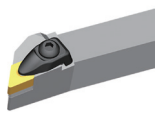
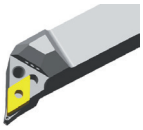
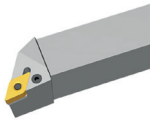
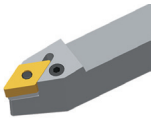
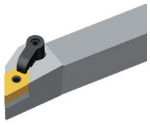
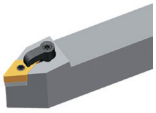
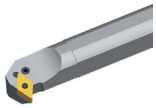
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
EF Finitura	**DNMG110404-EF**	0,4	0,1-1,5	0,05-0,20						○									●	○							
	DNMG110408-EF	0,8	0,1-1,5	0,1-0,4						○									●	○							
	DNMG150404-EF	0,4	0,1-1,5	0,05-0,30															●	○							
	DNMG150408-EF	0,8	0,1-1,5	0,1-0,4															●	○							
	DNMG150604-EF	0,4	0,1-1,5	0,05-0,30						●									●								
	DNMG150608-EF	0,8	0,1-1,5	0,1-0,4						●									●	○							
	DNMG150612-EF	1,2	0,1-1,5	0,15-0,50															●	○							
FM Finitura	**DNMG150604L-FM**	0,4	0,5-3,0	0,05-0,30					●										●								
	DNMG150604R-FM	0,4	0,5-3,0	0,05-0,30			○		●										●								
	DNMG150608L-FM	0,8	0,5-3,0	0,1-0,5			○		●										●								
	DNMG150608R-FM	0,8	0,5-3,0	0,1-0,5			○		●										●								

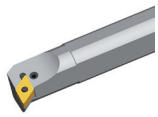
● In magazzino ○ Su richiesta

disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DDJNR/L	PDJNR/LC	PDJNR/L	PDNNR/L	MDJNR/L	MDPNN	S***-PDSNR/L
Kr: 93°	Kr: 93°	Kr: 93°	Kr: 63°	Kr: 93°	Kr: 62°30'	Kr: 62°30'
						
A264	A288	A274	A275	A294	A295	A372

A***-PDUNR/L
Kr: 93°

A373

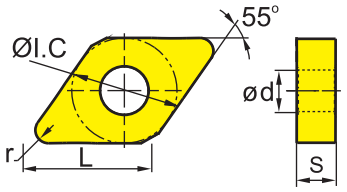
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

DNEG	L	I.C	S	d
15 04	15,5	12,7	4,76	5,16
15 06	15,5	12,7	6,35	5,16

DN** Inserti negativi



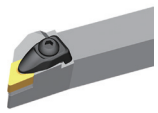
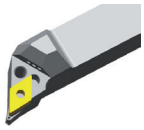
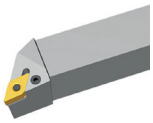
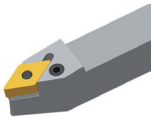
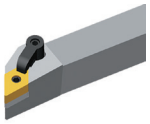
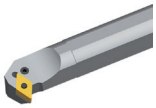
	HC¹ (CVD)												HC¹ (PVD)						HT		HC²		HW			
P	●	●	●	❁	❁	❁									❁	❁	❁		●	❁	●					
M							○	❁						○	○	❁	❁	❁	○	❁	○					
K									●	❁	❁	❁														
N													●	●									●	❁		
S														●	●	❁	❁	❁	●				●	❁		
H																										

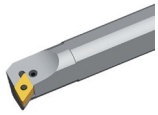
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
NF Finitura	**DNEG150404-NF**	0,4	0,2-3,0	0,05-0,30															○									
	DNEG150408-NF	0,8	0,2-3,0	0,1-0,4															○									
	DNEG150604-NF	0,4	0,2-3,0	0,05-0,30														○	●									
	DNEG150608-NF	0,8	0,2-3,0	0,1-0,4														○	●									
NGF Finitura	**DNEG150412-NGF**	1,2	0,2-3,0	0,1-0,5																								
	DNEG150608-NGF	0,8	0,2-3,0	0,05-0,40															●									
	DNEG150612-NGF	1,2	0,2-3,0	0,1-0,5															●									

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DDJNR/L	PDJNR/LC	PDJNR/L	PDNNR/L	MDJNR/L	MDPNN	S***-PDSNR/L
Kr: 93°	Kr: 93°	Kr: 93°	Kr: 63°	Kr: 93°	Kr: 62°30'	Kr: 62°30'
						
A264	A288	A274	A275	A294	A295	A372

S***-PDUNR/L
Kr: 93°

A373

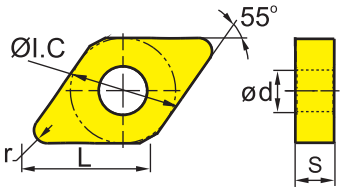
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

DNMG	L	I.C	S	d
11 04	11,6	9,525	4,76	3,81
15 04	15,5	12,7	4,76	5,16
15 06	15,5	12,7	6,35	5,16

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

DN** Inserti negativi



	HC[1] (CVD)											HC[1] (PVD)							HT		HC[2]	HW	
	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
P	○	○	○	⊛	⊛	⊛										⊛	⊛	⊛		○	⊛	○		
M							○	⊛						○	○	⊛	⊛	⊛	○	○	⊛	○		
K									○	⊛	⊛	⊛												
N													○	○									○	⊛
S														○	○	⊛	⊛	⊛	○				○	⊛
H																								

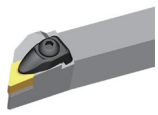
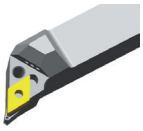
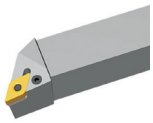
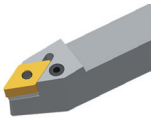
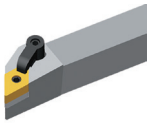
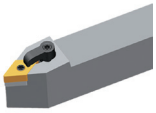
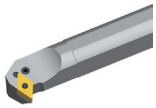
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
EM Media Lavor.	**DNMG110404-EM**	0,4	0,5-4,4	0,05-0,30							●									●	○							
	DNMG110408-EM	0,8	0,5-4,4	0,10-0,45							●									●	○							
	DNMG150404-EM	0,4	0,5-6,4	0,05-0,30																○	○							
	DNMG150408-EM	0,8	0,5-6,4	0,10-0,45							○									●	○							
	DNMG150412-EM	1,2	0,5-6,4	0,1-0,6							○										○							
	DNMG150604-EM	0,4	0,2-6,4	0,05-0,30							●	●								●	○							
	DNMG150608-EM	0,8	0,5-6,4	0,10-0,45							●	●								●	○							
	DNMG150612-EM	1,2	0,5-6,4	0,1-0,6							○	○								●	○							

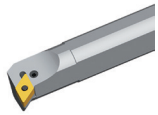
● In magazzino ○ Su richiesta

disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DDJNR/L	PDJNR/LC	PDJNR/L	PDNNR/L	MDJNR/L	MDPNN	S***-PDSNR/L
Kr: 93°	Kr: 93°	Kr: 93°	Kr: 63°	Kr: 93°	Kr: 62°30'	Kr: 62°30'
						
A264	A288	A274	A275	A294	A295	A372

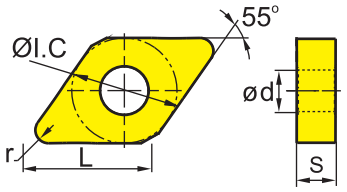
A***-PDUNR/L
Kr: 93°

A373

Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

DNMG	L	I.C	S	d
15 06	15,5	12,7	6,35	5,16



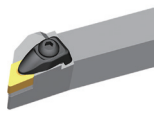
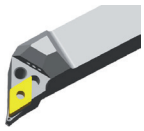
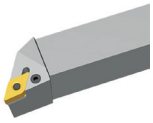
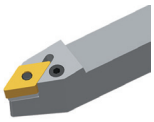
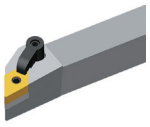
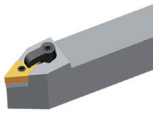
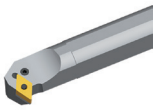
DN** Inserti negativi	HC[1] (CVD)												HC[1] (PVD)						HT		HC[2]		HW	
P	●	●	●	⊛	⊛	⊛										⊛	⊛	⊛	●	⊛	●			
M							○	⊛						○	○	⊛	⊛	⊛	○	⊛	○			
K									●	⊛	⊛	⊛												
N													●	●									●	⊛
S														●	○	⊛	⊛	⊛	○				○	⊛
H																								

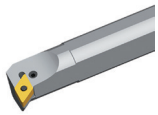
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
EG	**DNMG150604-EG**	0,4	1-3	0,05-0,30							○											●						
	DNMG150608-EG	0,8	1-3	0,1-0,4							●									●	●	●						
	DNMG150612-EG	1,2	1-3	0,2-0,6								○								●		●						
Media Lavor.																												

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DDJNR/L	PDJNR/LC	PDJNR/L	PDNNR/L	MDJNR/L	MDPNN	S***-PDSNR/L
Kr: 93°	Kr: 93°	Kr: 93°	Kr: 63°	Kr: 93°	Kr: 62°30'	Kr: 62°30'
						
A264	A288	A274	A275	A294	A295	A372

S***-PDUNR/L
Kr: 93°

A373

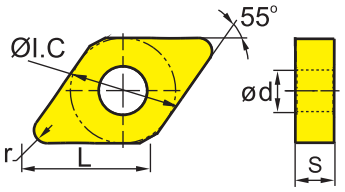
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

DNMG	L	I.C	S	d
15 04	15,5	12,7	4,76	5,16
15 06	15,5	12,7	6,35	5,16

DN** Inserti negativi



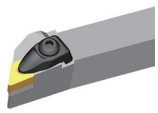
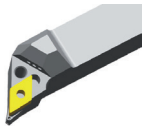
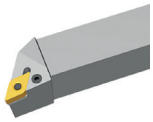
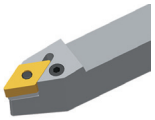
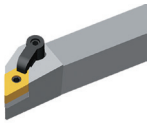
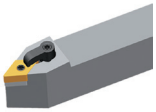
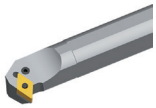
	HC¹ (CVD)											HC¹ (PVD)							HT		HC²	HW	
P	●	●	●	⊛	⊛	⊛									⊛	⊛	⊛		●	⊛	●		
M								○	⊛				○	○	⊛	⊛	⊛	○	○	⊛	○		
K										●	⊛	⊛	⊛										
N												●	●									●	⊛
S													●	●	⊛	⊛	⊛	●				●	⊛
H																							

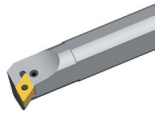
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
NM	**DNMG150412-NM**	1,2	0,2-4,0	0,2-0,6															○									
	DNMG150608-NM	0,8	0,2-4,0	0,1-0,4															●									
	DNMG150612-NM	1,2	0,2-4,0	0,2-0,6														○	●									
Media Lavor.																												
TC	**DNMG150404-TC**	0,4	0,5-5,0	0,08-0,4										○														
	DNMG150408-TC	0,8	0,5-5,0	0,15-0,4										○														
	DNMG150608-TC	0,8	0,5-5,0	0,15-0,40										●		●												
	DNMG150612-TC	1,2	0,5-5,0	0,2-0,6										●		○												
Media Lavor.																												

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DDJNR/L	PDJNR/LC	PDJNR/L	PDNNR/L	MDJNR/L	MDPNN	S***-PDSNR/L
Kr: 93°	Kr: 93°	Kr: 93°	Kr: 63°	Kr: 93°	Kr: 62°30'	Kr: 62°30'
						
A264	A288	A274	A275	A294	A295	A372

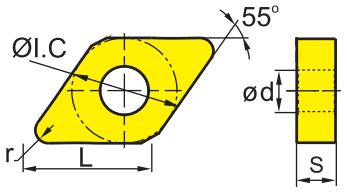
S***-PDUNR/L
Kr: 93°

A373

Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

DNMG	L	I.C	S	d
15 06	15,5	12,7	6,35	5,16



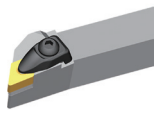
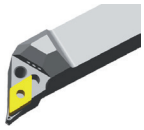
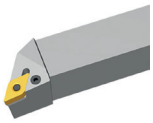
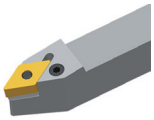
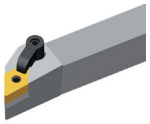
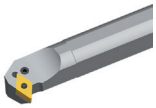
DN** Inserti negativi	HC¹ (CVD)												HC¹ (PVD)						HT		HC²		HW			
	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201		
P	●	●	●	⊛	⊛	⊛										⊛	⊛	⊛		●	⊛	●				
M							○	⊛						○	○	⊛	⊛	⊛	○	○	⊛	○				
K									●	⊛	⊛	⊛														
N													●	●									●	⊛		
S														●	●	⊛	⊛	⊛	●				●	⊛		
H																										

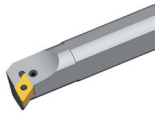
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
TK	**DNMG150608-TK**	0,8	0,5-5,0	0,15-0,40										○														
	DNMG150612-TK	1,2	0,5-5,0	0,2-0,6										○														
Media Lavor.																												
DR	**DNMG150608-DR**	0,8	1-6	0,2-0,5			●		●				●		●													
	DNMG150612-DR	1,2	1-6	0,25-0,70			●		●				○		○													
	DNMG150616-DR	1,6	1-6	0,32-0,75			●						○		○													
Sgrossatura																												

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DDJNR/L	PDJNR/LC	PDJNR/L	PDNNR/L	MDJNR/L	MDPNN	S***-PDSNR/L
Kr: 93°	Kr: 93°	Kr: 93°	Kr: 63°	Kr: 93°	Kr: 62°30'	Kr: 62°30'
						
A264	A288	A274	A275	A294	A295	A372

S***-PDUNR/L
Kr: 93°

A373

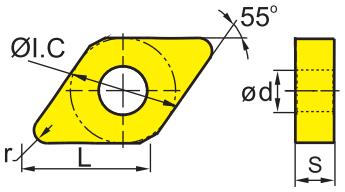
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

DNMG	L	l.C	S	d
15 06	15,5	12,7	6,35	5,16

DN** Inserti negativi



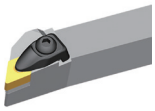
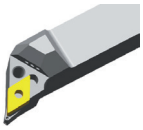
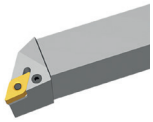
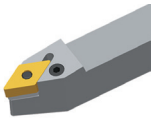
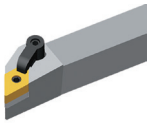
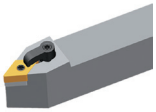
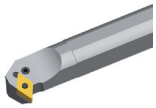
	HC¹ (CVD)											HC¹ (PVD)							HT		HC²	HW	
P	●	●	●	⊛	⊛	⊛									⊛	⊛	⊛		●	⊛	●		
M							○	⊛					○	○	⊛	⊛	⊛	○	○	⊛	○		
K									●	⊛	⊛	⊛											
N													●	●								●	⊛
S														●	●	⊛	⊛	⊛	●			●	⊛
H																							

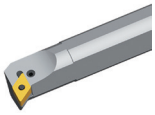
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
SNR	**DNMG150608-SNR**	0,8	1,0-6,0	0,1-0,5															●				●					○
	DNMG150612-SNR	1,2	1,0-6,0	0,2-0,6															○				●					
Sgrossatura																												
XLR	**DNMG150608-XLR**	0,8	1,5-4,8	0,2-0,45	●			●																				
	DNMG150612-XLR	1,2	1,5-4,8	0,2-0,48	●			●																				
	DNMG150616-XLR	1,6	1,5-4,8	0,2-0,50	○			○																				
Sgrossatura																												

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DDJNR/L	PDJNR/LC	PDJNR/L	PDNNR/L	MDJNR/L	MDPNN	S***-PDSNR/L
Kr: 93°	Kr: 93°	Kr: 93°	Kr: 63°	Kr: 93°	Kr: 62°30'	Kr: 62°30'
						
A264	A288	A274	A275	A294	A295	A372

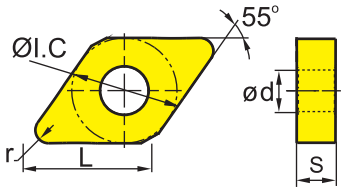
S***-PDUNR/L
Kr: 93°

A373

Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

DN**	L	I.C	S	d
15 06	15,5	12,7	6,35	5,16



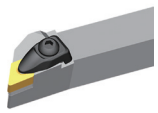
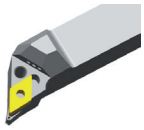
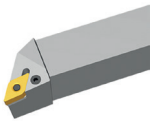
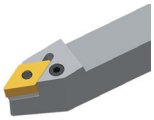
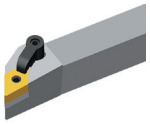
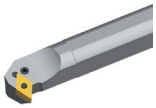
DN** Inserti negativi	HC¹ (CVD)												HC¹ (PVD)						HT		HC²		HW			
P	○	○	○	⊛	⊛	⊛										⊛	⊛	⊛	○	⊛	○					
M							○	⊛					○	○	⊛	⊛	⊛	○	○	⊛	○					
K									○	⊛	⊛	⊛														
N													○	○									○	⊛		
S													○	○	⊛	⊛	⊛	○					○	⊛		
H																										

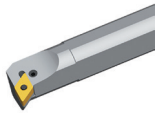
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
Flat	**DNMA150604**	0,4	1,0-6,0	0,1-0,3									●															
	DNMA150608	0,8	1,0-6,0	0,1-0,6									●		●													
	DNMA150612	1,2	1,0-6,0	0,15-0,70									○		○													
Media Lavor.																												
ER	**DNMG150608-ER**	0,8	2-6	0,15-0,55								○																
	DNMG150612-ER	1,2	2-6	0,25-0,80								○																
Sgrossatura																												

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DDJNR/L	PDJNR/LC	PDJNR/L	PDNNR/L	MDJNR/L	MDPNN	S***-PDSNR/L
Kr: 93°	Kr: 93°	Kr: 93°	Kr: 63°	Kr: 93°	Kr: 62°30'	Kr: 62°30'
						
A264	A288	A274	A275	A294	A295	A372

S***-PDUNR/L
Kr: 93°

A373

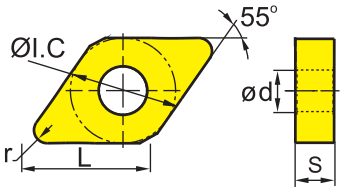
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

DNMM	L	I.C	S	d
15 06	15,5	12,7	6,35	5,16

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

DN** Inserti negativi



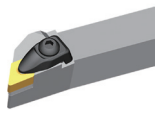
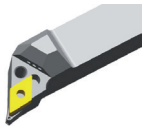
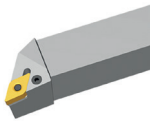
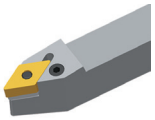
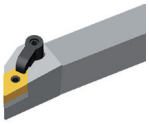
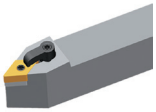
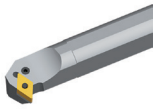
	HC¹ (CVD)												HC¹ (PVD)							HT		HC²	HW	
	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
P	●	●	●	⊛	⊛	⊛										⊛	⊛	⊛		●	⊛	●		
M							○	⊛						○	○	⊛	⊛	⊛	○	○	⊛	○		
K									●	⊛	⊛	⊛												
N													●	●									●	⊛
S														○	○	⊛	⊛	⊛	○				○	⊛
H																								

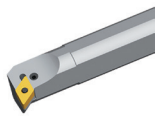
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
DR Sgrossatura	**DNMM150608-DR**	0,8	0,7-6,0	0,20-0,55					○																			
	DNMM150612-DR	1,2	1-6	0,25-0,70			○		○	○																		
	DNMM150616-DR	1,6	1,5-6,0	0,32-0,90			○		○																			
ER Sgrossatura	**DNMM150612-ER**	1,2	1-6	0,25-0,70								○																
HDR Sgrossatura	**DNMM150608-HDR**	0,8	1-7	0,25-0,60			●		○																			
	DNMM150612-HDR	1,2	1-7	0,3-0,8			○																					
	DNMM150616-HDR	1,6	1,5-7,0	0,4-1,0			○																					

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DDJNR/L	PDJNR/LC	PDJNR/L	PDNNR/L	MDJNR/L	MDPNN	S***-PDSNR/L
Kr: 93°	Kr: 93°	Kr: 93°	Kr: 63°	Kr: 93°	Kr: 62°30'	Kr: 62°30'
						
A264	A288	A274	A275	A294	A295	A372

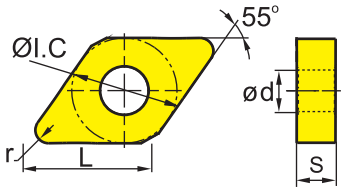
S***-PDUNR/L
Kr: 93°

A373

Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

DNMM	L	I.C	S	d
15 06	15,5	12,7	6,35	5,16



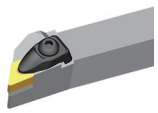
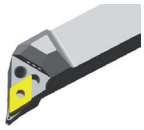
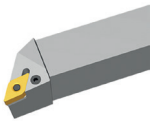
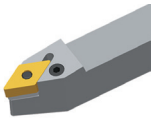
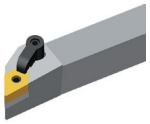
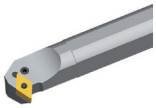
DN** Inserti negativi	HC[1] (CVD)												HC[1] (PVD)						HT		HC[2]		HW			
P	●	●	●	❊	❊	❊										❊	❊	❊	●	❊	●					
M							●	❊						●	●	❊	❊	❊	●	❊	●					
K									●	❊	❊	❊														
N													●	●									●	❊		
S														●	●	❊	❊	❊	●				●	❊		
H																										

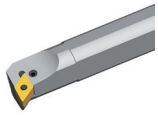
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
LR	**DNMM150608-LR**	0,8	2-6	0,1-0,6			○		○			○																
	DNMM150612-LR	1,2	2-6	0,2-0,8					○			○																
	DNMM150616-LR	1,6	2-6	0,25-1,00					○																			
Sgrossatura																												
XLR	**DNMM150616-XLR**	1,6	1,5-6,0	0,25-0,60	●			●																				
Sgrossatura																												

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DDJNR/L	PDJNR/LC	PDJNR/L	PDNNR/L	MDJNR/L	MDPNN	S***-PDSNR/L
Kr: 93°	Kr: 93°	Kr: 93°	Kr: 63°	Kr: 93°	Kr: 62°30'	Kr: 62°30'
						
A264	A288	A274	A275	A294	A295	A372

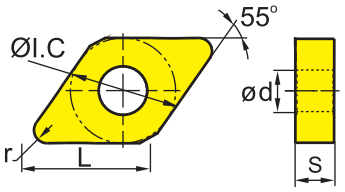
S***-PDUNR/L
Kr: 93°

A373

Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

- ● Buone condizioni di lavorazione
- ✱ Condizioni di lavorazione normali
- ✱ Condizioni di lavorazione sfavorevoli

DNEG	L	I.C	S	d
15 06	15,5	12,7	6,35	5,16

DN** Inserti negativi



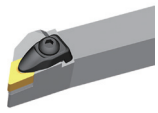
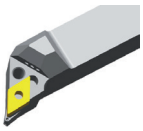
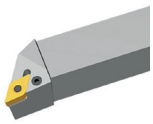
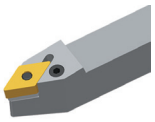
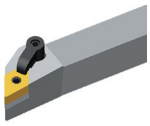
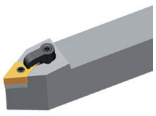
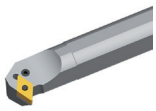
	HC¹ (CVD)												HC¹ (PVD)							HT		HC²		HW	
	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C		YD101	YD201
P	●	●	●	✱	✱	✱										✱	✱	✱		●	✱	●			
M							○	✱						○	○	✱	✱	✱	○	○	✱	○			
K									●	✱	✱	✱													
N													●	●										●	✱
S														●	●	✱	✱	✱	●					●	✱
H																									

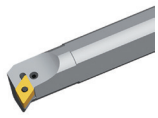
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C		YD101	YD201		
	DNEG150604-LH	0,4	1,5-8,0	0,15-0,30																	●							●			
	DNEG150608-LH	0,8	1,5-8,0	0,20-0,50																	●							●			
	DNEG150612-LH	1,2	1,5-8,0	0,25-0,60																	●							●			
	DNEG150616-LH	1,6	1,5-8,0	0,25-0,70																	●							●			

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DDJNR/L	PDJNR/LC	PDJNR/L	PDNNR/L	MDJNR/L	MDPNN	S***-PDSNR/L
Kr: 93°	Kr: 93°	Kr: 93°	Kr: 63°	Kr: 93°	Kr: 62°30'	Kr: 62°30'
						
A264	A288	A274	A275	A294	A295	A372

S***-PDUNR/L
Kr: 93°

A373

Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

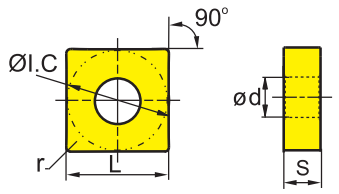
Tornitura generale Inserti negativi

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SNMG	L	I.C	S	d
09 03	9,525	9,525	3,18	3,81
12 04	12,7	12,7	4,76	5,16

SN** Inserti negativi



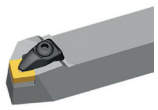
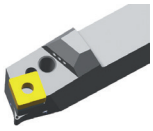
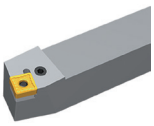
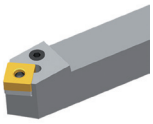
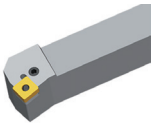
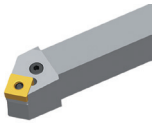
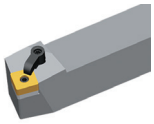
	HC¹ (CVD)												HC¹ (PVD)						HT		HC²		HW			
P	●	●	●	⊛	⊛	⊛										⊛	⊛	⊛	●	⊛	●					
M								○	⊛					○	○	⊛	⊛	⊛	○	⊛	○					
K										●	⊛	⊛	⊛													
N														●	●								●	⊛		
S															●	⊛	⊛	⊛					●	⊛		
H																										

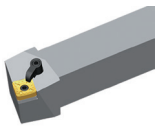
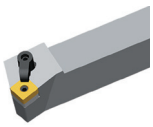
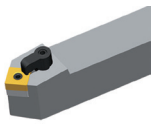
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
ADF Finitura	**SNMG120404-ADF**	0,4	0,5-5,0	0,1-0,3		●																●						
	SNMG120408-ADF	0,8	0,5-5,0	0,12-0,50		●																●						
	SNMG120412-ADF	1,2	1-5	0,2-0,6		●																●						
DF Finitura	**SNMG120408-DF**	0,8	0,3-1,5	0,1-0,4					○																			
	SNMG120412-DF	1,2	0,35-1,50	0,15-0,50			○		○																			
SF Finitura	**SNMG090304-SF**	0,4	0,05-0,50	0,05-0,20																						●		
	SNMG120404-SF	0,4	0,05-0,50	0,05-0,20																						○		
	SNMG120408-SF	0,8	0,05-0,50	0,10-0,35																						○		

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DSBNR/L	PSBNR/LC	PSBNR/L	PSDNN	PSKNR/L	PSSNR/L	MSBNR/L
Kr: 75°	Kr: 75°	Kr: 75°	Kr: 45°	Kr: 75°	Kr: 45°	Kr: 75°
						
A265	A289	A276	A278	A279	A280	A296

MSRNR/L	MSKNR/L	MSDNN	S***-PSKNR/L
Kr: 75°	Kr: 75°	Kr: 45°	Kr: 75°
			
A297	A298	A299	A375

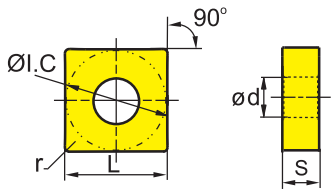
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

SNMG	L	I.C	S	d
09 03	9,525	9,525	3,18	3,81
12 04	12,7	12,7	4,76	5,16
15 06	15,875	15,875	6,35	6,35

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SN** Inserti negativi



	HC¹ (CVD)											HC¹ (PVD)							HT		HC²	HW	
P	●	●	●	⊛	⊛	⊛									⊛	⊛	⊛		●	⊛	●		
M							○	⊛					○	○	⊛	⊛	⊛	○	○	⊛	○		
K									●	⊛	⊛	⊛											
N													●	●								●	⊛
S													●	●	⊛	⊛	⊛	●				●	⊛
H																							

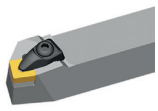
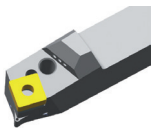
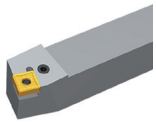
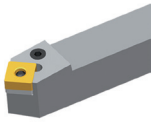
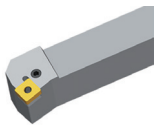
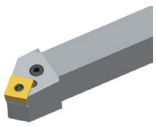
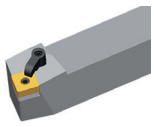
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
EF Finitura	**SNMG090304-EF**	0,4	0,5-2,0	0,05-0,30						○									○	○							
	SNMG090308-EF	0,8	0,5-2,0	0,05-0,40						○									●	○							
	SNMG120404-EF	0,4	0,8-3,0	0,05-0,30															●	○							
	SNMG120408-EF	0,8	0,8-3,0	0,1-0,4															●	○							
	SNMG120412-EF	1,2	0,8-3,0	0,15-0,45															●	○							
	SNMG150608-EF	0,8	1-4	0,1-0,4						○																	
	SNMG150612-EF	1,2	1-4	0,15-0,45						○																	

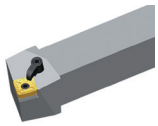
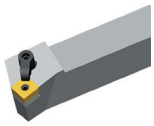
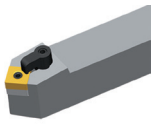
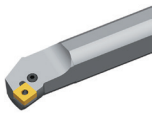
● In magazzino ○ Su richiesta

disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DSBNR/L	PSBNR/LC	PSBNR/L	PSDNN	PSKNR/L	PSSNR/L	MSBNR/L
Kr: 75°	Kr: 75°	Kr: 75°	Kr: 45°	Kr: 75°	Kr: 45°	Kr: 75°
						
A265	A289	A276	A278	A279	A280	A296

MSRNR/L	MSKNR/L	MSDNN	S***-PSKNR/L
Kr: 75°	Kr: 75°	Kr: 45°	Kr: 75°
			
A297	A298	A299	A375

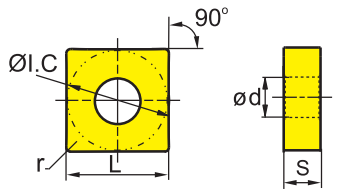
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SNMG	L	I.C	S	d
12 04	12,7	12,7	4,76	5,16
15 06	15,875	15,875	6,35	6,35
19 06	19,05	19,05	6,35	7,94

SN** Inserti negativi



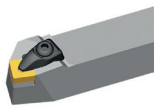
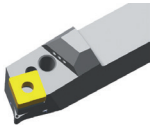
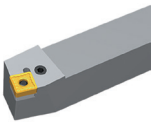
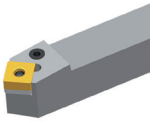
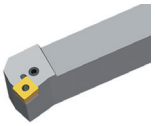
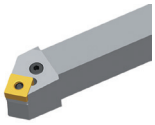
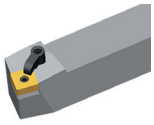
	HC¹ (CVD)												HC¹ (PVD)						HT		HC²	HW	
P	○	○	○	◎	◎	◎									◎	◎	◎		○	◎	○		
M							○	◎					○	○	◎	◎	◎	○	○	◎	○		
K									○	◎	◎	◎											
N													○	○								○	◎
S													○	○	◎	◎	◎	○				○	◎
H																							

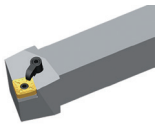
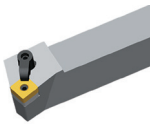
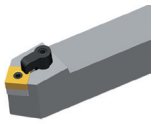
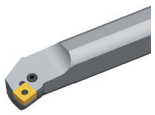
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
XF Finitura	**SNMG120404-XF**	0,4	0,5-2,5	0,1-0,25	●			●																				
	SNMG120408-XF	0,8	0,5-2,5	0,1-0,30	●			●																				
	SNMG120412-XF	1,2	0,5-2,5	0,1-0,35	●																							
XM Media Lavor.	**SNMG120404-XM**	0,4	1-4,2	0,2-0,4	○			○																				
	SNMG120408-XM	0,8	1-4,2	0,2-0,4	●			●																				
	SNMG120412-XM	1,2	1-4,2	0,2-0,6	●			●																				
	SNMG120416-XM	1,6	1-4,2	0,2-0,65	○			○																				
	SNMG150608-XM	0,8	1-5,25	0,2-0,4	●			●																				
	SNMG150612-XM	1,2	1-5,25	0,2-0,6	●			●																				
	SNMG150616-XM	1,6	1-5,25	0,2-0,65	○			●																				
	SNMG190608-XM	0,8	1-6,65	0,2-0,4	○			○																				
	SNMG190612-XM	1,2	1-6,65	0,2-0,6	○			○																				
	SNMG190616-XM	1,6	1-6,65	0,2-0,65	○			○																				
	SNMG190624-XM	2,4	1-6,65	0,2-1,2	○			○																				

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DSBNR/L	PSBNR/LC	PSBNR/L	PSDNN	PSKNR/L	PSSNR/L	MSBNR/L
Kr: 75°	Kr: 75°	Kr: 75°	Kr: 45°	Kr: 75°	Kr: 45°	Kr: 75°
						
A265	A289	A276	A278	A279	A280	A296

MSRNR/L	MSKNR/L	MSDNN	S***-PSKNR/L
Kr: 75°	Kr: 75°	Kr: 45°	Kr: 75°
			
A297	A298	A299	A375

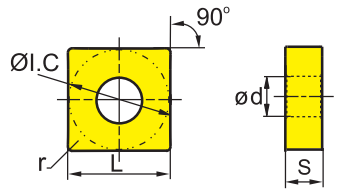
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

SNMG	L	I.C	S	d
09 03	9,525	9,525	3,18	3,81
12 04	12,7	12,7	4,76	5,16
15 06	15,875	15,875	6,35	6,35
19 06	19,05	19,05	6,35	7,94

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SN** Inserti negativi



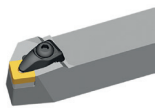
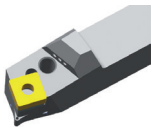
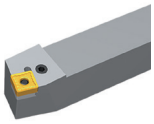
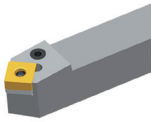
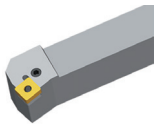
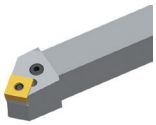
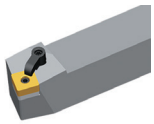
	HC¹ (CVD)												HC¹ (PVD)							HT		HC²		HW	
P	●	●	●	✱	✱	✱										✱	✱	✱		●	✱	●			
M							○	✱						○	○	✱	✱	✱	○	○	✱	○			
K									●	✱	✱	✱													
N													●	●										●	✱
S														●	●	✱	✱	✱	●					●	✱
H																									

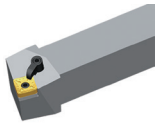
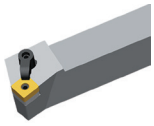
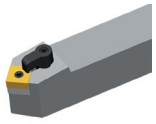
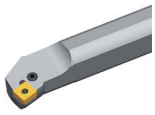
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
PM Media Lavor.	**SNMG090304-PM**	0,4	0,4-4,5	0,1-0,3					○																			
	SNMG090308-PM	0,8	0,5-4,5	0,15-0,50					○				○		○													
	SNMG120404-PM	0,4	0,4-6,0	0,1-0,3			○		○						○													
	SNMG120408-PM	0,8	0,5-6,0	0,15-0,50			○		●				○		○													
	SNMG120412-PM	1,2	0,8-6,0	0,18-0,60			○		○				○		●													
	SNMG120416-PM	1,6	1-6	0,23-0,65					○				○		○													
	SNMG150608-PM	0,8	0,7-7,5	0,14-0,50			○		○																			
	SNMG150612-PM	1,2	0,8-7,5	0,18-0,60			○		○				○		●													
	SNMG190612-PM	1,2	1,0-7,5	0,20-0,65			○		○				○		○													
ZM Media Lavor.	**SNMG120412-ZM**	1,2	0,5-4,0	0,1-0,5		○																						

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DSBNR/L	PSBNR/LC	PSBNR/L	PSDNN	PSKNR/L	PSSNR/L	MSBNR/L
Kr: 75°	Kr: 75°	Kr: 75°	Kr: 45°	Kr: 75°	Kr: 45°	Kr: 75°
						
A265	A289	A276	A278	A279	A280	A296

MSRNR/L	MSKNR/L	MSDNN	S***-PSKNR/L
Kr: 75°	Kr: 75°	Kr: 45°	Kr: 75°
			
A297	A298	A299	A375

Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

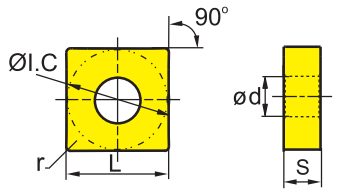
Tornitura generale Inserti negativi

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SNMG	L	I.C	S	d
09 03	9,525	9,525	3,18	3,81
12 04	12,7	12,7	4,76	5,16
15 06	15,875	15,875	6,35	6,35
19 06	19,05	19,05	6,35	7,94

SN** Inserti negativi



	HC¹ (CVD)												HC¹ (PVD)						HT		HC²		HW		
P	●	●	●	❁	❁	❁										❁	❁	❁	●	❁	●				
M								○	❁					○	○	❁	❁	❁	○	❁	○				
K										●	❁	❁	❁												
N														●	●								●	❁	
S														●	●	❁	❁	❁	●				●	❁	
H																									

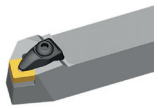
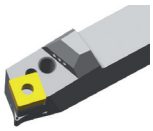
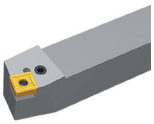
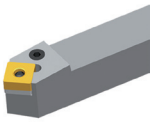
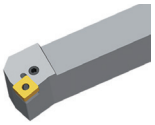
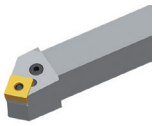
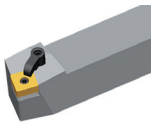
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
DM Media Lavor.	**SNMG090304-DM**	0,4	0,4-4,5	0,1-0,3					○																			
	SNMG090308-DM	0,8	0,5-4,5	0,15-0,50			●		●																			
	SNMG120404-DM	0,4	0,4-6,0	0,1-0,3			○		○																			
	SNMG120408-DM	0,8	0,5-6,0	0,15-0,50			●		●	○																		
	SNMG120412-DM	1,2	0,8-6,0	0,18-0,60			●		○																			
	SNMG120416-DM	1,6	1-6	0,23-0,65			○		○																			
	SNMG150608-DM	0,8	0,8-7,5	0,1-0,5			○		○																			
	SNMG150612-DM	1,2	0,8-7,5	0,18-0,60			○		●																			
	SNMG190612-DM	1,2	1-9	0,18-0,60			●		●																			
	SNMG190616-DM	1,6	1-9	0,23-0,65					●																			
EG Media Lavor.	**SNMG120408-EG**	0,8	0,5-4,0	0,1-0,5								○								●		●						
	SNMG120412-EG	1,2	0,5-4,0	0,2-0,6								○										●						

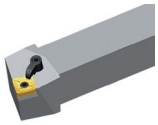
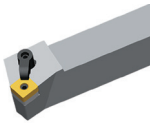
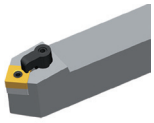
● In magazzino ○ Su richiesta

disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DSBNR/L	PSBNR/LC	PSBNR/L	PSDNN	PSKNR/L	PSSNR/L	MSBNR/L
Kr: 75°	Kr: 75°	Kr: 75°	Kr: 45°	Kr: 75°	Kr: 45°	Kr: 75°
						
A265	A289	A276	A278	A279	A280	A296

MSRNR/L	MSKNR/L	MSDNN	S***-PSKNR/L
Kr: 75°	Kr: 75°	Kr: 45°	Kr: 75°
			
A297	A298	A299	A375

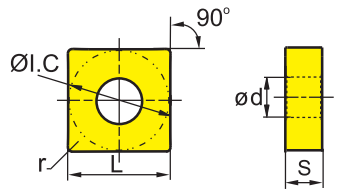
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- ● Buone condizioni di lavorazione
- ✱ Condizioni di lavorazione normali
- ✱ Condizioni di lavorazione sfavorevoli

SNMG	L	I.C	S	d
12 04	12,7	12,7	4,76	5,16
15 06	15,875	15,875	6,35	6,35

SN** Inserti negativi



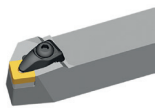
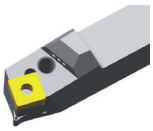
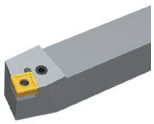
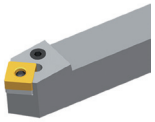
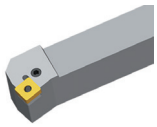
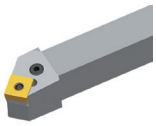
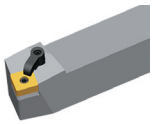
	HC¹ (CVD)												HC¹ (PVD)							HT		HC²	HW	
P	●	●	●	✱	✱	✱										✱	✱	✱		●	✱	●		
M								○	✱					○	○	✱	✱	✱	○	○	✱	○		
K										●	✱	✱	✱											
N														●	●								●	✱
S															○	✱	✱	✱	○				○	✱
H																								

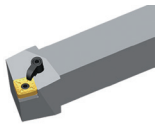
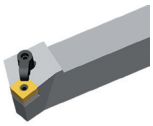
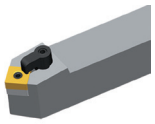
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
EM Media Lavor.	**SNMG120404-EM**	0,4	0,50-6,35	0,05-0,30								○								●	○							
	SNMG120408-EM	0,8	0,50-6,35	0,20-0,45							●	●								●	○							
	SNMG120412-EM	1,2	0,50-6,35	0,25-0,60							●	○								●	○							
	SNMG120416-EM	1,6	0,50-6,35	0,30-0,75								○								○	○							
	SNMG150612-EM	1,2	0,5-8,0	0,25-0,60							○	●								●	○							
	SNMG150616-EM	1,6	0,5-8,0	0,30-0,75																●	○							
TC Media Lavor.	**SNMG120404-TC**	0,4	0,5-5,0	0,08-0,25										●														
	SNMG120408-TC	0,8	0,5-5,0	0,15-0,40										●		●												
	SNMG120412-TC	1,2	0,5-5,0	0,2-0,5										●		○												
	SNMG150616-TC	1,6	1-7	0,2-0,7										●														
TK Media Lavor.	**SNMG120412-TK**	1,2	0,5-5,0	0,2-0,5										○														

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DSBNR/L	PSBNR/LC	PSBNR/L	PSDNN	PSKNR/L	PSSNR/L	MSBNR/L
Kr: 75°	Kr: 75°	Kr: 75°	Kr: 45°	Kr: 75°	Kr: 45°	Kr: 75°
						
A265	A289	A276	A278	A279	A280	A296

MSRNR/L	MSKNR/L	MSDNN	S***-PSKNR/L
Kr: 75°	Kr: 75°	Kr: 45°	Kr: 75°
			
A297	A298	A299	A375

Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

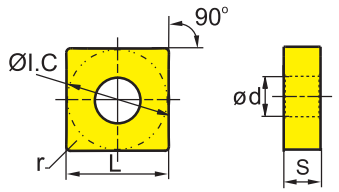
Tornitura generale Inserti negativi

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SNMG	L	I.C	S	d
12 04	12,7	12,7	4,76	5,16
15 06	15,875	15,875	6,35	6,35
19 06	19,05	19,05	6,35	7,94
25 09	25,4	25,4	9,525	9,12

SN** Inserti negativi



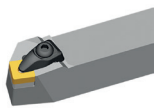
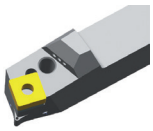
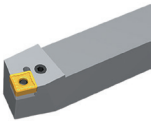
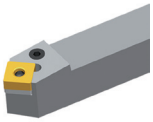
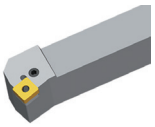
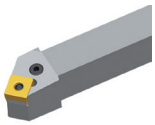
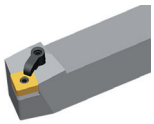
	HC¹ (CVD)												HC¹ (PVD)						HT		HC²		HW		
P	○	○	○	❁	❁	❁									❁	❁	❁		○	❁	○				
M							○	❁					○	○	❁	❁	❁	○	○	❁	○				
K									○	❁	❁	❁													
N													○	○									○	❁	
S													○	○	❁	❁	❁	○					○	❁	
H																									

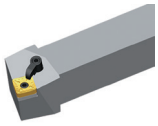
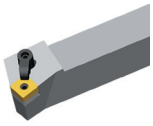
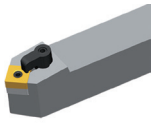
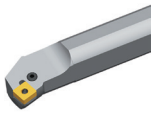
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
NM	**SNMG120408-NM**	0,8	0,5-5,0	0,1-0,4															●								○	
	SNMG120412-NM	1,2	0,5-5,0	0,15-0,50															○									
Media Lavor.																												
DR	**SNMG120408-DR**	0,8	0,7-7,0	0,2-0,5			○		●				○		○													
	SNMG120412-DR	1,2	1-7	0,25-0,70			○		●	○			○		●													
	SNMG120416-DR	1,6	1,5-7,0	0,32-0,75					●				○		○													
	SNMG150612-DR	1,2	1-8	0,25-0,70					●				○		●													
	SNMG150616-DR	1,6	1,5-8,0	0,3-0,8			○		●						○													
Sgrossatura	**SNMG190612-DR**	1,2	1-10	0,25-0,70			○		●	●					○													
	SNMG190616-DR	1,6	1,5-10,0	0,3-0,8	○		○	●	●	●			○		●													
	SNMG190624-DR	2,4	2-10	0,32-0,90					○	○																		
	SNMG250924-DR	2,4	2-15	0,4-1,2					●	○																		

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DSBNR/L	PSBNR/LC	PSBNR/L	PSDNN	PSKNR/L	PSSNR/L	MSBNR/L
Kr: 75°	Kr: 75°	Kr: 75°	Kr: 45°	Kr: 75°	Kr: 45°	Kr: 75°
						
A265	A289	A276	A278	A279	A280	A296

MSRNR/L	MSKNR/L	MSDNN	S***-PSKNR/L
Kr: 75°	Kr: 75°	Kr: 45°	Kr: 75°
			
A297	A298	A299	A375

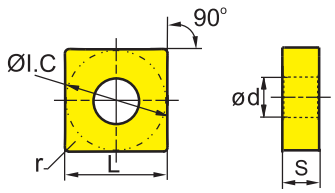
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

SNMG	L	I.C	S	d
12 04	12,7	12,7	4,76	5,16
15 06	15,875	15,875	6,35	6,35
19 06	19,05	19,05	6,35	7,94

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SN** Inserti negativi



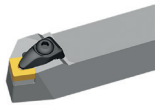
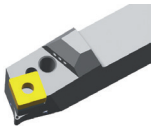
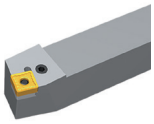
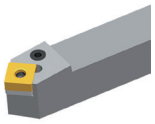
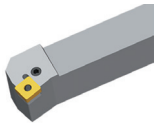
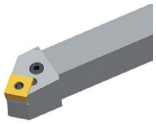
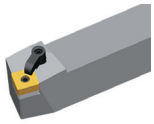
	HC[1] (CVD)											HC[1] (PVD)							HT		HC[2]	HW	
P	●	●	●	✱	✱	✱								✱	✱	✱			●	✱	●		
M							○	✱				○	○	✱	✱	✱	○		○	✱	○		
K									●	✱	✱	✱											
N													●	●								●	✱
S													●	●	✱	✱	✱	●				●	✱
H																							

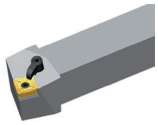
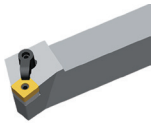
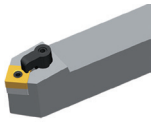
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
ER Sgrossatura	**SNMG120408-ER**	0,8	2,0-7,6	0,20-0,55							○	○																
	SNMG120412-ER	1,2	2,0-7,6	0,3-0,6							○	○																
	SNMG150612-ER	1,2	2,0-9,6	0,3-0,6							○	○																
	SNMG190612-ER	1,2	2,0-11,4	0,3-0,6								○																
	SNMG190616-ER	1,6	2,0-11,4	0,35-0,80								○																
SNR Sgrossatura	**SNMG120408-SNR**	0,8	1-4	0,2-0,6															○				●					
	SNMG190612-SNR	1,2	2,0-7,0	0,2-0,6															○									
	SNMG190616-SNR	1,6	2,0-7,0	0,25-0,7																								

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DSBNR/L	PSBNR/LC	PSBNR/L	PSDNN	PSKNR/L	PSSNR/L	MSBNR/L
Kr: 75°	Kr: 75°	Kr: 75°	Kr: 45°	Kr: 75°	Kr: 45°	Kr: 75°
						
A265	A289	A276	A278	A279	A280	A296

MSRNR/L	MSKNR/L	MSDNN	S***-PSKNR/L
Kr: 75°	Kr: 75°	Kr: 45°	Kr: 75°
			
A297	A298	A299	A375

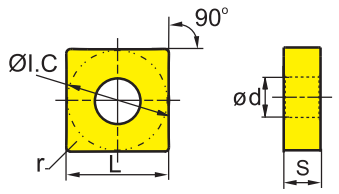
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SNMG	L	I.C	S	d
15 06	15,875	15,875	6,35	6,35
19 06	19,05	19,05	6,35	7,94

SN** Inserti negativi



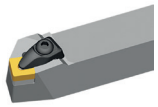
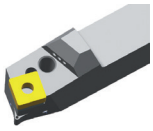
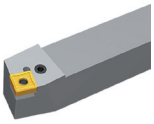
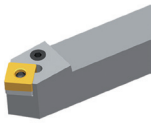
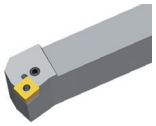
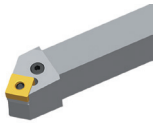
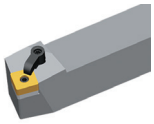
	HC¹ (CVD)												HC¹ (PVD)						HT		HC²		HW			
P	○	○	○	❁	❁	❁									❁	❁	❁		○	❁	○					
M							○	❁						○	○	❁	❁	❁	○	❁	○					
K									○	❁	❁	❁														
N													○	○									○	❁		
S														○	○	❁	❁	❁	○				○	❁		
H																										

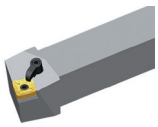
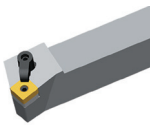
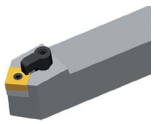
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
LR Sgrossatura	**SNMG190616-LR**	1,6	2,0-8,0	0,3-0,8	○			●																				
XLR Sgrossatura	**SNMG150616-XLR**	1,6	1,5-6,0	0,25-0,60				●																				

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DSBNR/L	PSBNR/LC	PSBNR/L	PSDNN	PSKNR/L	PSSNR/L	MSBNR/L
Kr: 75°	Kr: 75°	Kr: 75°	Kr: 45°	Kr: 75°	Kr: 45°	Kr: 75°
						
A265	A289	A276	A278	A279	A280	A296

MSRNR/L	MSKNR/L	MSDNN
Kr: 75°	Kr: 75°	Kr: 45°
		
A297	A298	A299

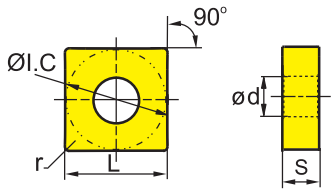
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

SNMM	L	I.C	S	d
15 06	15,875	15,875	6,35	6,35
19 06	19,05	19,05	6,35	7,94
25 07	25,4	25,4	7,94	9,12
25 09	25,4	25,4	9,525	9,12

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SN** Inserti negativi



	HC¹ (CVD)												HC¹ (PVD)							HT		HC²	HW	
P	●	●	●	⊛	⊛	⊛										⊛	⊛	⊛		●	⊛	●		
M								●	⊛					●	●	⊛	⊛	⊛	●	●	⊛	●		
K										●	⊛	⊛	⊛											
N														●	●								●	⊛
S														●	●	⊛	⊛	⊛	●				●	⊛
H																								

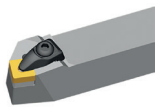
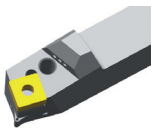
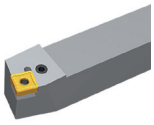
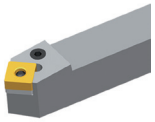
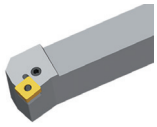
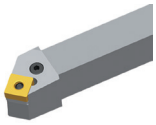
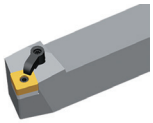
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
DR Sgrossatura	**SNMM150612-DR**	1,2	1-7	0,25-0,60					○																			
	SNMM150616-DR	1,6	1,5-9,0	0,32-0,90					○	○																		
	SNMM190612-DR	1,2	2,0-10,5	0,25-0,60			○		○																			
	SNMM190616-DR	1,6	2,0-10,5	0,35-0,90			○		●	●																		
	SNMM190624-DR	2,4	2,0-10,5	0,4-1,1			●	●	○																			
	SNMM250716-DR	1,6	2,5-12,5	0,4-1,0					●																			
	SNMM250724-DR	2,4	2,5-12,5	0,5-1,2			○		●																			
	SNMM250924-DR	2,4	2,5-12,5	0,5-1,2				●	●																			
ER Sgrossatura	**SNMM150624-ER**	2,4	2,0-8,0	0,3-0,4					○																			
	SNMM250724-ER	2,4	2,5-12,5	0,5-1,2	○				○		○	●																
	SNMM250732-ER	3,2	2,5-12,5	0,5-1,6	○				●																			
	SNMM250924-ER	2,4	3,0-12,5	0,3-1,2	○				●	○		○																
	SNMM250932-ER	3,2	2,8-18,0	0,55-1,80					●																			

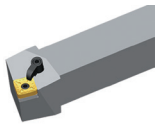
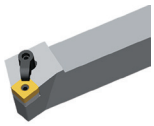
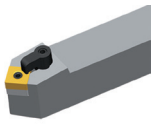
● In magazzino ○ Su richiesta

disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DSBNR/L	PSBNR/LC	PSBNR/L	PSDNN	PSKNR/L	PSSNR/L	MSBNR/L
Kr: 75°	Kr: 75°	Kr: 75°	Kr: 45°	Kr: 75°	Kr: 45°	Kr: 75°
						
A265	A289	A276	A278	A279	A280	A296

MSRNR/L	MSKNR/L	MSDNN
Kr: 75°	Kr: 75°	Kr: 45°
		
A297	A298	A299

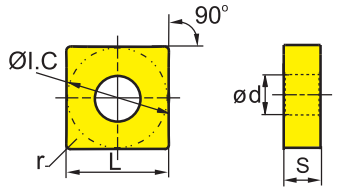
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

SNMM	L	I.C	S	d
12 04	12,7	12,7	4,76	5,16
15 06	15,875	15,875	6,35	6,35
19 06	19,05	19,05	6,35	7,94
25 07	25,4	25,4	7,94	9,12
25 09	25,4	25,4	9,525	9,12

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SN** Inserti negativi



	HC[1] (CVD)						HC[1] (PVD)						HT		HC[2]		HW		
P	●	●	●	⊛	⊛	⊛								⊛	⊛	⊛	●	⊛	●
M							●	⊛					●	●	⊛	⊛	⊛	●	●
K									●	⊛	⊛	⊛							
N													●	●				●	⊛
S													●	●	⊛	⊛	⊛	●	⊛
H																			

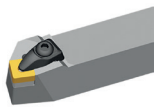
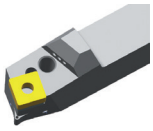
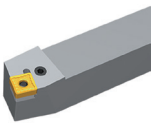
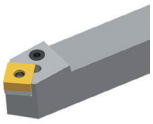
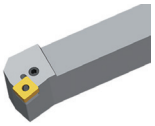
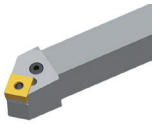
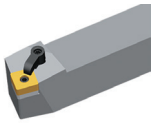
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
LR Sgrossatura	**SNMM120408-LR**	0,8	1-6	0,1-0,5					○																			
	SNMM120412-LR	1,2	1-6	0,2-0,6			○		○																			
	SNMM150612-LR	1,2	1,5-7,0	0,1-0,5					○																			
	SNMM150616-LR	1,6	1,5-7,0	0,1-0,5					○																			
	SNMM190612-LR	1,2	2-10	0,25-0,70			○																					
	SNMM190616-LR	1,6	2-10	0,3-1,0			○		○																			
	SNMM190624-LR	2,4	2-10	0,3-1,1			○		○																			
	SNMM250924-LR	2,4	3,0-12,5	0,3-1,2			○		○	○																		
XLR Sgrossatura	**SNMM190612-XLR**	1,2	2.0-10.5	0.3-1.0	○			○																				
	SNMM190616-XLR	1,6	2.0-8.5	0.2-0.6	○			○																				
	SNMM190624-XLR	2,4	2.0-10.5	0.3-1.0	○			○																				
	SNMM250724-XLR	2,4	1.0-5.0	0.10-0.5	○																							
	SNMM250924-XLR	2,4	2,0-7,8	0,2-0,65	○			○				○																

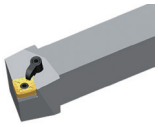
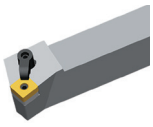
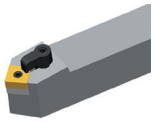
● In magazzino ○ Su richiesta

disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DSBNR/L	PSBNR/LC	PSBNR/L	PSDNN	PSKNR/L	PSSNR/L	MSBNR/L
Kr: 75°	Kr: 75°	Kr: 75°	Kr: 45°	Kr: 75°	Kr: 45°	Kr: 75°
						
A265	A289	A276	A278	A279	A280	A296

MSRNR/L	MSKNR/L	MSDNN	S***-PSKNR/L
Kr: 75°	Kr: 75°	Kr: 45°	Kr: 75°
			
A297	A298	A299	A375

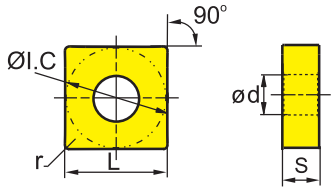
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

SNMM	L	I.C	S	d
12 04	12,7	12,7	4,76	5,16
15 06	15,875	15,875	6,35	6,35
19 06	19,05	19,05	6,35	7,94
25 07	25,4	25,4	7,94	9,12
25 09	25,4	25,4	9,525	9,12

● Buone condizioni di lavorazione
⊛ Condizioni di lavorazione normali
⊛ Condizioni di lavorazione sfavorevoli

Inserti - Tornitura

SN** Inserti negativi



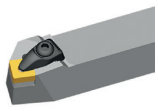
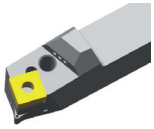
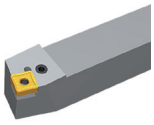
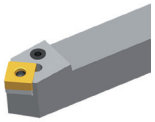
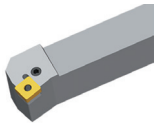
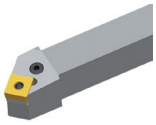
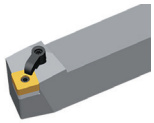
	HC¹ (CVD)												HC¹ (PVD)							HT		HC²	HW	
	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
P	●	●	●	⊛	⊛	⊛										⊛	⊛	⊛		●	⊛	●		
M							●	⊛						●	●	⊛	⊛	⊛	●	●	⊛	●		
K									●	⊛	⊛	⊛												
N													●	●									●	⊛
S														●	●	⊛	⊛	⊛	●				●	⊛
H																								

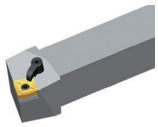
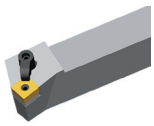
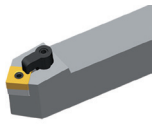
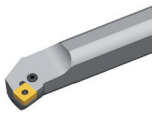
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
HDR Sgrossatura	**SNMM120408-HDR**	0,8	1-6	0,1-0,6					○																			
	SNMM120412-HDR	1,2	1,5-6,0	0,2-0,7					○																			
	SNMM150608-HDR	0,8	1-7	0,2-0,6						○																		
	SNMM150612-HDR	1,2	1-7	0,25-0,70			○		○																			
	SNMM150616-HDR	1,6	1,5-9,0	0,32-1,00					○																			
	SNMM190612-HDR	1,2	2,0-10,5	0,25-0,70			○		○																			
	SNMM190616-HDR	1,6	2,0-10,5	0,35-1,00			○		●			○																
	SNMM190624-HDR	2,4	2,0-10,5	0,4-1,2			○		○																			
	SNMM250724-HDR	2,4	2,5-12,5	0,5-1,4					●																			
	SNMM250924-HDR	2,4	2,5-12,5	0,5-1,4	○		○	●	●	●																		

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DSBNR/L	PSBNR/LC	PSBNR/L	PSDNN	PSKNR/L	PSSNR/L	MSBNR/L
Kr: 75°	Kr: 75°	Kr: 75°	Kr: 45°	Kr: 75°	Kr: 45°	Kr: 75°
						
A265	A289	A276	A278	A279	A280	A296

MSRNR/L	MSKNR/L	MSDNN	S***-PSKNR/L
Kr: 75°	Kr: 75°	Kr: 45°	Kr: 75°
			
A297	A298	A299	A375

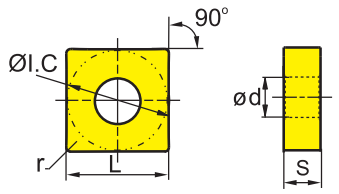
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SNMM	L	I.C	S	d
19 06	19,05	19,05	6,35	7,94
25 09	25,4	25,4	9,525	9,12

SN** Inserti negativi



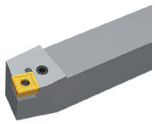
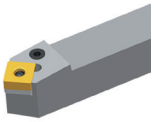
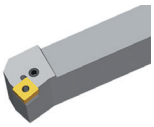
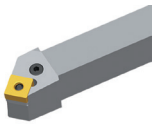
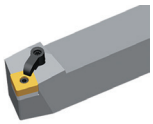
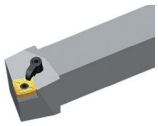
	HC¹ (CVD)												HC¹ (PVD)						HT		HC²		HW	
	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
P	●	●	●	⊛	⊛	⊛										⊛	⊛	⊛		●	⊛	●		
M							○	⊛						○	○	⊛	⊛	⊛	○	○	⊛	○		
K									●	⊛	⊛	⊛												
N													●	●									●	⊛
S														●	●	⊛	⊛	⊛	●				●	⊛
H																								

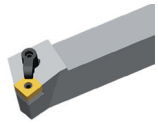
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
HPR Sgrossatura	**SNMM190616-HPR**	1,6	2,0-10,5	0,35-1,00					○																			
	SNMM190624-HPR	2,4	2,0-10,5	0,4-1,2			○		○																			
	SNMM250924-HPR	2,4	2,0-12,5	0,5-1,4		○	○		●	●																		

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

PSBNR/LC	PSBNR/L	PSDNN	PSKNR/L	PSSNR/L	MSBNR/L	MSRNR/L
Kr: 75°	Kr: 75°	Kr: 45°	Kr: 75°	Kr: 45°	Kr: 75°	Kr: 75°
						
A289	A276	A278	A279	A280	A296	A297

MSKNR/L
Kr: 75°

A298

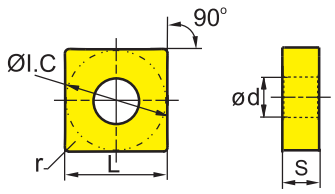
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- ● Buone condizioni di lavorazione
- ✱ Condizioni di lavorazione normali
- ✱ Condizioni di lavorazione sfavorevoli

SNMG	L	I.C	S	d
12 04	12,7	12,7	4,76	5,16

SN** Inserti negativi



	HC¹ (CVD)												HC¹ (PVD)							HT		HC²	HW	
P	●	●	●	✱	✱	✱										✱	✱	✱		●	✱	●		
M								●	✱					●	●	✱	✱	✱	●	●	✱	●		
K										●	✱	✱	✱											
N														●	●								●	✱
S															●	✱	✱	✱	●				●	✱
H																								

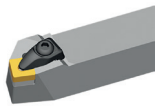
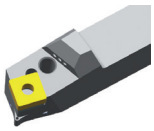
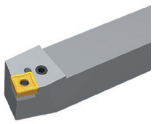
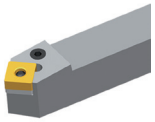
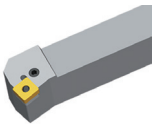
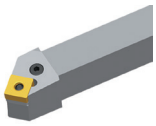
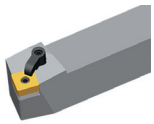
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
Basic	**SNMG120408**	0,8	0,5-6,0	0,1-0,6					○																			
	SNMG120412	1,2	0,5-6,0	0,1-0,7					○																			
Media Lavor.																												

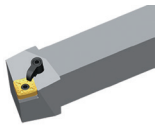
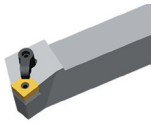
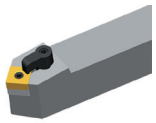
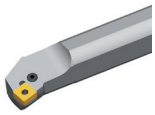
● In magazzino ○ Su richiesta

disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DSBNR/L	PSBNR/LC	PSBNR/L	PSDNN	PSKNR/L	PSSNR/L	MSBNR/L
Kr: 75°	Kr: 75°	Kr: 75°	Kr: 45°	Kr: 75°	Kr: 45°	Kr: 75°
						
A265	A289	A276	A278	A279	A280	A296

MSRNR/L	MSKNR/L	MSDNN	S***-PSKNR/L
Kr: 75°	Kr: 75°	Kr: 45°	Kr: 75°
			
A297	A298	A299	A375

Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

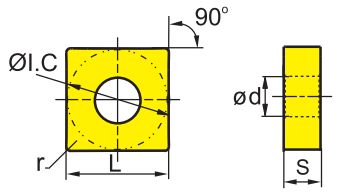
Tornitura generale Inserti negativi

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SN**	L	I.C	S	d
12 04	12,7	12,7	4,76	5,16
15 06	15,875	15,875	6,35	6,35
19 06	19,05	19,05	6,35	7,94
25 07	25,4	25,4	7,94	9,12

SN** Inserti negativi



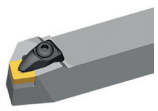
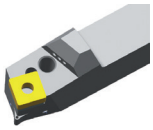
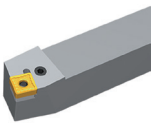
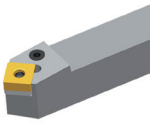
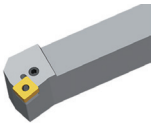
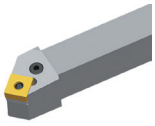
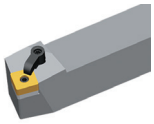
	HC¹ (CVD)												HC¹ (PVD)						HT		HC²		HW	
P	○	○	○	❁	❁	❁										❁	❁	❁	○	❁	○			
M							○	❁					○	○	❁	❁	❁	○	○	❁	○			
K									○	❁	❁	❁												
N													○	○									○	❁
S													○	○	❁	❁	❁	○					○	❁
H																								

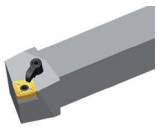
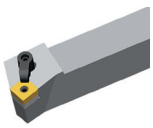
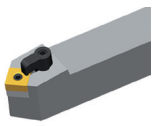
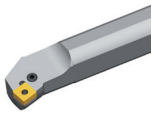
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
Flat	**SNMA120408**	0,8	0,5-5,0	0,1-0,5									○	●	●													
	SNMA120412	1,2	0,5-5,0	0,2-0,7									○	○	●	○												
	SNMA120416	1,6	0,5-5,0	0,2-1,0										●														
	SNMA150608	0,8	0,8-7,0	0,1-0,5											○													
	SNMA150612	1,2	0,8-7,0	0,2-0,7											○													
	SNMA190612	1,2	0,8-7,0	0,2-0,7									○		○													
	SNMA190616	1,6	0,8-7,0	0,3-0,8									○		●													
Basic	**SNMM250724-1**	2,4	2,0-12,5	0,3-1,2					○	●																		

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DSBNR/L	PSBNR/LC	PSBNR/L	PSDNN	PSKNR/L	PSSNR/L	MSBNR/L
Kr: 75°	Kr: 75°	Kr: 75°	Kr: 45°	Kr: 75°	Kr: 45°	Kr: 75°
						
A265	A289	A276	A278	A279	A280	A296

MSRNR/L	MSKNR/L	MSDNN	S***-PSKNR/L
Kr: 75°	Kr: 75°	Kr: 45°	Kr: 75°
			
A297	A298	A299	A375

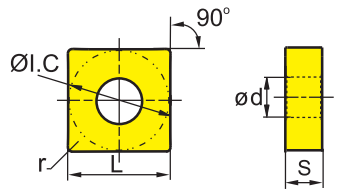
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- ● Buone condizioni di lavorazione
- ✱ Condizioni di lavorazione normali
- ✱ Condizioni di lavorazione sfavorevoli

SNMM	L	I.C	S	d
19 06	19,05	19,05	6,35	7,94
25 09	25,4	25,4	9,525	9,12

SN** Inserti negativi



	HC¹ (CVD)												HC¹ (PVD)							HT		HC²	HW	
	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
P	●	●	●	✱	✱	✱										✱	✱	✱		●	✱	●		
M							○	✱						○	○	✱	✱	✱	○	○	✱	○		
K									●	✱	✱	✱												
N													●	●									●	✱
S														○	○	✱	✱	✱	○				○	✱
H																								

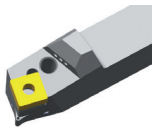
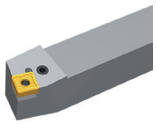
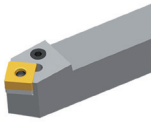
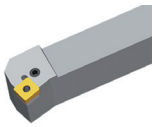
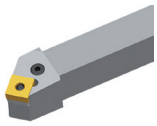
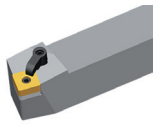
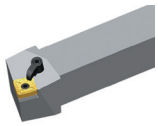
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
Basic	**SNMM190612**	1,2	1,5-10,5	0,2-0,7					○																			
	SNMM190616	1,6	1,5-10,5	0,2-1,0					○																			
	SNMM250924	2,4	2,0-12,5	0,3-1,2					○																			

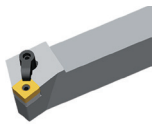
● In magazzino ○ Su richiesta

disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

PSBNR/LC	PSBNR/L	PSDNN	PSKNR/L	PSSNR/L	MSBNR/L	MSRNR/L
Kr: 75°	Kr: 75°	Kr: 45°	Kr: 75°	Kr: 45°	Kr: 75°	Kr: 75°
						
A289	A276	A278	A279	A280	A296	A297

MSKNR/L
Kr: 75°

A298

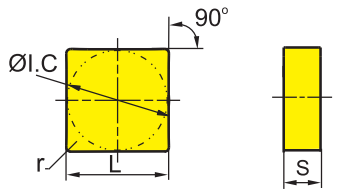
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SNUN	L	I.C	S
12 04	12,7	12,7	4,76
19 04	19,05	19,05	4,76

SN** Inserti negativi



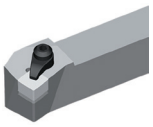
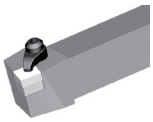
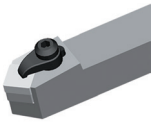
	HC¹ (CVD)												HC¹ (PVD)						HT		HC²	HW	
	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
P	●	●	●	⊛	⊛	⊛										⊛	⊛	⊛		●	⊛	●		
M							○	⊛						○	○	⊛	⊛	⊛	○	○	⊛	○		
K									●	⊛	⊛	⊛												
N													●	●									●	⊛
S														○	○	⊛	⊛	⊛	○				○	⊛
H																								

	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
Flat	**SNUN120408**	0,8	0,7-6,0	0,2-0,5											○													
	SNUN120412	1,2	0,7-6,0	0,25-0,60									○		○													
	SNUN190412	1,2	0,9-6,0	0,25-0,60																							○	

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

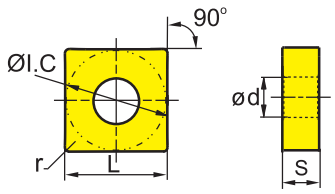
CSKNR/L	CSRNR/L	CSDNN
Kr: 75°	Kr: 75°	Kr: 45°
		
A340	A341	A343

Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SN**	L	I.C	S	d
12 04	12,7	12,7	4,76	5,16

SN** Inserti negativi



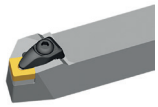
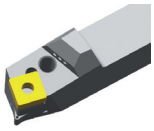
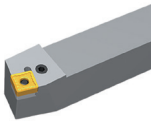
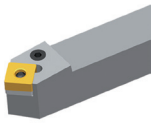
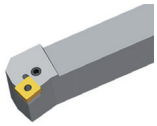
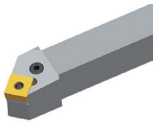
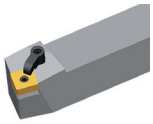
	HC¹ (CVD)												HC¹ (PVD)							HT		HC²	HW	
P	●	●	●	◐	◐	◐										◐	◐	◐		●	◐	●		
M							○	◐						○	○	◐	◐	◐	○	○	◐	○		
K									●	◐	◐	◐												
N													●	●									●	◐
S														○	○	◐	◐	◐	○				○	◐
H																								

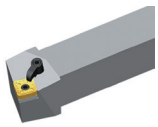
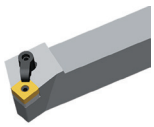
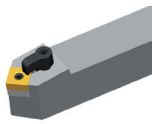
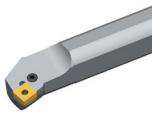
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
LH	**SNEG120408-LH**	0,8	1,5-7,0	0,20-0,50																	●						●	
	SNEG120412-LH	1,2	1,5-7,0	0,25-0,60																	●						●	
	SNEG120416-LH	1,6	1,5-7,0	0,25-0,70																	●						●	
LH Lavorazione Al.	**SNMM120408-LH**	0,8	1,0-5,0	0,2-0,6																							○	

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DSBNR/L	PSBNR/LC	PSBNR/L	PSDNN	PSKNR/L	PSSNR/L	MSBNR/L
Kr: 75°	Kr: 75°	Kr: 75°	Kr: 45°	Kr: 75°	Kr: 45°	Kr: 75°
						
A265	A289	A276	A278	A279	A280	A296

MSRNR/L	MSKNR/L	MSDNN	S***-PSKNR/L
Kr: 75°	Kr: 75°	Kr: 45°	Kr: 75°
			
A297	A298	A299	A375

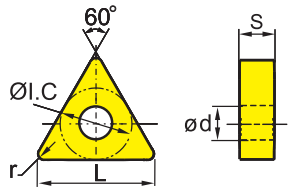
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

TN**	L	I.C	S	d
16 04	16,5	9,525	4,76	3,81
22 04	22	12,7	4,76	5,16

TN** Inserti negativi



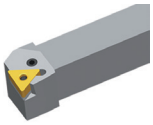
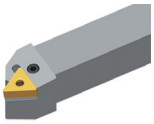
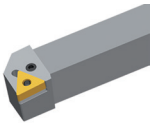
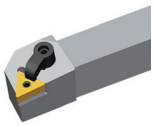
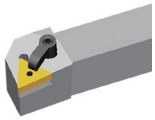
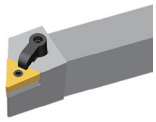
	HC¹ (CVD)												HC¹ (PVD)						HT		HC²	HW	
P	●	●	●	✱	✱	✱										✱	✱	✱	●	✱	●		
M							○	✱					○	○	✱	✱	✱	○	○	✱	○		
K									●	✱	✱	✱											
N													●	●								●	✱
S													●	○	✱	✱	✱	●				●	✱
H																							

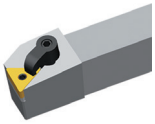
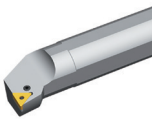
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
WG Raschiante	**TNMX160408-WG**	0,8	0,5-5,0	0,15-0,70			●																					
	TNMX160412-WG	1,2	0,8-6,0	0,20-0,75			○																					
ADF Finitura	**TNMG160404-ADF**	0,4	0,5-5,0	0,05-0,30		●																●			●			
	TNMG160408-ADF	0,8	0,5-5,0	0,1-0,4		●														○		●			●			
	TNMG160412-ADF	1,2	0,5-5,0	0,2-0,5		●																●						
DF Finitura	**TNMG160404-DF**	0,4	0,15-2,00	0,08-0,25			●		○																			
	TNMG160408-DF	0,8	0,15-2,00	0,1-0,3			●		○																			
	TNMG160412-DF	1,2	0,2-3,0	0,15-0,50			○																					
	TNMG220408-DF	0,8	0,3-3,0	0,1-0,4			○		○																			

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DTGNR/L	PTFNR/L	PTTNR/L	PTGNR/L	MTGNR/L	MTJNR/L	MTJNR/L
Kr: 91°	Kr: 91°	Kr: 60°	Kr: 90°	Kr: 90°	Kr: 93°	Kr: 93°
						
A266	A281	A282	A283	A300	A301	A302

MTFNR/L	S***-PTFNR/L
Kr: 91°	Kr: 90°
	
A303	A376

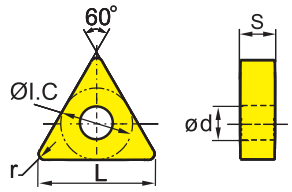
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

TNMG	L	I.C	S	d
16 04	16,5	9,525	4,76	3,81

TN** Inserti negativi



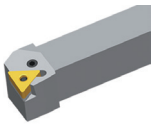
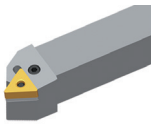
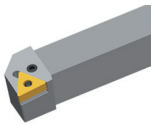
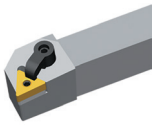
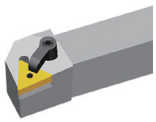
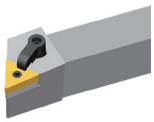
	HC¹ (CVD)												HC¹ (PVD)							HT		HC²	HW	
P	●	●	●	◉	◉	◉										◉	◉	◉		●	◉	●		
M							○	◉					○	○	◉	◉	◉	○		○	◉	○		
K									●	◉	◉	◉												
N													●	●									●	◉
S														●	○	◉	◉	◉	○				○	◉
H																								

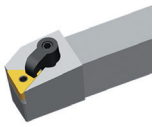
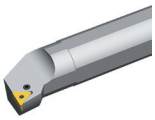
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
SF Finitura	**TNMG160404-SF**	0,4	0,05-1,00	0,05-0,30																				○		●		
	TNMG160408-SF	0,8	0,05-1,00	0,05-0,40																						●		

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DTGNR/L	PTFNR/L	PTTNR/L	PTGNR/L	MTGNR/L	MTJNR/L	MTJNR/L
Kr: 91°	Kr: 91°	Kr: 60°	Kr: 90°	Kr: 90°	Kr: 93°	Kr: 93°
						
A266	A281	A282	A283	A300	A301	A302

MTFNR/L	S***-PTFNR/L
Kr: 91°	Kr: 90°
	
A303	A376

Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

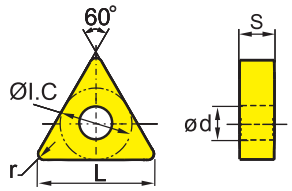
Tornitura generale Inserti negativi

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

TNMG	L	I.C	S	d
11 03	11	6,35	3,18	2,26
16 04	16,5	9,525	4,76	3,81
22 04	22	12,7	4,76	5,16

TN** Inserti negativi



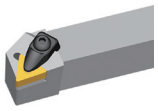
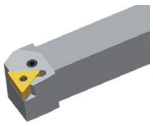
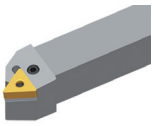
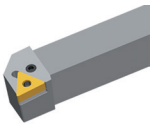
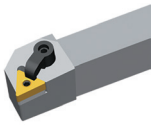
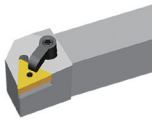
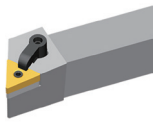
	HC¹ (CVD)												HC¹ (PVD)						HT		HC²	HW	
	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
P	○	○	○	✲	✲	✲										✲	✲	✲		○	✲	○		
M							○	✲						○	○	✲	✲	✲	○	○	✲	○		
K									○	✲	✲	✲												
N													○	○									○	✲
S														○	○	✲	✲	✲	○				○	✲
H																								

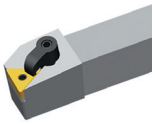
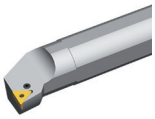
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
EF Finitura	**TNMG110304-EF**	0,4	0,1-1,0	0,05-0,20																●	○							
	TNMG110308-EF	0,8	0,1-1,0	0,05-0,40																●								
	TNMG160404-EF	0,4	0,1-1,5	0,05-0,30							●									●	●							
	TNMG160408-EF	0,8	0,1-1,5	0,1-0,4							●									●	●							
	TNMG160412-EF	1,2	0,2-2,5	0,15-0,40																●	○							
	TNMG220404-EF	0,4	0,5-2,5	0,05-0,25																●	○							
	TNMG220408-EF	0,8	0,5-2,5	0,1-0,4							○									●	○							
	TNMG220412-EF	1,2	0,5-2,5	0,1-0,5																●	○							
XF Finitura	**TNMG160404-XF**	0,4	0,5-2,5	0,1-0,25	●			●																				
	TNMG160408-XF	0,8	0,5-2,5	0,1-0,3	●			●																				

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DTGNR/L	PTFNR/L	PTTNR/L	PTGNR/L	MTGNR/L	MTJNR/L	MTJNR/L
Kr: 91°	Kr: 91°	Kr: 60°	Kr: 90°	Kr: 90°	Kr: 93°	Kr: 93°
						
A266	A281	A282	A283	A300	A301	A302

MTFNR/L	S***-PTFNR/L
Kr: 91°	Kr: 90°
	
A303	A376

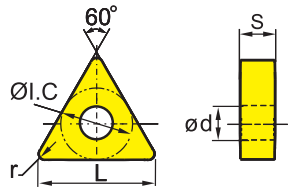
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

TNMG	L	I.C	S	d
16 04	16,5	9,525	4,76	3,81
22 04	22	12,7	4,76	5,16

TN** Inserti negativi



	HC¹ (CVD)											HC¹ (PVD)							HT		HC²	HW	
P	○	○	○	❁	❁	❁									❁	❁	❁		○	❁	○		
M							○	❁					○	○	❁	❁	❁	○	○	❁	○		
K									○	❁	❁	❁											
N													○	○								○	❁
S														○	○	❁	❁	❁	○			○	❁
H																							

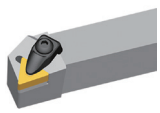
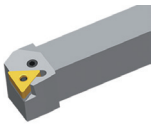
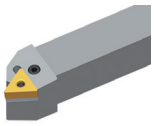
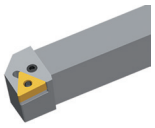
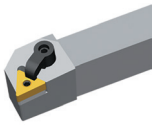
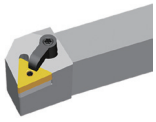
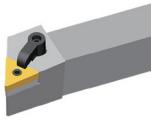
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
FM	**TNMG160404L-FM**	0,4	0,5-3,0	0,1-0,3					●											●								
	TNMG160404R-FM	0,4	0,5-3,0	0,1-0,3					●											●								
	TNMG160408L-FM	0,8	0,5-3,0	0,15-0,50			○		○											●								
	TNMG160408R-FM	0,8	0,5-3,0	0,15-0,50			○		●											●								
Finitura																												
XM	**TNMG160404-XM**	0,4	1-5,6	0,2-0,4	●			○																				
	TNMG160408-XM	0,8	1-5,6	0,2-0,4	●			●																				
	TNMG160412-XM	1,2	1-5,6	0,2-0,6	●			●																				
	TNMG160416-XM	1,6	1-5,6	0,2-0,65	○			●																				
	TNMG220408-XM	0,8	1-7,7	0,2-0,4	●			●																				
Media Lavor.	**TNMG220412-XM**	1,2	1-7,7	0,2-0,6	●			●																				
	TNMG220416-XM	1,6	1-7,7	0,2-0,65	○			●																				

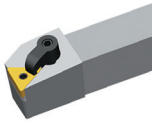
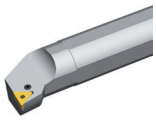
● In magazzino ○ Su richiesta

disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DTGNR/L	PTFNR/L	PTTNR/L	PTGNR/L	MTGNR/L	MTJNR/L	MTJNR/L
Kr: 91°	Kr: 91°	Kr: 60°	Kr: 90°	Kr: 90°	Kr: 93°	Kr: 93°
						
A266	A281	A282	A283	A300	A301	A302

MTFNR/L	S***-PTFNR/L
Kr: 91°	Kr: 90°
	
A303	A376

Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

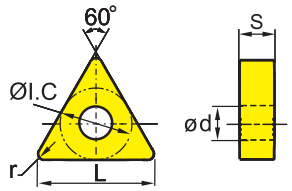
Tornitura generale Inserti negativi

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

TNMG	L	I.C	S	d
11 03	11	6,35	3,18	2,26
16 04	16,5	9,525	4,76	3,81
22 04	22	12,7	4,76	5,16

TN** Inserti negativi



	HC¹ (CVD)												HC¹ (PVD)						HT		HC²		HW	
	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
P	○	○	○	✲	✲	✲										✲	✲	✲		○	✲	○		
M							○	✲						○	○	✲	✲	✲	○	○	✲	○		
K									○	✲	✲	✲												
N													○	○									○	✲
S														○	○	✲	✲	✲	○				○	✲
H																								

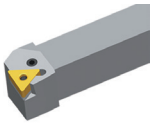
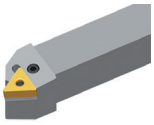
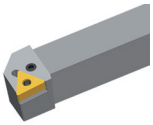
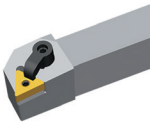
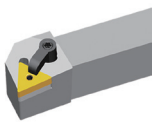
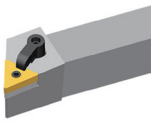
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
DM Media Lavor.	**TNMG110308-DM**	0,8	0,3-3,0	0,1-0,4					○																			
	TNMG160404-DM	0,4	0,4-5,0	0,1-0,3			○		●			○																
	TNMG160408-DM	0,8	0,5-5,0	0,15-0,50			●		●																			
	TNMG160412-DM	1,2	0,8-5,0	0,18-0,60			●		○																			
	TNMG220404-DM	0,4	0,4-6,6	0,1-0,3			○		●																			
	TNMG220408-DM	0,8	0,5-6,6	0,15-0,50			○		●																			
	TNMG220412-DM	1,2	0,8-6,6	0,18-0,60			○		●																			
	TNMG220416-DM	1,6	1,0-6,6	0,23-0,65			●		○																			
PM Media Lavor.	**TNMG110304-PM**	0,4	0,4-3,0	0,1-0,3					●																			
	TNMG110308-PM	0,8	0,4-3,0	0,15-0,40					○																			
	TNMG160404-PM	0,4	0,4-5,0	0,1-0,3			○		●				○		○													
	TNMG160408-PM	0,8	0,5-5,0	0,15-0,50			○		●				●		●													
	TNMG160412-PM	1,2	0,8-5,0	0,18-0,60			○		●				○		○													
	TNMG220408-PM	0,8	0,5-6,6	0,15-0,50			○		●				●		○													
	TNMG220412-PM	1,2	0,8-6,6	0,18-0,60			○		○						○													
	TNMG220416-PM	1,6	1,0-6,6	0,23-0,65					○																			

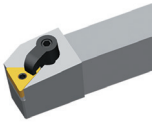
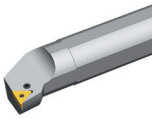
● In magazzino ○ Su richiesta

disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DTGNR/L	PTFNR/L	PTTNR/L	PTGNR/L	MTGNR/L	MTJNR/L	MTJNR/L
Kr: 91°	Kr: 91°	Kr: 60°	Kr: 90°	Kr: 90°	Kr: 93°	Kr: 93°
						
A266	A281	A282	A283	A300	A301	A302

MTFNR/L	S***-PTFNR/L
Kr: 91°	Kr: 90°
	
A303	A376

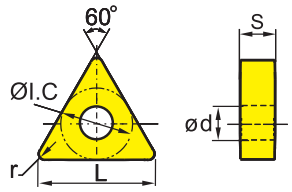
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

TNMG	L	I.C	S	d
16 04	16,5	9,525	4,76	3,81

TN** Inserti negativi



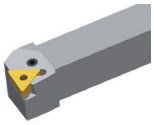
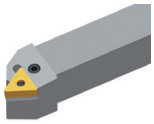
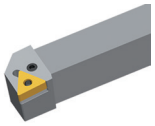
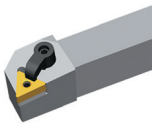
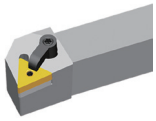
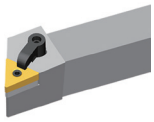
	HC¹ (CVD)											HC¹ (PVD)							HT		HC²	HW	
P	●	●	●	⊛	⊛	⊛									⊛	⊛	⊛		●	⊛	●		
M							○	⊛					○	○	⊛	⊛	⊛	○	○	⊛	○		
K									●	⊛	⊛	⊛											
N													●	●								●	⊛
S														●	⊛	⊛	⊛	●				●	⊛
H																							

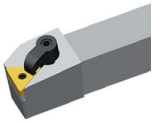
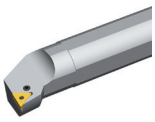
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
ZM	**TNMG160404-ZM**	0,4	0,5-5,0	0,08-0,30		●																						
	TNMG160408-ZM	0,8	0,5-5,0	0,1-0,4		●																						
	TNMG160412-ZM	1,2	0,5-5,0	0,1-0,6		●																						
Media Lavor.																												
SNR	**TNMG160408-SNR**	0,8	1-5,6	0,1-0,5																			●					
Sgrossatura																												

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DTGNR/L	PTFNR/L	PTTNR/L	PTGNR/L	MTGNR/L	MTJNR/L	MTJNR/L
Kr: 91°	Kr: 91°	Kr: 60°	Kr: 90°	Kr: 90°	Kr: 93°	Kr: 93°
						
A266	A281	A282	A283	A300	A301	A302

MTFNR/L	S***-PTFNR/L
Kr: 91°	Kr: 90°
	
A303	A376

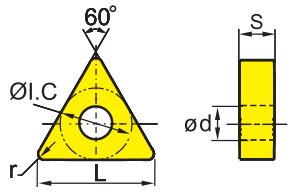
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

TNMG	L	I.C	S	d
16 04	16,5	9,525	4,76	3,81
22 04	22	12,7	4,76	5,16

TN** Inserti negativi



	HC¹ (CVD)												HC¹ (PVD)						HT		HC²		HW		
P	●	●	●	⊛	⊛	⊛										⊛	⊛	⊛	●	⊛	●				
M								○	⊛					○	○	⊛	⊛	⊛	○	⊛	○				
K										●	⊛	⊛	⊛												
N														●	●								●	⊛	
S														●	●	⊛	⊛	⊛	●				●	⊛	
H																									

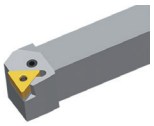
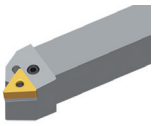
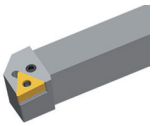
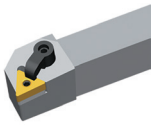
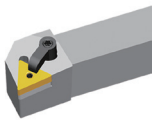
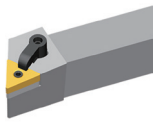
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
EG Media Lavor.	**TNMG160404-EG**	0,4	0,5-4,0	0,1-0,3																		●						
	TNMG160408-EG	0,8	0,5-4,0	0,1-0,4							○	○								●		●						
	TNMG160412-EG	1,2	0,5-4,0	0,15-0,50								○																
EM Media Lavor.	**TNMG160404-EM**	0,4	0,5-4,8	0,05-0,30							○	○								●	●							
	TNMG160408-EM	0,8	0,5-4,8	0,10-0,45							●	●								●	●							
	TNMG160412-EM	1,2	0,5-4,8	0,1-0,6							○	●								●	○							
	TNMG220408-EM	0,8	0,5-6,6	0,10-0,45							●	●								●	○							
	TNMG220412-EM	1,2	0,5-6,6	0,1-0,6							○	○								●	○							
	TNMG220416-EM	1,6	0,5-6,6	0,10-0,65								○								●	○							
TC Media Lavor.	**TNMG160404-TC**	0,4	0,5-3,0	0,05-0,20												○												
	TNMG160408-TC	0,8	0,5-3,0	0,08-0,25										●		○												
	TNMG160412-TC	1,2	1-3	0,1-0,3												○												
	TNMG220412-TC	1,2	1-6	0,15-0,40										○		○												

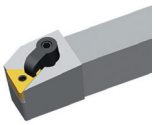
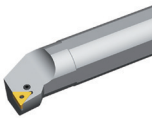
● In magazzino ○ Su richiesta

disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DTGNR/L	PTFNR/L	PTTNR/L	PTGNR/L	MTGNR/L	MTJNR/L	MTJNR/L
Kr: 91°	Kr: 91°	Kr: 60°	Kr: 90°	Kr: 90°	Kr: 93°	Kr: 93°
						
A266	A281	A282	A283	A300	A301	A302

MTFNR/L	S***-PTFNR/L
Kr: 91°	Kr: 90°
	
A303	A376

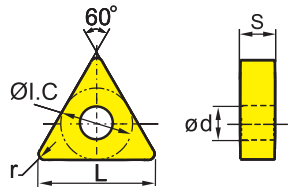
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

TNMG	L	I.C	S	d
16 04	16,5	9,525	4,76	3,81
22 04	22	12,7	4,76	5,16
27 06	27,5	15,875	6,35	6,35

Inserti - Tornitura

- ○ Buone condizioni di lavorazione
- ⊛ Condizioni di lavorazione normali
- ❁ Condizioni di lavorazione sfavorevoli

TN** Inserti negativi



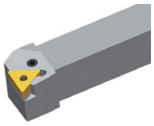
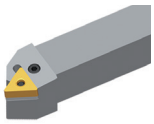
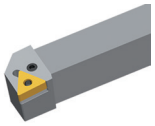
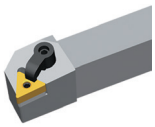
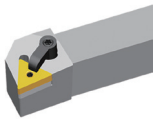
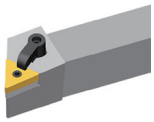
	HC¹ (CVD)											HC¹ (PVD)							HT		HC²	HW	
	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
P	○	○	○	⊛	⊛	❁										⊛	⊛	⊛		○	⊛	○		
M							○	⊛					○	○	⊛	⊛	⊛	○		○	⊛	○		
K									○	⊛	⊛	⊛												
N													○	○									○	⊛
S														○	○	⊛	⊛	⊛	○				○	⊛
H																								

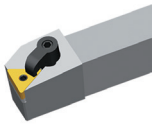
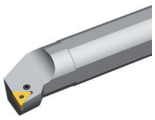
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
DR	**TNMG160408-DR**	0,8	0,7-6,0	0,20-0,55			○		○				○		●													
	TNMG160412-DR	1,2	1-6	0,25-0,65			○		○				○		○													
	TNMG220408-DR	0,8	0,7-7,0	0,20-0,55					●						○													
	TNMG220412-DR	1,2	1-7	0,25-0,65					○						●													
Sgrossatura	**TNMG220416-DR**	1,6	1,5-7,0	0,32-0,75					○						○													
	TNMG270612-DR	1,2	2-12	0,35-0,75					○																			
XLR	**TNMG160408-XLR**	0,8	1,5-4,5	0,2-0,38	○			○																				
	TNMG160412-XLR	1,2	1,5-4,5	0,2-0,45	○			○																				
Sgrossatura																												

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DTGNR/L	PTFNR/L	PTTNR/L	PTGNR/L	MTGNR/L	MTJNR/L	MTJNR/L
Kr: 91°	Kr: 91°	Kr: 60°	Kr: 90°	Kr: 90°	Kr: 93°	Kr: 93°
						
A266	A281	A282	A283	A300	A301	A302

MTFNR/L	S***-PTFNR/L
Kr: 91°	Kr: 90°
	
A303	A376

Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

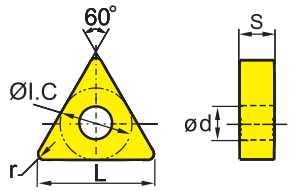
Tornitura generale Inserti negativi

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

TN**	L	I.C	S	d
16 04	16,5	9,525	4,76	3,81
22 04	22	12,7	4,76	5,16
27 06	27,5	15,875	6,35	6,35

TN** Inserti negativi



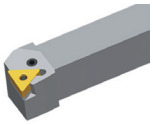
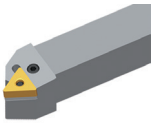
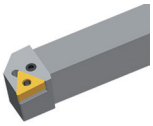
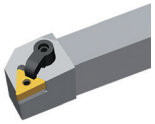
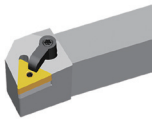
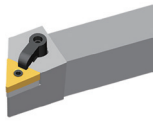
	HC¹ (CVD)												HC¹ (PVD)						HT		HC²		HW	
	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
P	○	○	○	✲	✲	✲										✲	✲	✲		○	✲	○		
M							○	✲						○	○	✲	✲	✲	○	○	✲	○		
K									○	✲	✲	✲												
N													○	○									○	✲
S														○	○	✲	✲	✲	○				○	✲
H																								

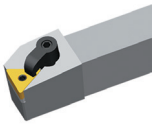
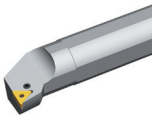
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
DR Sgrossatura	**TNMM160408-DR**	0,8	0,7-6,0	0,20-0,55					○																			
	TNMM160412-DR	1,2	1-6	0,25-0,70			○																					
	TNMM220408-DR	0,8	0,7-8,0	0,20-0,55					○																			
	TNMM220412-DR	1,2	1-8	0,25-0,70					●																			
	TNMM270624-DR	2,4	3,0-8,0	0,25-0,7					○																			
ER Sgrossatura	**TNMG160408-ER**	0,8	2,0-5,6	0,15-0,55								○																
	TNMG160412-ER	1,2	2,0-5,6	0,15-0,60								○																
	TNMG220408-ER	0,8	2,0-7,7	0,15-0,55								○																
LR Sgrossatura	**TNMM160412-LR**	1,2	1,5-6,0	0,1-0,6			○		○																			

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DTGNR/L	PTFNR/L	PTTNR/L	PTGNR/L	MTGNR/L	MTJNR/L	MTJNR/L
Kr: 91°	Kr: 91°	Kr: 60°	Kr: 90°	Kr: 90°	Kr: 93°	Kr: 93°
						
A266	A281	A282	A283	A300	A301	A302

MTFNR/L	S***-PTFNR/L
Kr: 91°	Kr: 90°
	
A303	A376

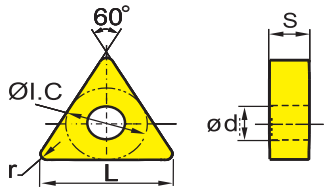
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

TNMM	L	I.C	S	d
22 04	22	12,7	4,76	5,16
27 06	27,5	15,875	6,35	6,35

TN** Inserti negativi



	HC¹ (CVD)												HC¹ (PVD)							HT		HC²	HW		
P	○	○	○	⊛	⊛	⊛										⊛	⊛	⊛		○	⊛	○			
M								○	⊛					○	○	⊛	⊛	⊛	○	○	⊛	○			
K										○	⊛	⊛	⊛												
N														○	○									○	⊛
S															○	○	⊛	⊛	⊛	○				○	⊛
H																									

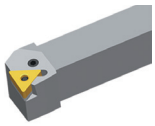
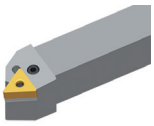
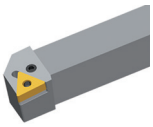
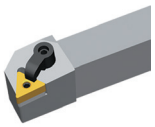
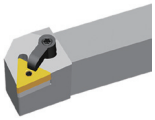
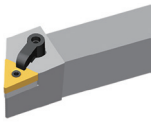
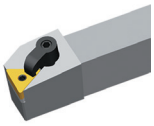
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
HDR	**TNMM220416-HDR**	1,6	2-9	0,35-1,00					○																			
	TNMM270616-HDR	1,6	2-6	0,35-1,00					●																			
	TNMM270624-HDR	2,4	2-7	0,4-1,2					○			○																

Alta asp.

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

PTFNR/L	PTTNR/L	PTGNR/L	MTGNR/L	MTJNR/L	MTJNR/L	MTFNR/L
Kr: 91°	Kr: 60°	Kr: 90°	Kr: 90°	Kr: 93°	Kr: 93°	Kr: 91°
						
A281	A282	A283	A300	A301	A302	A303

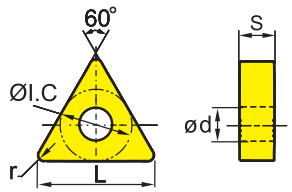
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

TNMG	L	I.C	S	d
16 04	16,5	9,525	4,76	3,81
22 04	22	12,7	4,76	5,16
27 06	27,5	15,875	6,35	6,35
33 09	33	19,05	9,525	7,94

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

TN** Inserti negativi



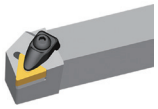
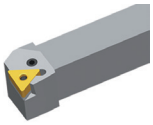
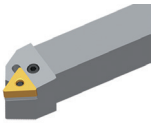
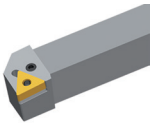
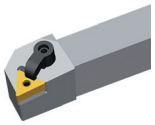
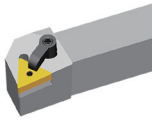
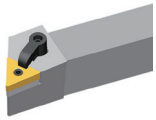
	HC¹ (CVD)												HC¹ (PVD)						HT		HC²	HW	
P	●	●	●	❊	❊	❊									❊	❊	❊		●	❊	●		
M							○	❊					○	○	❊	❊	❊	○	○	❊	○		
K									●	❊	❊	❊											
N													●	●								●	❊
S													●	●	❊	❊	❊	●				●	❊
H																							

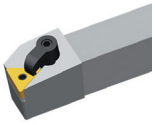
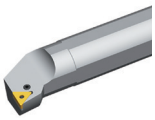
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
Basic	**TNMG160404**	0,4	1,0-4,0	0,05-0,20					○																			
	TNMG160408	0,8	1,0-4,0	0,08-0,30			○		○																			
	TNMG220404	0,4	1,0-6,0	0,05-0,20					○																			
	TNMG220416	1,6	1,0-6,0	0,1-0,5					○																			
Media Lavor.	**TNMG270612**	1,2	1,0-9,0	0,1-0,5					○																			
	TNMG330916	1,6	1,0-11,0	0,1-0,5					○																			

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DTGNR/L	PTFNR/L	PTTNR/L	PTGNR/L	MTGNR/L	MTJNR/L	MTJNR/L
Kr: 91°	Kr: 91°	Kr: 60°	Kr: 90°	Kr: 90°	Kr: 93°	Kr: 93°
						
A266	A281	A282	A283	A300	A301	A302

MTFNR/L	S***-PTFNR/L
Kr: 91°	Kr: 90°
	
A303	A376

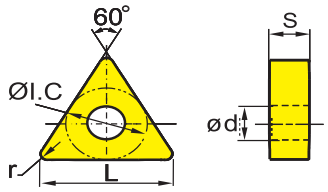
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- ● Buone condizioni di lavorazione
- ✿ Condizioni di lavorazione normali
- ✿ Condizioni di lavorazione sfavorevoli

TN**	L	I.C	S	d
16 04	16,5	9,525	4,76	3,81
22 04	22	12,7	4,76	5,16

TN** Inserti negativi



	HC¹ (CVD)												HC¹ (PVD)							HT		HC²	HW	
P	●	●	●	✿	✿	✿										✿	✿	✿		●	✿	●		
M								○	✿					○	○	✿	✿	✿	○	○	✿	○		
K										●	✿	✿	✿											
N														●	●								●	✿
S															○	✿	✿	✿	○				○	✿
H																								

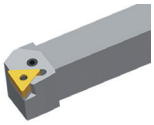
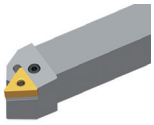
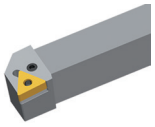
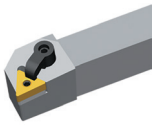
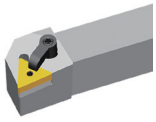
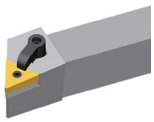
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
Flat	**TNMA160404**	0,4	1,0-4,0	0,05-0,20									○		●													
	TNMA160408	0,8	1,0-4,0	0,08-0,30									○	●	●													
	TNMA160412	1,2	1,0-4,0	0,1-0,4											○													
	TNMA160416	1,6	1,0-4,0	0,05-0,50									○		○													
	TNMA220408	0,8	1,0-6,0	0,1-0,3									○		●													
	TNMA220412	1,2	1,0-6,0	0,1-0,4											○													
	TNMA220416	1,6	1,0-6,0	0,1-0,5												○												
Basic	**TNMM160404**	0,4	1,0-7,0	0,05-0,60					○																			
	TNMM220408	0,8	1,0-7,0	0,05-0,60					○																			
	TNMM220416	1,6	1,0-7,0	0,05-0,60					○																			

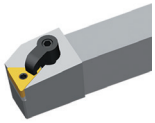
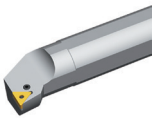
● In magazzino ○ Su richiesta

disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DTGNR/L	PTFNR/L	PTTNR/L	PTGNR/L	MTGNR/L	MTJNR/L	MTJNR/L
Kr: 91°	Kr: 91°	Kr: 60°	Kr: 90°	Kr: 90°	Kr: 93°	Kr: 93°
						
A266	A281	A282	A283	A300	A301	A302

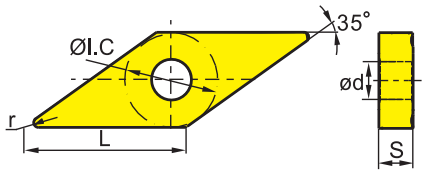
MTFNR/L	S***-PTFNR/L
Kr: 91°	Kr: 90°
	
A303	A376

Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

VN**	L	I.C	S	d
16 04	16,6	9,525	4,76	3,81



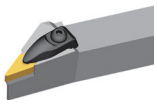
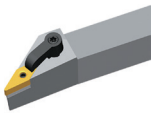
VN** Inserti negativi	HC¹ (CVD)												HC¹ (PVD)						HT		HC²	HW	
P	○	○	○	⊛	⊛	⊛										⊛	⊛	⊛	○	⊛	○		
M							○	⊛					○	○	⊛	⊛	⊛	○	○	⊛	○		
K									○	⊛	⊛	⊛											
N													○	○								○	⊛
S													○	○	⊛	⊛	⊛	○				○	⊛
H																							

	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
ADF	**VNMG160404-ADF**	0,4	0,5-2,5	0,1-0,3		●																●						
	VNMG160408-ADF	0,8	0,5-2,5	0,1-0,5		●																●						
Finitura																												
DF	**VNMG160404-DF**	0,4	0,25-1,50	0,07-0,30			○		○																			
	VNMG160408-DF	0,8	0,3-1,5	0,1-0,4			●		●																			
Finitura																												
EF	**VNMG160404-EF**	0,4	0,1-1,5	0,05-0,25							●									●	○							
	VNMG160408-EF	0,8	0,2-2,5	0,08-0,35							●									●	○							
	VNMG160412-EF	1,2	0,2-2,5	0,10-0,45							○										○							
Finitura																												
NF	**VNEG160404-NF**	0,4	0,2-4,0	0,05-0,30															●									
	VNEG160408-NF	0,8	0,2-4,0	0,05-0,50															●									
Finitura																												

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DVVNN	DVJNR/L	MVVNN	MVJNR/L
Kr: 72°30'	Kr: 93°	Kr: 72°30'	Kr: 93°
			
A267	A268	A304	A305

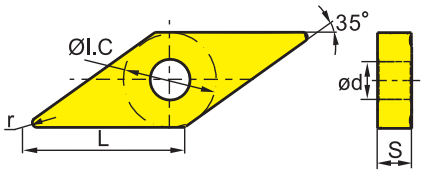
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- ● Buone condizioni di lavorazione
- ✱ Condizioni di lavorazione normali
- ✱ Condizioni di lavorazione sfavorevoli

VN**	L	I.C	S	d
16 04	16,6	9,525	4,76	3,81

VN** Inserti negativi



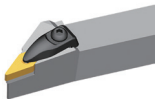
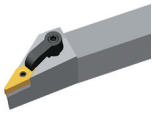
	HC¹ (CVD)											HC¹ (PVD)							HT		HC²	HW	
	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
P	●	●	●	✱	✱	✱										✱	✱	✱		●	✱	●		
M							○	✱						○	○	✱	✱	✱	○	○	✱	○		
K									●	✱	✱	✱												
N													●	●									●	✱
S														●	●	✱	✱	✱	●				●	✱
H																								

	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
NGF	**VNEG160408-NGF**	0,8	0,2-3,0	0,1-0,3															●									
	VNEG160412-NGF	1,2	0,2-3,0	0,1-0,5															○									
Finitura																												
SF	**VNMG160404-SF**	0,4	0,05-3,00	0,05-0,20																						●		
	VNMG160408-SF	0,8	0,05-3,00	0,05-0,35																						○		
Finitura																												

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DVVNN	DVJNR/L	MVVNN	MVJNR/L
Kr: 72°30'	Kr: 93°	Kr: 72°30'	Kr: 93°
			
A267	A268	A304	A305

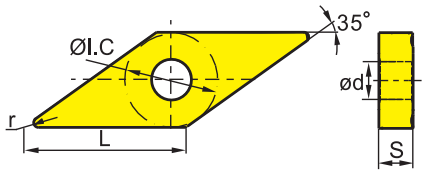
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

VNMG	L	I.C	S	d
16 04	16,6	9,525	4,76	3,81

VN** Inserti negativi



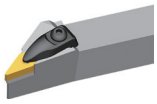
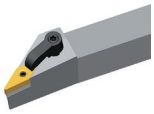
	HC¹ (CVD)												HC¹ (PVD)						HT		HC²	HW	
P	○	○	○	⊛	⊛	⊛										⊛	⊛	⊛	○	⊛	○		
M							○	⊛						○	○	⊛	⊛	⊛	○	⊛	○		
K									○	⊛	⊛	⊛											
N													○	○								○	⊛
S														○	○	⊛	⊛	⊛	○			○	⊛
H																							

	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
XF	**VNMG160404-XF**	0,4	0,5-2,5	0,1-0,25	●			●																				
	VNMG160408-XF	0,8	0,5-2,5	0,1-0,30	●			●																				
	VNMG160412-XF	1,2	0,5-2,5	0,1-0,35	●			●																				
Finitura																												
XM	**VNMG160404-XM**	0,4	1-5,6	0,2-0,4	●			○																				
	VNMG160408-XM	0,8	1-5,6	0,2-0,4	●			●																				
	VNMG160412-XM	1,2	1-5,6	0,2-0,6	●			●																				
Media Lavor.																												

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DVVNN	DVJNR/L	MVVNN	MVJNR/L
Kr: 72°30'	Kr: 93°	Kr: 72°30'	Kr: 93°
			
A267	A268	A304	A305

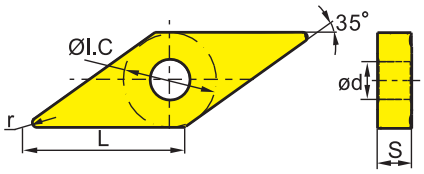
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

VNMG	L	I.C	S	d
16 04	16,6	9,525	4,76	3,81

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

VN** Inserti negativi



	HC¹ (CVD)												HC¹ (PVD)							HT		HC²	HW	
	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
P	●	●	●	⊛	⊛	⊛										⊛	⊛	⊛		●	⊛	●		
M							○	⊛						○	○	⊛	⊛	⊛	○	○	⊛	○		
K									●	⊛	⊛	⊛												
N													●	●									●	⊛
S														●	●	⊛	⊛	⊛	●				●	⊛
H																								

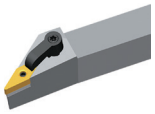
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
DM	**VNMG160408-DM**	0,8	0,5-4,0	0,15-0,50			○		●																			
	VNMG160412-DM	1,2	0,8-4,0	0,18-0,60			●		●																			
Media Lavor.																												
EM	**VNMG160404-EM**	0,4	0,2-3,0	0,05-0,30							●									●	○							
	VNMG160408-EM	0,8	0,5-4,0	0,10-0,45							●									●	○							
Media Lavor.																												
NM	**VNMG160412-NM**	1,2	0,2-4,0	0,05-0,40															●									
Media Lavor.																												

● In magazzino ○ Su richiesta

disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DVVNN	DVJNR/L	MVVNN	MVJNR/L
Kr: 72°30'	Kr: 93°	Kr: 72°30'	Kr: 93°
			
A267	A268	A304	A305

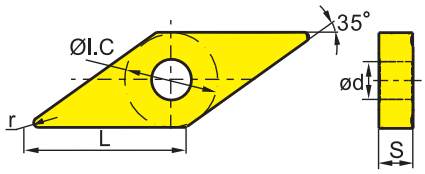
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

VNMG	L	I.C	S	d
16 04	16,6	9,525	4,76	3,81

VN** Inserti negativi



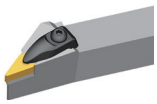
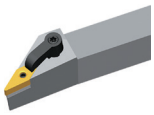
	HC¹ (CVD)												HC¹ (PVD)						HT		HC²	HW	
P	●	●	●	⊛	⊛	⊛									⊛	⊛	⊛		●	⊛	●		
M							○	⊛					○	○	⊛	⊛	⊛	○	○	⊛	○		
K									●	⊛	⊛	⊛											
N													●	●								●	⊛
S													●	●	⊛	⊛	⊛	●				●	⊛
H																							

	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
PM	**VNMG160404-PM**	0,4	0,4-4,0	0,13-0,40			●		●				○		○													
	VNMG160408-PM	0,8	0,5-4,0	0,15-0,50			○		●				●		●													
	VNMG160412-PM	1,2	0,8-4,0	0,18-0,60					●				○															
Media Lavor.																												
TC	**VNMG160404-TC**	0,4	0,5-2,0	0,05-0,20										●		●												
	VNMG160408-TC	0,8	0,5-2,0	0,08-0,25										○		○												
	VNMG160412-TC	1,2	0,5-3,0	0,08-0,30										●		○												
Media Lavor.																												
ZM	**VNMG160404-ZM**	0,4	0,5-3,0	0,08-0,30		○																						
	VNMG160408-ZM	0,8	0,5-3,0	0,1-0,4		●																						
Media Lavor.																												
SNR	**VNMG160408-SNR**	0,8	0,2-2,0	0,1-0,4															●				●					
	VNMG160412-SNR	1,2	0,2-2,0	0,1-0,5															●				●					
Sgrossatura																												

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DVVNN	DVJNR/L	MVVNN	MVJNR/L
Kr: 72°30'	Kr: 93°	Kr: 72°30'	Kr: 93°
			
A267	A268	A304	A305

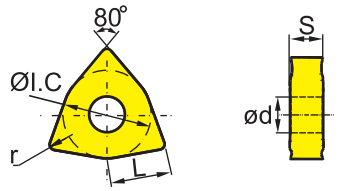
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

WNMG	L	I.C	S	d
06 T3	6,5	9,525	3,97	3,81
06 04	6,5	9,525	4,76	3,81
08 04	8,7	12,7	4,76	5,16

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

WN** Inserti negativi



	HC[1] (CVD)											HC[1] (PVD)							HT		HC[2]	HW	
P	○	○	○	❁	❁	❁									❁	❁	❁		○	❁	○		
M							○	❁					○	○	❁	❁	❁	○	○	❁	○		
K									○	❁	❁	❁											
N													○	○								○	❁
S													○	○	❁	❁	❁	○				○	❁
H																							

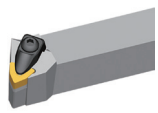
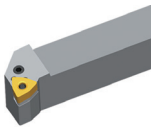
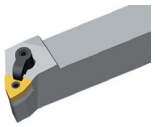
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
ADF Finitura	**WNMG060404-ADF**	0,4	0,8-2,5	0,1-0,35		●																						
	WNMG060408-ADF	0,8	0,5-2,5	0,05-0,30		●																						
	WNMG080404-ADF	0,4	0,2-2,5	0,05-0,30		●																●			●			
	WNMG080408-ADF	0,8	0,5-2,5	0,05-0,40		●														○		●			●			
	WNMG080412-ADF	1,2	0,5-2,5	0,05-0,50		●																●						
DF Finitura	**WNMG060404-DF**	0,4	0,15-2,00	0,08-0,25			○		●																			
	WNMG060408-DF	0,8	0,15-2,00	0,1-0,3			○		○																			
	WNMG080404-DF	0,4	0,15-2,00	0,08-0,25			●		○																			
	WNMG080408-DF	0,8	0,15-2,00	0,1-0,3					○																			
	WNMG080412-DF	1,2	0,2-2,5	0,10-0,35			○																					
SF Finitura	**WNMG060404-SF**	0,4	0,05-0,50	0,05-0,20																						●		
	WNMG060408-SF	0,8	0,05-0,50	0,05-0,35																						●		
	WNMG06T304-SF	0,4	0,05-0,50	0,05-0,20																						●		
	WNMG06T308-SF	0,8	0,05-0,50	0,05-0,35																						●		
	WNMG080404-SF	0,4	0,05-0,50	0,05-0,20																						●		
	WNMG080408-SF	0,8	0,05-0,50	0,05-0,35																						●		

● In magazzino ○ Su richiesta

disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DWLNR/L	PWLNR/LC	PWLNR/L	MWLNR/L	S***-PWLNR/L
Kr: 95°	Kr: 95°	Kr: 95°	Kr: 95°	Kr: 95°
				
A269	A290	A285	A306	A378

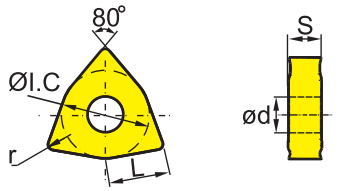
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

WN**	L	I.C	S	d
06 T3	6,5	9,525	3,97	3,81
06 04	6,5	9,525	4,76	3,81
08 04	8,7	12,7	4,76	5,16

WN** Inserti negativi



	HC¹ (CVD)												HC¹ (PVD)						HT		HC²	HW	
	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
P	○	○	○	◐	◐	◐										◐	◐	◐		○	◐	○		
M							○	◐						○	○	◐	◐	◐	○	○	◐	○		
K									○	◐	◐	◐												
N													○	○									○	◐
S														○	○	◐	◐	◐	○				○	◐
H																								

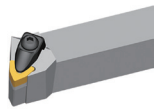
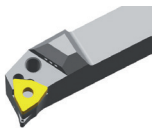
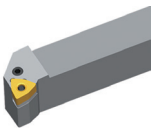
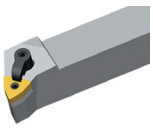
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
WG Raschiante	**WNMG080408-WG**	0,8	0,5-5,0	0,15-0,70			○		○																			
	WNMG080412-WG	1,2	0,8-6,0	0,20-0,75			●		○																			
EF Finitura	**WNMG060404-EF**	0,4	0,1-1,5	0,05-0,30							○									●	○							
	WNMG060408-EF	0,8	0,1-1,5	0,1-0,4							○									●	○							
	WNMG06T308-EF	0,8	0,1-1,5	0,1-0,4																●	○							
	WNMG06T312-EF	1,2	0,1-1,5	0,1-0,35																	○							
	WNMG080404-EF	0,4	0,1-1,5	0,05-0,30							●									●	●							
	WNMG080408-EF	0,8	0,1-1,5	0,1-0,4							●									●	●							
NF Finitura	**WNEG080404-NF**	0,4	0,2-3,0	0,05-0,30														○										
	WNEG080408-NF	0,8	0,2-2,5	0,05-0,30															●									
NF Finitura	**WNMG060408-NF**	0,8	0,2-2,5	0,05-0,30															●									

● In magazzino ○ Su richiesta

disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

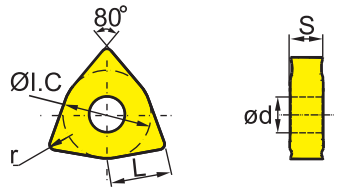
DWLNR/L	PWLNR/LC	PWLNR/L	MWLNR/L	S***-PWLNR/L
Kr: 95°	Kr: 95°	Kr: 95°	Kr: 95°	Kr: 95°
				
A269	A290	A285	A306	A378

Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

WNMG	L	I.C	S	d
06 04	6,5	9,525	4,76	3,81
08 04	8,7	12,7	4,76	5,16



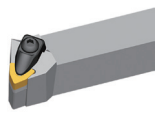
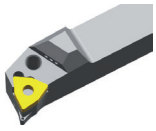
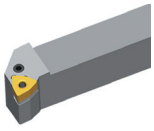
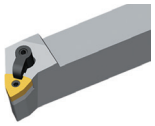
WN** Inserti negativi	HC[1] (CVD)												HC[1] (PVD)							HT		HC[2]	HW	
P	●	●	●	⊛	⊛	⊛										⊛	⊛	⊛		●	⊛	●		
M							○	⊛						○	○	⊛	⊛	⊛	○	○	⊛	○		
K									●	⊛	⊛	⊛												
N													●	●									●	⊛
S														●	●	⊛	⊛	⊛	●				●	⊛
H																								

	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
XF Finitura	**WNMG060404-XF**	0,4	0,5-2,0	0,1-0,25	●																							
	WNMG060408-XF	0,8	0,5-2,0	0,1-0,30	●																							
	WNMG080404-XF	0,4	0,5-2,5	0,1-0,25	●			●																				
	WNMG080408-XF	0,8	0,5-2,5	0,1-0,30	●			●																				
	WNMG080412-XF	1,2	0,5-2,5	0,1-0,35	●			●																				
XMH Media Lavor.	**WNMG060408-XMH**	0,8	1,0-2,1	0,2-0,4	●			●																				
	WNMG060412-XMH	1,2	1,0-2,1	0,2-0,6	●																							
	WNMG080408-XMH	0,8	1,0-2,8	0,2-0,4	○			○																				
	WNMG080412-XMH	1,2	1,0-2,8	0,2-0,6	○			○																				
	WNMG080416-XMH	1,6	1,0-2,8	0,2-0,8	●																							
XM Media Lavor.	**WNMG060404-XM**	0,4	1-2,1	0,2-0,4	●			○																				
	WNMG060408-XM	0,8	1-2,1	0,2-0,4	●			●																				
	WNMG060412-XM	1,2	1-2,1	0,2-0,6	●			●																				
	WNMG080404-XM	0,4	1-2,8	0,2-0,4	●			●																				
	WNMG080408-XM	0,8	1-2,8	0,2-0,4	●			●																				
	WNMG080412-XM	1,2	1-2,8	0,2-0,6	●			●																				
	WNMG080416-XM	1,6	1-2,8	0,2-0,65	○			○																				

● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DWLNR/L	PWLNR/LC	PWLNR/L	MWLNR/L	S***-PWLNR/L
Kr: 95°	Kr: 95°	Kr: 95°	Kr: 95°	Kr: 95°
				
A269	A290	A285	A306	A378

Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

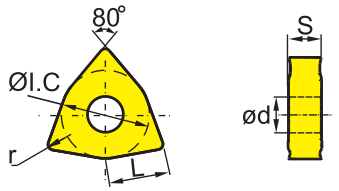
Tornitura generale Inserti negativi

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

WNMG	L	I.C	S	d
06 T3	6,5	9,525	3,97	3,81
06 04	6,5	9,525	4,76	3,81
08 04	8,7	12,7	4,76	5,16

WN** Inserti negativi



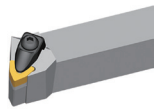
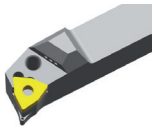
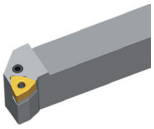
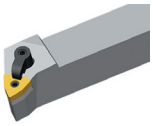
	HC¹ (CVD)												HC¹ (PVD)						HT		HC²		HW	
P	○	○	○	✲	✲	✲										✲	✲	✲	○	✲	○			
M							○	✲						○	○	✲	✲	✲	○	✲	○			
K									○	✲	✲	✲												
N													○	○									○	✲
S														○	○	✲	✲	✲	○				○	✲
H																								

	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
DM Media Lavor.	**WNMG060408-DM**	0,8	0,5-3,0	0,15-0,50			●		●																			
	WNMG060412-DM	1,2	0,8-3,0	0,18-0,60		○			○																			
	WNMG080404-DM	0,4	0,5-4,0	0,1-0,4			○		●																			
	WNMG080408-DM	0,8	0,5-4,0	0,15-0,50		○	●		●	○		●																
	WNMG080412-DM	1,2	0,8-4,0	0,18-0,60		○	●		●																			
	WNMG080416-DM	1,6	1-4	0,23-0,65			●		●																			
EG Media Lavor.	**WNMG080404-EG**	0,4	0,5-3,0	0,10-0,3																		○						
	WNMG080408-EG	0,8	0,5-4,0	0,1-0,4							○	●								●		●						
	WNMG080412-EG	1,2	0,5-4,0	0,1-0,6							○	○								●		●						
EM Media Lavor.	**WNMG060404-EM**	0,4	0,5-3,0	0,05-0,30							○	○								●	○							
	WNMG060408-EM	0,8	0,5-3,0	0,1-0,5							●	●								●	○							
	WNMG06T304-EM	0,4	0,5-3,0	0,05-0,30							○																	
	WNMG06T308-EM	0,8	0,5-3,0	0,1-0,5							○																	
	WNMG06T312-EM	1,2	0,5-3,0	0,1-0,7																○								
	WNMG080404-EM	0,4	1-4	0,05-0,30							●	○								●	●							
	WNMG080408-EM	0,8	1-4	0,1-0,5							●	●								●	●							
	WNMG080412-EM	1,2	1-4	0,1-0,7							●	●								●	○							

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

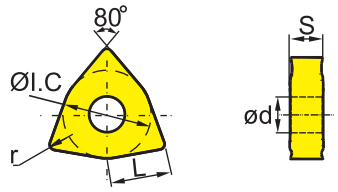
DWLNR/L	PWLNR/LC	PWLNR/L	MWLNR/L	S***-PWLNR/L
Kr: 95°	Kr: 95°	Kr: 95°	Kr: 95°	Kr: 95°
				
A269	A290	A285	A306	A378

Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- ● Buone condizioni di lavorazione
- ✱ Condizioni di lavorazione normali
- ✱ Condizioni di lavorazione sfavorevoli

WNMG	L	I.C	S	d
06 04	6,5	9,525	4,76	3,81
08 04	8,7	12,7	4,76	5,16



WN** Inserti negativi	HC¹ (CVD)											HC¹ (PVD)							HT		HC²	HW	
P	●	●	●	✱	✱	✱									✱	✱	✱		●	✱	●		
M							○	✱					○	○	✱	✱	✱	○	○	✱	○		
K									✱	✱	✱	✱											
N													●	●								●	✱
S														●	✱	✱	✱	●				●	✱
H																							

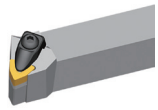
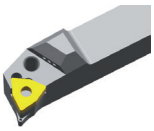
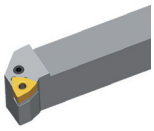
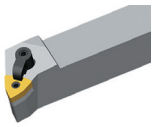
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
PM Media Lavor.	**WNMG060408-PM**	0,8	0,5-3,0	0,15-0,50			○		○				○		○													
	WNMG060412-PM	1,2	0,8-3,0	0,18-0,60			○						○		○													
	WNMG080404-PM	0,4	0,4-4,0	0,12-0,40			○		●				●		○													
	WNMG080408-PM	0,8	0,5-4,0	0,15-0,50			●		●				●		●													
	WNMG080412-PM	1,2	0,8-4,0	0,18-0,60			○		●				○		●													
	WNMG080416-PM	1,6	1-4	0,23-0,65											●													
ZM Media Lavor.	**WNMG060408-ZM**	0,8	0,5-3,0	0,1-0,4		○																						
	WNMG060412-ZM	1,2	0,5-3,0	0,1-0,4		○																						
	WNMG080408-ZM	0,8	0,5-4,0	0,1-0,5		●																						
	WNMG080412-ZM	1,2	1,0-5,5	0,15-0,60		●																						
	WNMG080416-ZM	1,6	1,0-5,5	0,15-0,60		○																						
SNR Sgrossatura	**WNMG080408-SNR**	0,8	1-3	0,1-0,5															○				○					
	WNMG080412-SNR	1,2	1-3	0,2-0,6																			●					

● In magazzino ○ Su richiesta

disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

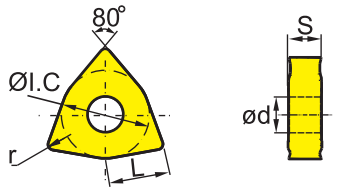
DWLNR/L	PWLNR/LC	PWLNR/L	MWLNR/L	S***-PWLNR/L
Kr: 95°	Kr: 95°	Kr: 95°	Kr: 95°	Kr: 95°
				
A269	A290	A285	A306	A378

Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

WNMG	L	I.C	S	d
08 04	8,7	12,7	4,76	5,16



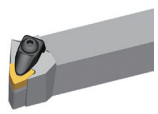
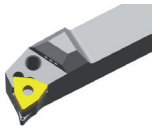
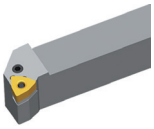
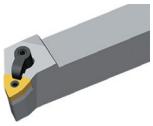
WN** Inserti negativi	HC[1] (CVD)												HC[1] (PVD)						HT		HC[2]		HW			
P	●	●	●	⊛	⊛	⊛										⊛	⊛	⊛	●	⊛	●					
M								○	⊛					○	○	⊛	⊛	⊛	○	⊛	○					
K										●	⊛	⊛	⊛													
N														●	●								●	⊛		
S														●	●	⊛	⊛	⊛	●				●	⊛		
H																										

	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
NM Media Lavor.	**WNMG080404-NM**	0,4	0,2-3,0	0,05-0,30															●				●					
	WNMG080408-NM	0,8	0,2-3,0	0,1-0,3															●	○								
	WNMG080412-NM	1,2	0,2-4,0	0,1-0,4															●									
TC Media Lavor.	**WNMG080404-TC**	0,4	0,5-3,0	0,08-0,25										●		○												
	WNMG080408-TC	0,8	0,5-4,0	0,15-0,40										●		●												
	WNMG080412-TC	1,2	0,5-4,0	0,2-0,6										●		●												
TK Media Lavor.	**WNMG080408-TK**	0,8	0,5-4,0	0,15-0,40										●														
	WNMG080412-TK	1,2	0,5-4,0	0,2-0,6										○														

● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DWLNR/L	PWLNR/LC	PWLNR/L	MWLNR/L	S***-PWLNR/L
Kr: 95°	Kr: 95°	Kr: 95°	Kr: 95°	Kr: 95°
				
A269	A290	A285	A306	A378

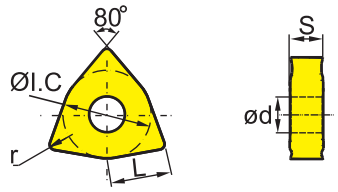
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

WN**	L	I.C	S	d
06 04	6,5	9,525	4,76	3,81
08 04	8,7	12,7	4,76	5,16

WN** Inserti negativi



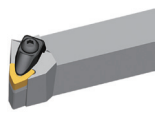
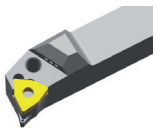
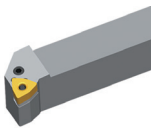
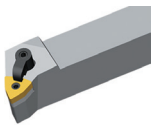
	HC¹ (CVD)												HC¹ (PVD)							HT		HC²	HW	
P	●	●	●	⊛	⊛	⊛										⊛	⊛	⊛		●	⊛	●		
M								○	⊛					○	○	⊛	⊛	⊛	○	○	⊛	○		
K										●	⊛	⊛	⊛											
N														●	●								●	⊛
S															○	○	⊛	⊛	⊛	○			○	⊛
H																								

	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
DR Sgrossatura	**WNMG060408-DR**	0,8	0,7-3,5	0,20-0,45			○		○				○		●													
	WNMG060412-DR	1,2	0,8-3,5	0,25-0,55			○		○				○		○													
	WNMG080408-DR	0,8	0,7-5,0	0,20-0,55			●		●	○			○		●													
	WNMG080412-DR	1,2	1-5	0,25-0,70		○	○		●	●			●		●													
	WNMG080416-DR	1,6	1,5-5,0	0,32-0,75			○		●				○		○													
XLR Sgrossatura	**WNMG080416-XLR**	1,6	2-6	0.2-0.7	●			●																				
Flat	**WNMA060408**	0,8	0,5-3,0	0,1-0,3											○													
	WNMA080404	0,4	0,5-4,0	0,08-0,25									○		○	○												
	WNMA080408	0,8	0,5-4,0	0,15-0,30									●		●	○												
	WNMA080412	1,2	0,5-5,0	0,15-0,30									○	○	○	●												
	WNMA080416	1,6	0,5-5,0	0,2-0,5										○		○												

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DWLNR/L	PWLNR/LC	PWLNR/L	MWLNR/L	S***-PWLNR/L
Kr: 95°	Kr: 95°	Kr: 95°	Kr: 95°	Kr: 95°
				
A269	A290	A285	A306	A378

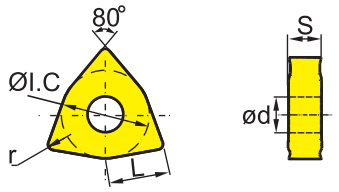
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Tornitura generale Inserti negativi

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

WNEG	L	I.C	S	d
08 04	8,7	12,7	4,76	5,16

WN** Inserti negativi



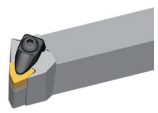
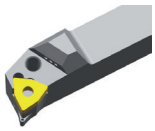
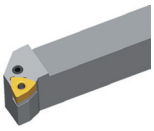
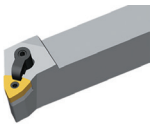
	HC¹ (CVD)												HC¹ (PVD)						HT		HC²	HW	
	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
P	○	○	○	⊛	⊛	❁										⊛	⊛	⊛		○	⊛	○		
M							○	⊛						○	○	⊛	⊛	⊛	○	○	⊛	○		
K									○	⊛	⊛	⊛												
N													○	○									○	⊛
S														○	○	⊛	⊛	⊛	○				○	⊛
H																								

	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
LH	**WNEG080404-LH**	0,4	1,5-5,0	0,15-0,30																	●						●	
	WNEG080408-LH	0,8	1,5-5,0	0,20-0,50																	●						●	
	WNEG080412-LH	1,2	1,5-5,0	0,25-0,60																	●						●	
Lavorazione Al.																												

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

DWLNR/L	PWLNR/LC	PWLNR/L	MWLNR/L	S***-PWLNR/L
Kr: 95°	Kr: 95°	Kr: 95°	Kr: 95°	Kr: 95°
				
A269	A290	A285	A306	A378

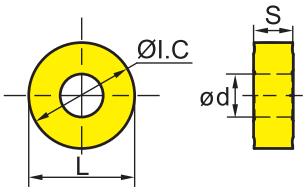
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

RNMG	L	I.C	S	d
12 04	12,7	12,7	4,76	5,16

RN** Inserti negativi



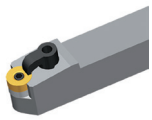
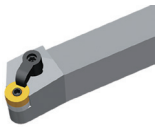
	HC¹ (CVD)											HC¹ (PVD)							HT		HC²	HW	
	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
P	●	●	●	✱	✱	✱										✱	✱	✱		●	✱	●		
M							○	✱						○	○	✱	✱	✱	○	○	✱	○		
K									●	✱	✱	✱												
N													●	●									●	✱
S														○	○	✱	✱	✱	○				○	✱
H																								

	ISO	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
Basic Media Lavor.	**RNMG120400**	0,5-7,0	0,1-1,8											○	○												

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

MRDNN	MRGNR/L
	
A307	A308

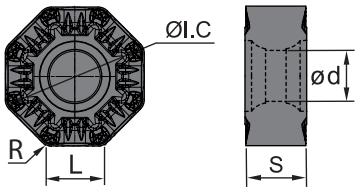
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

ONMX	L	I.C	S	d
05 05	5,96	12,7	5,56	4,64

ON** Inserti negativi



	HC[1] (CVD)												HC[1] (PVD)						HT		HC[2]		HW		
P	●	●	●	⊛	⊛	⊛									⊛	⊛	⊛		●	⊛	●				
M							○	⊛					○	○	⊛	⊛	⊛	○	○	⊛	○				
K									●	⊛	⊛	⊛													
N													●	●									●	⊛	
S													●	●	⊛	⊛	⊛	●					●	⊛	
H																									

	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
XH	**ONMX050512-XH**	1,2	0,5 -1,5	0,4 – 1,5	●			●																				
Finitura																												

● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

Portautensile
SOXNR/L
Kr: 23°

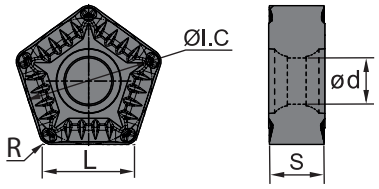
A332

Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

PNMX	L	I.C	S	d
09 05	9,77	12,7	5,56	4,64



PN** Inserti negativi	HC¹ (CVD)											HC¹ (PVD)							HT		HC²	HW	
	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
P	○	○	○	✲	✲	✲										✲	✲	✲		○	✲	○		
M							○	✲						○	○	✲	✲	✲	○	○	✲	○		
K									○	✲	✲	✲												
N													○	○									○	✲
S														○	○	✲	✲	✲	○				○	✲
H																								

	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
XH	**PNMX090512-XH**	1,2	1,0 -3,0	0,4 – 1,5	●			●																				
Media Lavor.																												

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile
SPXNR/L
Kr: 23°

A333

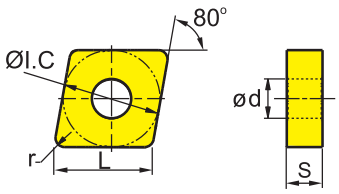
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

CN**	L	I.C	S	d
19 07	19,3	19,05	7,94	7,93
19 11	19,3	19,05	11	7,8

CN** Inserti negativi



	HC¹ (CVD)												HC¹ (PVD)						HT		HC²	HW	
P	●	●	●	❊	❊	❊										❊	❊	❊	●	❊	●		
M							○	❊						○	○	❊	❊	❊	○	❊	○		
K									●	❊	❊	❊											
N													●	●								●	❊
S														●	○	❊	❊	❊	○			○	❊
H																							

	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
RF Finitura	**CNMG191140-RF**	4	1,0-5,5	0,20-0,60			○																					
RF Finitura	**CNMM190740-RF**	4	1,0-5,5	0,20-0,60			○																					
	CNMM191140-RF	4	1,0-5,5	0,20-0,60			○																					
RH Sgrossatura	**CNMM190740-RH**	4	1,5-7,0	0,35-1,20			○		●																			
	CNMM191140-RH	4	1,5-7,0	0,35-1,20			○		●																			

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile
PCLNR/L
Kr: 95°

A364

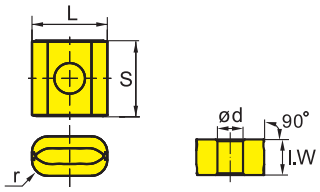
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

LNUX	L	I.C	S	d
19 19	19,05	10	19,05	6,35
30 19	30	10	19,05	6,35

LN** Inserti negativi		HC¹ (CVD)												HC¹ (PVD)							HT		HC²		HW	
		YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C		YD101	YD201
P		○	○	○	✱	✱	✱										✱	✱	✱		○	✱	○			
M								○	✱						○	○	✱	✱	✱	○	○	✱	○			
K										●	✱	✱	✱													
N														●	●										●	✱
S															●	●	✱	✱	✱	●					●	✱
H																										



	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
Alta asp.	**LNUX191940-RR**	4	1,5-7,0	0,35-1,2	●				●																			
	LNUX301940-RR	4	1,5-8,0	0,35-1,4	●				●																			
RF Alta asp.	**LNUX191940-RF**	4	1,0-5,5	0,20-0,60	○		●		●																			
	LNUX301940-RF	4	1,0-6,0	0,20-0,70	○		●		●																			
RH Alta asp.	**LNUX191940-RH**	4	1,5-7,0	0,35-1,20			●		●																			
	LNUX301940-RH	4	1,5-8,0	0,35-1,40			●		●																			

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile	
RW-PLANR/L	**RW-PLFNR/L**
Kr: 90°	Kr: 90°
A362	A363

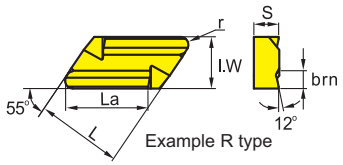
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

KNUX	L	I.W	S
16 04	16,15	9,525	4,76

KN** Inserti negativi



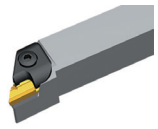
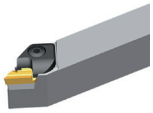
	HC¹ (CVD)												HC¹ (PVD)						HT		HC²	HW	
P	●	●	●	✱	✱	✱										✱	✱	✱	●	✱	●		
M							○	✱					○	○	✱	✱	✱	○	○	✱	○		
K									●	✱	✱	✱											
N													●	●								●	✱
S													●	●	✱	✱	✱	●				●	✱
H																							

	ISO	La	brn	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
KNUX	**KNUX160405L11**	16	2,2	0,5	0,2-6,0	0,05-0,70					●																			
	KNUX160405R11	16	2,2	0,5	0,2-6,0	0,05-0,70					●																			○
	KNUX160410L12	16	2,2	1	0,2-6,0	0,05-0,70			○																					
	KNUX160410R11	16	2,2	1	0,2-6,0	0,05-0,70					●																			
Finitura																														

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

CKJNR/L	CKNNR/L
Kr: 93°	Kr: 63°
	
A334	A335

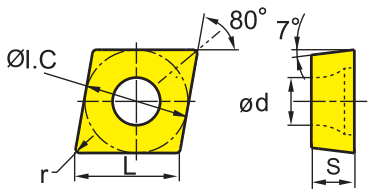
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

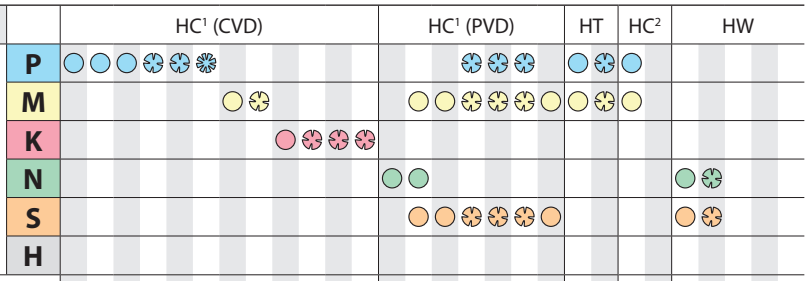
CCGT	L	I.C	S	d
06 02	6,4	6,35	2,38	2,8
09 T3	9,7	9,525	3,97	4,4
12 04	12,9	12,7	4,76	5,56

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

CC** Inserti positivi



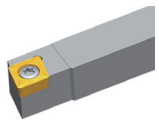
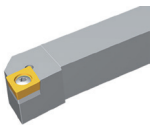
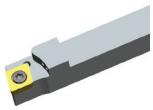
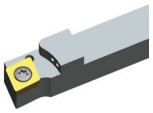
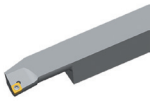


	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
QF Finitura	**CCGT060201-QF**	0,1	0,05-0,2	0,03-0,1																	○							
	CCGT060202-QF	0,2	0,1-0,5	0,05-0,2																	○							
	CCGT060204-QF	0,4	0,4-1,0	0,1-0,3																	●							
	CCGT09T301-QF	0,1	0,05-0,2	0,03-0,1																	●							
	CCGT09T302-QF	0,2	0,1-0,5	0,05-0,2																	●					●		
	CCGT09T304-QF	0,4	0,4-1,0	0,1-0,3																	●					●		
	CCGT09T308-QF	0,8	0,5-2,0	0,15-0,35																	●					●		
SF Finitura	**CCGT060202-SF**	0,2	0,05-2,00	0,05-0,18																				●		●		
	CCGT060204-SF	0,4	0,05-2,00	0,05-0,35																				●	●	●		
	CCGT09T302-SF	0,2	0,05-0,5	0,05-0,3																				○		●		
	CCGT09T304-SF	0,4	0,05-2,00	0,05-0,35																				●	●	●		
	CCGT120404-SF	0,4	0,1-1	0,05-0,3																					○			

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

SCACR/L	SCLCR/L	SCACR/L-SC	SCLCR/L-SC	A***-SCLCR/L	S***-SCFCR/L	S***-SCLCR
Kr: 90°	Kr: 95°	Kr: 90°	Kr: 95°	Kr: 95°	Kr: 90°	Kr: 95°
						
A309	A310	A350	A351	A379	A398	A399

E***-SCLCR/L
Kr: 95°
A401

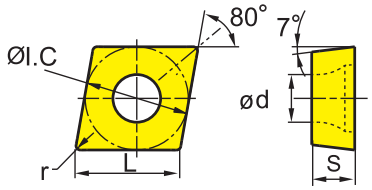
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

CCGT	L	I.C	S	d
06 02	6,4	6,35	2,38	2,8
09 T3	9,7	9,525	3,97	4,4
12 04	12,9	12,7	4,76	5,56

CC** Inserti positivi



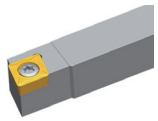
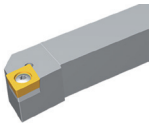
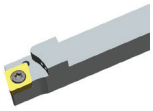
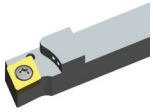
	HC¹ (CVD)												HC¹ (PVD)						HT		HC²	HW	
P	○	○	○	❁	❁	❁										❁	❁	❁	○	❁	○		
M							○	❁						○	○	❁	❁	❁	○	❁	○		
K									○	❁	❁	❁											
N													○	○								○	❁
S														○	○	❁	❁	❁	○			○	❁
H																							

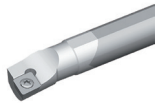
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
USF Finitura	**CCGT060202L-USF**	0,2	0,05-2,00	0,05-0,18																○								
	CCGT060204L-USF	0,4	0,05-2,00	0,05-0,35																○								
	CCGT09T301L-USF	0,1	0,2-2,0	0,01-0,08																		●						
	CCGT09T302L-USF	0,2	0,2-2,0	0,05-0,18																●								
	CCGT09T304L-USF	0,4	0,2-2,0	0,05-0,20																○								
	CCGT120404L-USF	0,4	0,5-2,0	0,08-0,2																○								
USF Finitura	**CCGT09T302R-USF**	0,2	0,2-2,0	0,05-0,18																○								
	CCGT09T304R-USF	0,4	0,2-2,0	0,05-0,20																○								

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

SCACR/L	SCLCR/L	SCACR/L-SC	SCLCR/L-SC	A***-SCLCR/L	S***-SCFCR/L	S***-SCLCR
Kr: 90°	Kr: 95°	Kr: 90°	Kr: 95°	Kr: 95°	Kr: 90°	Kr: 95°
						
A309	A310	A350	A351	A379	A398	A399

E***-SCLCR/L
Kr: 95°

A401

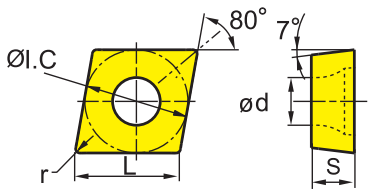
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

CCMT	L	I.C	S	d
06 02	6,4	6,35	2,38	2,8
09 T3	9,7	9,525	3,97	4,4
12 04	12,9	12,7	4,76	5,56

CC** Inserti positivi



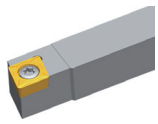
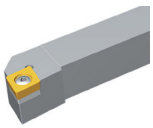
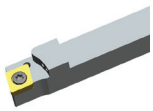
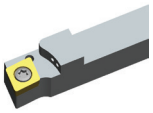
	HC¹ (CVD)											HC¹ (PVD)							HT		HC²	HW	
P	○	○	○	❁	❁	❁									❁	❁	❁		○	❁	○		
M								○	❁				○	○	❁	❁	❁	○	○	❁	○		
K										○	❁	❁	❁										
N												○	○									○	❁
S													○	○	❁	❁	❁	○				○	❁
H																							

	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
AHF Finitura	**CCMT060204-AHF**	0,4	0,2-2,5	0,05-0,20		●																●	●		●			
	CCMT060208-AHF	0,8	0,3-2,5	0,05-0,30		○																●						
	CCMT09T302-AHF	0,2	0,08-2,00	0,04-0,15																						●		
	CCMT09T304-AHF	0,4	0,2-3,0	0,05-0,30		●														○		●	○		●			
	CCMT09T308-AHF	0,8	0,3-3,0	0,05-0,40		●														○		●			●			
	CCMT120404-AHF	0,4	0,5-4,0	0,05-0,30		○														○		●						
	CCMT120408-AHF	0,8	0,8-4,0	0,08-0,40																		●						
HF Finitura	**CCMT060202-HF**	0,2	0,06-1,70	0,03-0,11			○																					
	CCMT060204-HF	0,4	0,1-1,7	0,05-0,17			●		●						○													
	CCMT060208-HF	0,8	0,1-1,7	0,05-0,30			○		○																			
	CCMT09T302-HF	0,2	0,08-2,00	0,04-0,15			○		○															○				
	CCMT09T304-HF	0,4	0,11-2,00	0,06-0,23			●																					
	CCMT09T308-HF	0,8	0,15-2,00	0,08-0,30			○		○						○													
	CCMT120404-HF	0,4	0,14-2,40	0,07-0,27			○		○																			
	CCMT120408-HF	0,8	0,2-3,0	0,08-0,30			○		○																			

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

SCACR/L	SCLCR/L	SCACR/L-SC	SCLCR/L-SC	A***-SCLCR/L	S***-SCFCR/L	S***-SCLCR
Kr: 90°	Kr: 95°	Kr: 90°	Kr: 95°	Kr: 95°	Kr: 90°	Kr: 95°
						
A309	A310	A350	A351	A379	A398	A399

E***-SCLCR/L
Kr: 95°
A401

Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

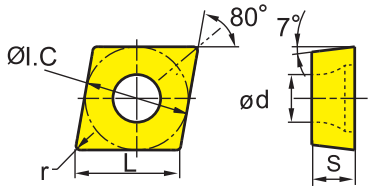
Tornitura generale Inserti positivi

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

CCMT	L	I.C	S	d
06 02	6,4	6,35	2,38	2,8
09 T3	9,7	9,525	3,97	4,4
12 04	12,9	12,7	4,76	5,56

CC** Inserti positivi



	HC¹ (CVD)												HC¹ (PVD)						HT		HC²	HW	
	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
P	○	○	○	✲	✲	✲										✲	✲	✲		○	✲	○		
M							○	✲						○	○	✲	✲	✲	○	○	✲	○		
K									○	✲	✲	✲												
N													○	○									○	✲
S														○	○	✲	✲	✲	○				○	✲
H																								

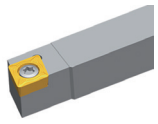
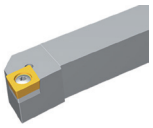
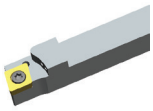
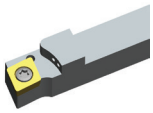
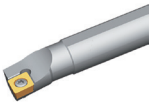
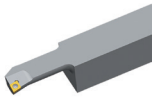
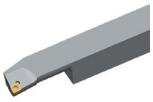
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
EF Finitura	**CCMT060202-EF**	0,2	0,06-1,70	0,03-0,11							●									●	○							
	CCMT060204-EF	0,4	0,1-1,7	0,05-0,17							●									●	●							
	CCMT09T302-EF	0,2	0,08-2,00	0,04-0,15							○									●	○							
	CCMT09T304-EF	0,4	0,11-2,00	0,06-0,23							●								○	●	●							
	CCMT09T308-EF	0,8	0,15-2,00	0,08-0,30							○								○	●	○							
	CCMT120404-EF	0,4	0,14-2,40	0,07-0,27							○									●	○							
	CCMT120408-EF	0,8	0,2-3,0	0,1-0,3							○									●	○							
XF Finitura	**CCMT060204-XF**	0,4	0,5-1,5	0,08-0,15	●																							
	CCMT060208-XF	0,8	0,5-1,5	0,08-0,20	●																							
	CCMT09T302-XF	0,2	0,5-2,0	0,08-0,15	●			●																				
	CCMT09T304-XF	0,4	0,5-2,0	0,08-0,2	●																							
	CCMT09T308-XF	0,8	0,5-2,0	0,08-0,25	●			○																				

● In magazzino ○ Su richiesta

disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

SCACR/L	SCLCR/L	SCACR/L-SC	SCLCR/L-SC	A***-SCLCR/L	S***-SCFCR/L	S***-SCLCR
Kr: 90°	Kr: 95°	Kr: 90°	Kr: 95°	Kr: 95°	Kr: 90°	Kr: 95°
						
A309	A310	A350	A351	A379	A398	A399

E***-SCLCR/L
Kr: 95°
A401

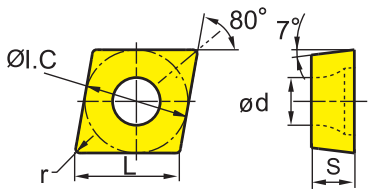
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

CCMT	L	I.C	S	d
06 02	6,4	6,35	2,38	2,8
09 T3	9,7	9,525	3,97	4,4
12 04	12,9	12,7	4,76	5,56

CC** Inserti positivi



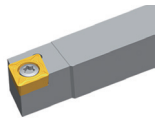
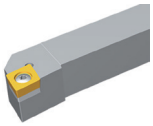
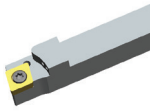
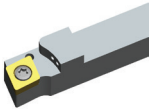
	HC[1] (CVD)											HC[1] (PVD)							HT		HC[2]	HW	
P	○	○	○	❁	❁	❁									❁	❁	❁		○	❁	○		
M							○	❁				○	○	❁	❁	❁	○	○	❁	○			
K									●	❁	❁	❁											
N												●	●									●	❁
S													●	●	❁	❁	❁	●				●	❁
H																							

	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
EM Media Lavor.	**CCMT060204-EM**	0,4	0,2-2,4	0,06-0,17							●	●								●	●							
	CCMT060208-EM	0,8	0,4-2,4	0,08-0,23							●	○								●	●							
	CCMT09T304-EM	0,4	0,25-3,00	0,08-0,23							●	●								●	●							
	CCMT09T308-EM	0,8	0,5-3,0	0,1-0,3							●	●								●	●							
	CCMT120404-EM	0,4	0,3-3,6	0,09-0,27								○								●	●							
	CCMT120408-EM	0,8	0,6-3,6	0,12-0,36							○	○								●								
	CCMT120412-EM	1,2	0,72-3,60	0,14-0,43								○																

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

SCACR/L	SCLCR/L	SCACR/L-SC	SCLCR/L-SC	A***-SCLCR/L	S***-SCFCR/L	S***-SCLCR
Kr: 90°	Kr: 95°	Kr: 90°	Kr: 95°	Kr: 95°	Kr: 90°	Kr: 95°
						
A309	A310	A350	A351	A379	A398	A399

E***-SCLCR/L
Kr: 95°
A401

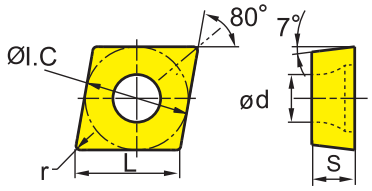
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

CCMT	L	I.C	S	d
09 T3	9,7	9,525	3,97	4,4
12 04	12,9	12,7	4,76	5,56

CC** Inserti positivi



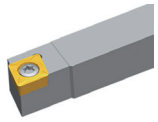
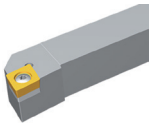
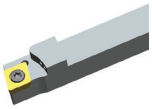
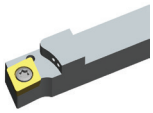
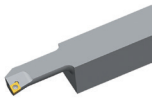
	HC¹ (CVD)												HC¹ (PVD)						HT		HC²		HW			
P	○	○	○	❁	❁	❁									❁	❁	❁		○	❁	○					
M							◐	❁					◐	◐	❁	❁	❁	◐	◐	❁	◐					
K									●	❁	❁	❁														
N													●	●									●	❁		
S													●	●	❁	❁	❁	●					●	❁		
H																										

	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
XM Media Lavor.	**CCMT09T304-XM**	0,4	1-2,5	0,15-0,3	●			○																				
	CCMT09T308-XM	0,8	1-2,5	0,15-0,35	●			●																				
	CCMT09T312-XM	1,2	1-2,5	0,15-0,4	●			●																				
	CCMT120404-XM	0,4	1-3,0	0,15-0,3	○			○																				
	CCMT120408-XM	0,8	1-3,0	0,15-0,35	○			○																				
	CCMT120412-XM	1,2	1-3,0	0,15-0,4	○			○																				

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

SCACR/L	SCLCR/L	SCACR/L-SC	SCLCR/L-SC	A***-SCLCR/L	S***-SCFCR/L	S***-SCLCR
Kr: 90°	Kr: 95°	Kr: 90°	Kr: 95°	Kr: 95°	Kr: 90°	Kr: 95°
						
A309	A310	A350	A351	A379	A398	A399

E***-SCLCR/L
Kr: 95°
A401

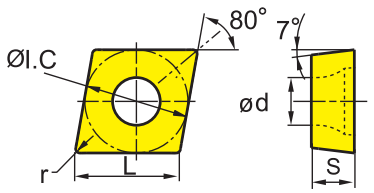
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

CCMT	L	I.C	S	d
06 02	6,4	6,35	2,38	2,8
09 T3	9,7	9,525	3,97	4,4
12 04	12,9	12,7	4,76	5,56

CC** Inserti positivi



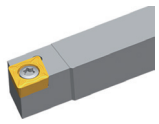
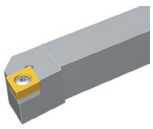
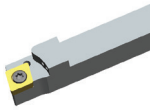
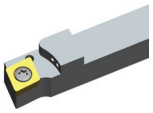
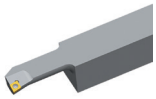
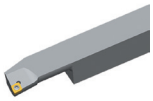
	HC¹ (CVD)											HC¹ (PVD)							HT		HC²	HW	
P	○	○	○	❁	❁	❁								❁	❁	❁			○	❁	○		
M							○	❁				○	○	❁	❁	❁	○		○	❁	○		
K									●	❁	❁	❁											
N												○	○									○	❁
S												●	●	❁	❁	❁	●					●	❁
H																							

	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
HM Media Lavor.	**CCMT060204-HM**	0,4	0,2-2,4	0,06-0,17			●		●			●	●		●													
	CCMT060208-HM	0,8	0,2-3,0	0,08-0,20			●		●				●		○													
	CCMT09T304-HM	0,4	0,25-3,00	0,08-0,23								●																
	CCMT09T308-HM	0,8	0,5-3,0	0,1-0,3			●		●			●	●		●													
	CCMT120404-HM	0,4	0,3-3,6	0,09-0,27			○		●				○		●													
	CCMT120408-HM	0,8	0,6-3,6	0,12-0,36			●		●				●		●													
	CCMT120412-HM	1,2	0,72-3,60	0,14-0,43			○		○				○															

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

SCACR/L	SCLCR/L	SCACR/L-SC	SCLCR/L-SC	A***-SCLCR/L	S***-SCFCR/L	S***-SCLCR
Kr: 90°	Kr: 95°	Kr: 90°	Kr: 95°	Kr: 95°	Kr: 90°	Kr: 95°
						
A309	A310	A350	A351	A379	A398	A399

E***-SCLCR/L
Kr: 95°
A401

Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

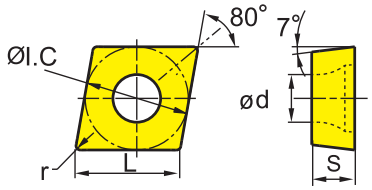
Tornitura generale Inserti positivi

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

CC**	L	I.C	S	d
06 02	6,4	6,35	2,38	2,8
09 T3	9,7	9,525	3,97	4,4
12 04	12,9	12,7	4,76	5,56

CC** Inserti positivi



	HC¹ (CVD)												HC¹ (PVD)						HT		HC²		HW		
	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201	
P	●	●	●	✱	✱	✱										✱	✱	✱		●	✱	●			
M							●	✱						●	●	✱	✱	✱	●	●	✱	●			
K									●	✱	✱	✱													
N													●	●									●	✱	
S														●	●	✱	✱	✱	●				●	✱	
H																									

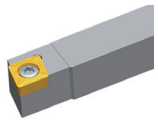
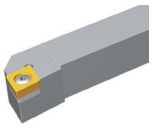
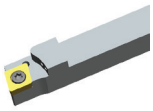
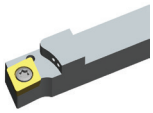
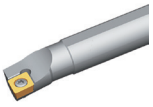
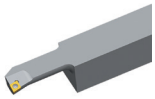
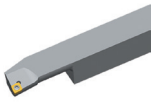
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
Basic Media Lavor.	**CCMW09T304**	0,4	0,1-5,0	0,05-0,50																								○
	CCMW120404	0,4	0,2-5,0	0,05-0,50																							○	○
	CCMW120408	0,8	0,5-5,0	0,08-0,50											○													
TC Media Lavor.	**CCMT060204-TC**	0,4	0,5-3,0	0,1-0,3										○		○												
	CCMT09T304-TC	0,4	0,5-3,0	0,1-0,3										○		●												
	CCMT09T308-TC	0,8	0,5-3,0	0,1-0,4										●		●												
	CCMT120404-TC	0,4	1-4	0,1-0,3										●		●												
	CCMT120408-TC	0,8	1-4	0,1-0,4										●		●												
HR Sgrossatura	**CCMT060204-HR**	0,4	0,5-3,0	0,05-0,24			○		○																			
	CCMT060208-HR	0,8	0,8-3,2	0,09-0,26			○		○						○													
	CCMT09T304-HR	0,4	0,2-4,0	0,05-0,30			●		●																			
	CCMT09T308-HR	0,8	1-4	0,12-0,35			○		●				○		●													
	CCMT120408-HR	0,8	1,2-4,8	0,14-0,42			○		○				○		●													
	CCMT120412-HR	1,2	1,5-4,8	0,17-0,50			○		○				○															

● In magazzino ○ Su richiesta

disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

SCACR/L	SCLCR/L	SCACR/L-SC	SCLCR/L-SC	A***-SCLCR/L	S***-SCFCR/L	S***-SCLCR
Kr: 90°	Kr: 95°	Kr: 90°	Kr: 95°	Kr: 95°	Kr: 90°	Kr: 95°
						
A309	A310	A350	A351	A379	A398	A399

E***-SCLCR/L
Kr: 95°
A401

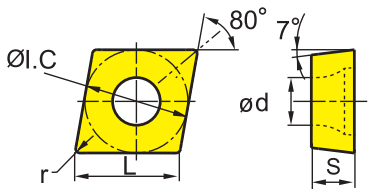
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

CCGX	L	I.C	S	d
06 02	6,4	6,35	2,38	2,8
09 T3	9,7	9,525	3,97	4,4
12 04	12,9	12,7	4,76	5,56

CC** Inserti positivi



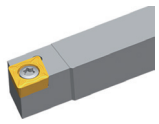
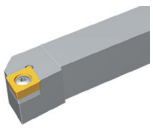
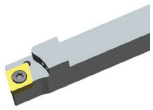
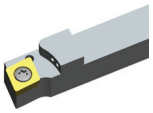
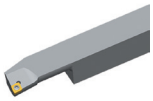
	HC¹ (CVD)											HC¹ (PVD)							HT		HC²		HW	
P	○	○	○	❁	❁	❁									❁	❁	❁		○	❁	○			
M								○	❁				○	○	❁	❁	❁	○	○	❁	○			
K										○	❁	❁	❁											
N												○	○										○	❁
S													○	○	❁	❁	❁	○					○	❁
H																								

	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
LC Lavorazione Al.	**CCGX060202-LC**	0,2	0,3-3,0	0,05-0,15													●										●	
	CCGX060204-LC	0,4	0,5-3,0	0,1-0,3													●										●	
	CCGX09T302-LC	0,2	0,5-4,0	0,1-0,2													●										●	
	CCGX09T304-LC	0,4	0,5-5,0	0,1-0,3													●										●	
	CCGX09T308-LC	0,8	0,5-5,0	0,15-0,60													●										●	
	CCGX120404-LC	0,4	0,5-7,0	0,1-0,3													●										●	
	CCGX120408-LC	0,8	0,5-7,0	0,15-0,60													●										●	

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

SCACR/L	SCLCR/L	SCACR/L-SC	SCLCR/L-SC	A***-SCLCR/L	S***-SCFCR/L	S***-SCLCR
Kr: 90°	Kr: 95°	Kr: 90°	Kr: 95°	Kr: 95°	Kr: 90°	Kr: 95°
						
A309	A310	A350	A351	A379	A398	A399

E***-SCLCR/L
Kr: 95°
A401

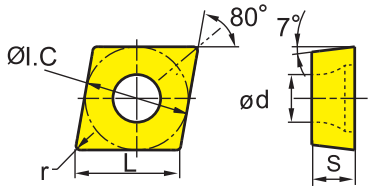
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

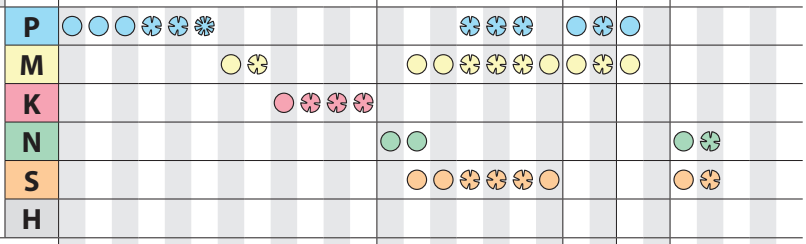
Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

CCGX	L	I.C	S	d
06 02	6,4	6,35	2,38	2,8
09 T3	9,7	9,525	3,97	4,4
12 04	12,9	12,7	4,76	5,56

CC** Inserti positivi



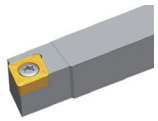
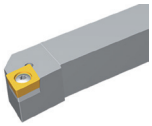
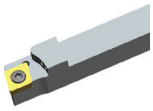
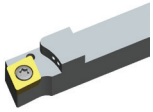


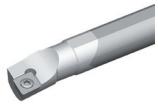
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
LH Lavorazione Al.	**CCGX060202-LH**	0,2	0,3-3,0	0,05-0,15														●									●	
	CCGX060204-LH	0,4	0,5-3,0	0,1-0,3														●									●	
	CCGX060208-LH	0,8	0,6-3,0	0,15-0,40																							●	
	CCGX09T301-LH	0,1	0,1-1,0	0,04-0,15														○										
	CCGX09T302-LH	0,2	0,4-5,0	0,05-0,15														●									●	
	CCGX09T304-LH	0,4	0,5-5,0	0,1-0,3														●									●	
	CCGX09T308-LH	0,8	0,5-5,0	0,15-0,60														●									●	
	CCGX120402-LH	0,2	0,4-7,0	0,05-0,15														○									○	
	CCGX120404-LH	0,4	0,5-7,0	0,1-0,3														●									●	
	CCGX120408-LH	0,8	0,5-7,0	0,15-0,60														●									●	
	CCGX120412-LH	1,2	0,5-7,0	0,15-0,80																							●	

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

SCACR/L	SCLCR/L	SCACR/L-SC	SCLCR/L-SC	A***-SCLCR/L	S***-SCFCR/L	S***-SCLCR
Kr: 90°	Kr: 95°	Kr: 90°	Kr: 95°	Kr: 95°	Kr: 90°	Kr: 95°
						
A309	A310	A350	A351	A379	A398	A399

E***-SCLCR/L
Kr: 95°

A401

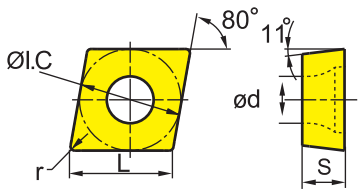
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

CP**	L	I.C	S	d
06 02	6,4	6,35	2,38	2,8
09 T3	9,7	9,525	3,97	4,4

CP** Inserti positivi



	HC¹ (CVD)												HC¹ (PVD)							HT		HC²	HW	
	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
P	●	●	●	⊛	⊛	⊛										⊛	⊛	⊛		●	⊛	●		
M							○	⊛						○	○	⊛	⊛	⊛	○	○	⊛	○		
K									●	⊛	⊛	⊛												
N													●	●									●	⊛
S														●	●	⊛	⊛	⊛	●				●	⊛
H																								

	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
HF Finitura	**CPMT060204-HF**	0,4	0,1-1,5	0,04-0,18			○								○					○								
	CPMT060208-HF	0,8	0,1-1,5	0,05-0,25																○								
SF Finitura	**CPGT060202-SF**	0,2	0,05-2,00	0,05-0,25																				○		○		
	CPGT060204-SF	0,4	0,05-2,00	0,05-0,35																				○		○		
	CPGT09T304-SF	0,4	0,05-2,00	0,05-0,35																				○		○		
Flat Media Lavor.	**CPGW060204**	0,4	0,5-1,5	0,05-0,40																							○	
HM Media Lavor.	**CPMT09T308-HM**	0,8	0,2-3,5	0,10-0,55					●																			

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

S***-SCLPR/L	C***-SCLPR/L
Kr: 95°	Kr: 95°
A394	A400

Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

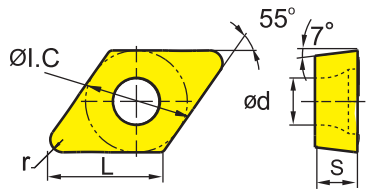
Tornitura generale Inserti positivi

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

DCGT	L	I.C	S	d
07 02	7,8	6,35	2,38	2,8
11 T3	11,6	9,525	3,97	4,4

DC** Inserti positivi



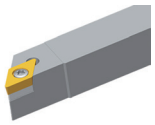
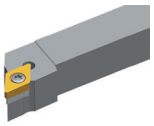
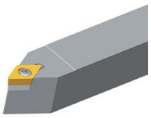
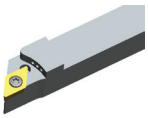
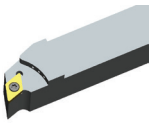
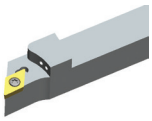
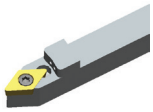
	HC¹ (CVD)												HC¹ (PVD)						HT		HC²		HW	
	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
P	●	●	●	⊛	⊛	⊛										⊛	⊛	⊛		●	⊛	●		
M							○	⊛						○	○	⊛	⊛	⊛	○	○	⊛	○		
K									●	⊛	⊛	⊛												
N													●	●									●	⊛
S														●	●	⊛	⊛	⊛	●				●	⊛
H																								

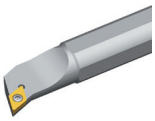
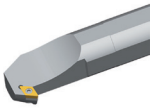
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
QF Finitura	**DCGT070201-QF**	0,1	0,05-0,2	0,03-0,1																	●							
	DCGT070202-QF	0,2	0,1-0,5	0,05-0,2																	●							
	DCGT070204-QF	0,4	0,4-1,0	0,1-0,3																	●							
	DCGT11T301-QF	0,1	0,05-0,2	0,03-0,1																	●							
	DCGT11T302-QF	0,2	0,1-0,5	0,05-0,2																	●	●				●		
	DCGT11T304-QF	0,4	0,4-1,0	0,1-0,3																	●	●				●		
	DCGT11T308-QF	0,8	0,5-2,0	0,15-0,35																	●					●		
SF Finitura	**DCGT070202-SF**	0,2	0,05-1,50	0,05-0,15																				●	●	○		
	DCGT070204-SF	0,4	0,05-1,50	0,05-0,20																				○		●		
	DCGT070208-SF	0,8	0,05-1,50	0,05-0,30																						○		
	DCGT11T302-SF	0,2	0,05-2,00	0,05-0,15														○						○	●	●		
	DCGT11T304-SF	0,4	0,05-2,00	0,05-0,20																				●	●	●		
	DCGT11T308-SF	0,8	0,05-2,00	0,05-0,30																				●	○	●		

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

SDACR/L	SDJCR/L	SDNCN	SDACR/L-SC	SDHCR/L-SC	SDJCR/L-SC	SDNCN-SC
Kr: 90°	Kr: 93°	Kr: 62°30'	Kr: 90°	Kr: 107°30'	Kr: 93°	Kr: 62°30'
						
A311	A312	A313	A352	A353	A354	A355

S***-SDQCR/L	A***-SDUCR/L	S***-SDZCR/L	E***-SDUCR/L	E***-SDQCR/L
Kr: 107°30'	Kr: 93°	Kr: 85°	Kr: 93°	Kr: 107°30'
				
A381	A382	A383	A405	A403

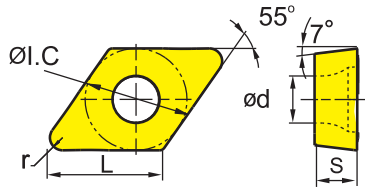
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

DCGT	L	I.C	S	d
07 02	7,8	6,35	2,38	2,8
11 T3	11,6	9,525	3,97	4,4

DC** Inserti positivi



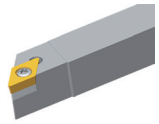
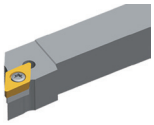
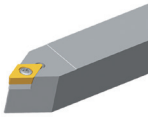
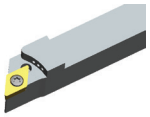
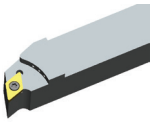
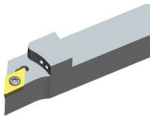
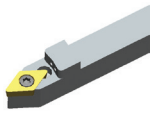
	HC¹ (CVD)												HC¹ (PVD)							HT		HC²	HW	
P	●	●	●	⊛	⊛	⊛										⊛	⊛	⊛		●	⊛	●		
M								○	⊛					○	○	⊛	⊛	⊛	○	○	⊛	○		
K										●	⊛	⊛	⊛											
N														●	●								●	⊛
S															●	⊛	⊛	⊛	●				●	⊛
H																								

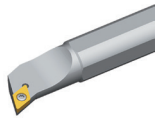
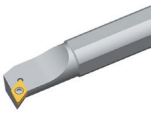
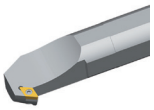
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
USF	**DCGT070202L-USF**	0,2	0,1-2,0	0,05-0,2																○								
	DCGT11T302L-USF	0,2	0,2-2,0	0,05-0,2																○								
Finitura																												
USF	**DCGT0702005R-USF**	0,05	0,1-2,0	0,01-0,04																								
	DCGT070201R-USF	0,1	0,1-2,0	0,05-0,2																○								
	DCGT070202R-USF	0,2	0,1-2,0	0,05-0,2																○								
	DCGT11T304R-USF	0,4	0.2-1.0	0.05-0.15																●								
Finitura																												

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

SDACR/L	SDJCR/L	SDNCN	SDACR/L-SC	SDHCR/L-SC	SDJCR/L-SC	SDNCN-SC
Kr: 90°	Kr: 93°	Kr: 62°30'	Kr: 90°	Kr: 107°30'	Kr: 93°	Kr: 62°30'
						
A311	A312	A313	A352	A353	A354	A355

S***-SDQCR/L	A***-SDUCR/L	S***-SDZCR/L	E***-SDUCR/L	E***-SDQCR/L
Kr: 107°30'	Kr: 93°	Kr: 85°	Kr: 93°	Kr: 107°30'
				
A381	A382	A383	A405	A403

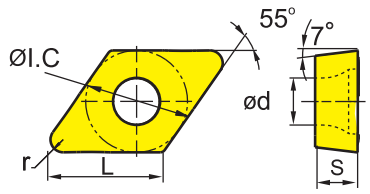
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

DCMT	L	I.C	S	d
07 02	7,8	6,35	2,38	2,8
11 T3	11,6	9,525	3,97	4,4

DC** Inserti positivi



	HC¹ (CVD)												HC¹ (PVD)						HT		HC²	HW	
	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
P	●	●	●	◉	◉	◉										◉	◉	◉		●	◉	●		
M							○	◉						○	○	◉	◉	◉	○	○	◉	○		
K									◉	◉	◉	◉												
N													●	●									●	◉
S														○	○	◉	◉	◉	○				○	◉
H																								

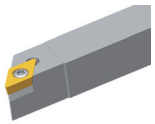
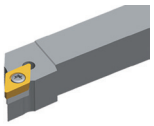
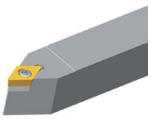
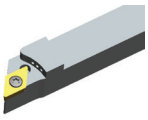
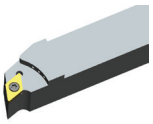
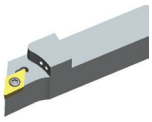
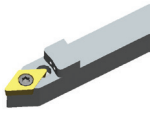
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
AHF	**DCMT070204-AHF**	0,4	0,2-2,5	0,05-0,20		○														○		●			●			
	DCMT070208-AHF	0,8	0,55-2,5	0,1-0,35		●																●						
	DCMT11T302-AHF	0,2	0,5-3,0	0,05-0,15		○														●		●	●		●			
	DCMT11T304-AHF	0,4	0,5-3,0	0,05-0,30		●														●		●	○		●	●		
Finitura	**DCMT11T308-AHF**	0,8	0,5-3,0	0,05-0,40		●	○															●	●		●			

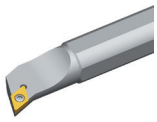
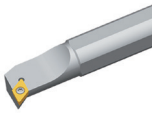
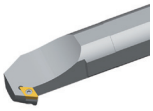
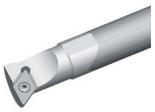
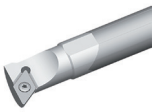
● In magazzino ○ Su richiesta

disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

SDACR/L	SDJCR/L	SDNCN	SDACR/L-SC	SDHCR/L-SC	SDJCR/L-SC	SDNCN-SC
Kr: 90°	Kr: 93°	Kr: 62°30'	Kr: 90°	Kr: 107°30'	Kr: 93°	Kr: 62°30'
						
A311	A312	A313	A352	A353	A354	A355

S***-SDQCR/L	A***-SDUCR/L	S***-SDZCR/L	E***-SDUCR/L	E***-SDQCR/L
Kr: 107°30'	Kr: 93°	Kr: 85°	Kr: 93°	Kr: 107°30'
				
A381	A382	A383	A405	A403

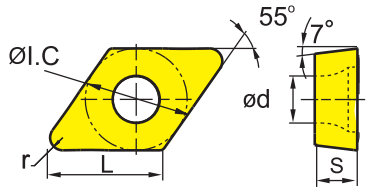
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

DCMT	L	I.C	S	d
07 02	7,8	6,35	2,38	2,8
11 T3	11,6	9,525	3,97	4,4

DC** Inserti positivi



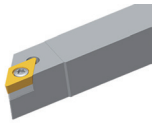
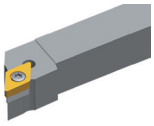
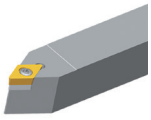
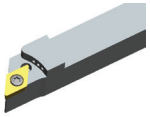
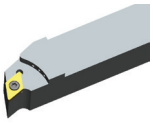
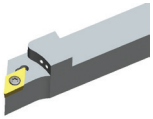
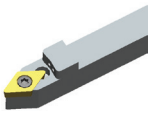
	HC¹ (CVD)											HC¹ (PVD)							HT		HC²	HW	
P	○	○	○	⊛	⊛	⊛									⊛	⊛	⊛		○	⊛	○		
M							○	⊛					○	○	⊛	⊛	⊛	○	○	⊛	○		
K									●	⊛	⊛	⊛											
N													●	●								●	⊛
S														●	⊛	⊛	⊛	●				●	⊛
H																							

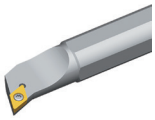
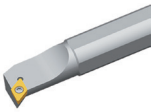
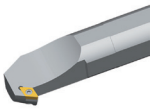
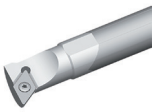
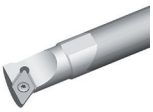
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
EF	**DCMT070202-EF**	0,2	0,06-1,50	0,03-0,11							●									○	○							
	DCMT070204-EF	0,4	0,08-1,50	0,05-0,17							●									●	○							
	DCMT11T302-EF	0,2	0,08-2,00	0,04-0,15							○									●	○							
	DCMT11T304-EF	0,4	0,11-2,00	0,06-0,23							●									●	●							
Finitura	**DCMT11T308-EF**	0,8	0,15-2,00	0,08-0,30							●								●	●								
HF	**DCMT070202-HF**	0,2	0,06-1,50	0,03-0,11			○		●																			
	DCMT070204-HF	0,4	0,08-1,50	0,05-0,17			○		●																			
	DCMT070208-HF	0,8	0,08-1,50	0,05-0,30			●		○																			
	DCMT11T302-HF	0,2	0,08-2,00	0,04-0,15			○		●											○								
Finitura	**DCMT11T304-HF**	0,4	0,11-2,00	0,06-0,23			●		●				○		○													
	DCMT11T308-HF	0,8	0,15-2,00	0,08-0,30			●		●				○															
XF	**DCMT070202-XF**	0,2	0,5-1,5	0,08-0,15				○																				
	DCMT070204-XF	0,4	0,5-1,5	0,08-0,15	○																							
	DCMT070208-XF	0,8	0,5-1,5	0,08-0,25	○																							
	DCMT11T302-XF	0,2	0,5-2,0	0,08-0,15	●			○																				
Finitura	**DCMT11T304-XF**	0,4	0,5-2,0	0,08-0,15	●																							
	DCMT11T308-XF	0,8	0,5-2,0	0,08-0,25	●																							

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

SDACR/L	SDJCR/L	SDNCN	SDACR/L-SC	SDHCR/L-SC	SDJCR/L-SC	SDNCN-SC
Kr: 90°	Kr: 93°	Kr: 62°30'	Kr: 90°	Kr: 107°30'	Kr: 93°	Kr: 62°30'
						
A311	A312	A313	A352	A353	A354	A355

S***-SDQCR/L	A***-SDUCR/L	S***-SDZCR/L	E***-SDUCR/L	E***-SDQCR/L
Kr: 107°30'	Kr: 93°	Kr: 85°	Kr: 93°	Kr: 107°30'
				
A381	A382	A383	A405	A403

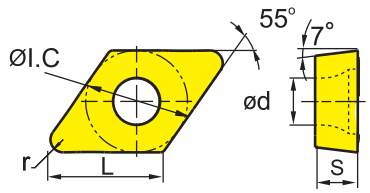
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

DCMT	L	I.C	S	d
07 02	7,8	6,35	2,38	2,8
11 T3	11,6	9,525	3,97	4,4
15 04	15,5	12,7	4,76	5,6

DC** Inserti positivi



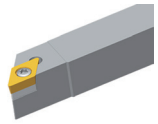
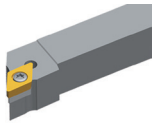
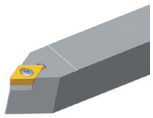
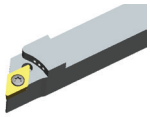
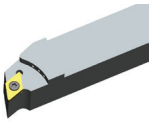
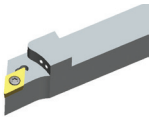
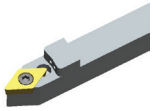
	HC¹ (CVD)												HC¹ (PVD)						HT		HC²	HW	
P	○	○	○	⊛	⊛	⊛										⊛	⊛	⊛	○	⊛	○		
M							○	⊛					○	○	⊛	⊛	⊛	○	○	⊛	○		
K									○	⊛	⊛	⊛											
N													○	○								○	⊛
S													○	○	⊛	⊛	⊛	○				○	⊛
H																							

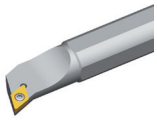
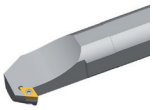
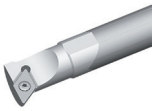
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
EM	**DCMT070204-EM**	0,4	0,19-2,25	0,06-0,17							○	○								●	●							
	DCMT070208-EM	0,8	0,38-2,25	0,08-0,23							●	○								●	○							
	DCMT11T304-EM	0,4	0,25-3,00	0,08-0,23							●	●								●	●							
	DCMT11T308-EM	0,8	0,5-3,0	0,1-0,3							●	●								●	●							
Media Lavor.	**DCMT150404-EM**	0,4	0,5-2	0,05-0,2							●																	
XM	**DCMT070208-XM**	0,8	1-2,5	0,15-0,25	●																							
	DCMT11T304-XM	0,4	1-2,5	0,15-0,3	●			○																				
	DCMT11T308-XM	0,8	1-2,5	0,15-0,35	●			●																				
	DCMT11T312-XM	1,2	1-2,5	0,15-0,4	●			●																				
Media Lavor.																												

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

SDACR/L	SDJCR/L	SDNCN	SDACR/L-SC	SDHCR/L-SC	SDJCR/L-SC	SDNCN-SC
Kr: 90°	Kr: 93°	Kr: 62°30'	Kr: 90°	Kr: 107°30'	Kr: 93°	Kr: 62°30'
						
A311	A312	A313	A352	A353	A354	A355

S***-SDQCR/L	A***-SDUCR/L	S***-SDZCR/L	E***-SDUCR/L	E***-SDQCR/L
Kr: 107°30'	Kr: 93°	Kr: 85°	Kr: 93°	Kr: 107°30'
				
A381	A382	A383	A405	A403

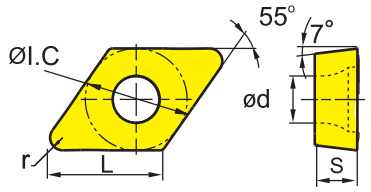
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

DCMT	L	I.C	S	d
07 02	7,8	6,35	2,38	2,8
11 T3	11,6	9,525	3,97	4,4

DC** Inserti positivi



	HC¹ (CVD)											HC¹ (PVD)							HT		HC²		HW	
P	○	○	○	⊛	⊛	⊛									⊛	⊛	⊛		○	⊛	○			
M								○	⊛				○	○	⊛	⊛	⊛	○	○	⊛	○			
K										○	⊛	⊛	⊛											
N												○	○										○	⊛
S													○	○	⊛	⊛	⊛	○					○	⊛
H																								

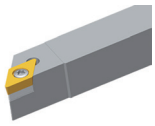
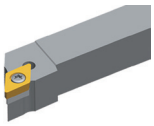
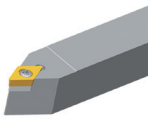
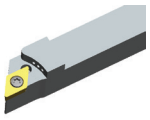
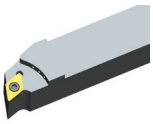
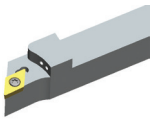
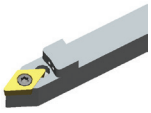
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
HM	**DCMT070204-HM**	0,4	0,19-2,25	0,06-0,17		○	○		●				○		○					●								
	DCMT070208-HM	0,8	0,38-2,25	0,08-0,23			●		●				●		○													
	DCMT11T304-HM	0,4	0,25-3,00	0,08-0,23			●		●				●		●							●						
	DCMT11T308-HM	0,8	0,5-3,0	0,1-0,3			●		●				●		●							●						
Media Lavor.	**DCMT11T312-HM**	1,2	0,6-3,0	0,12-0,36					●				○		○													

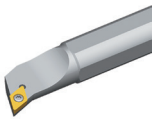
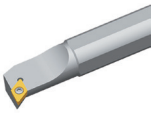
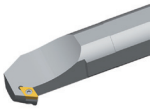
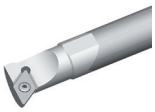
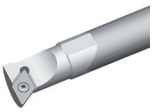
● In magazzino ○ Su richiesta

disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

SDACR/L	SDJCR/L	SDNCN	SDACR/L-SC	SDHCR/L-SC	SDJCR/L-SC	SDNCN-SC
Kr: 90°	Kr: 93°	Kr: 62°30'	Kr: 90°	Kr: 107°30'	Kr: 93°	Kr: 62°30'
						
A311	A312	A313	A352	A353	A354	A355

S***-SDQCR/L	A***-SDUCR/L	S***-SDZCR/L	E***-SDUCR/L	E***-SDQCR/L
Kr: 107°30'	Kr: 93°	Kr: 85°	Kr: 93°	Kr: 107°30'
				
A381	A382	A383	A405	A403

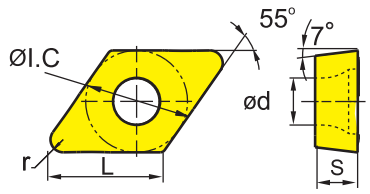
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

DC**	L	I.C	S	d
07 02	7,8	6,35	2,38	2,8
11 T3	11,6	9,525	3,97	4,4

DC** Inserti positivi



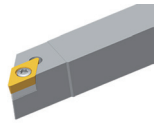
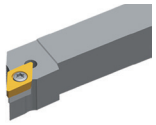
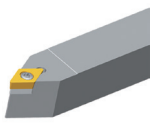
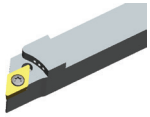
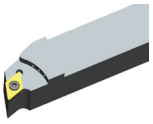
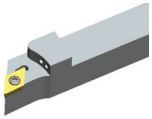
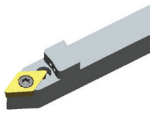
	HC¹ (CVD)												HC¹ (PVD)						HT		HC²		HW		
P	●	●	●	❁	❁	❁										❁	❁	❁	●	❁	●				
M							○	❁						○	○	❁	❁	❁	○	❁	○				
K									●	❁	❁	❁													
N													●	●									●	❁	
S														●	○	❁	❁	❁	●				●	❁	
H																									

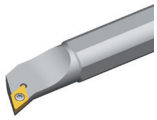
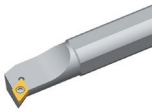
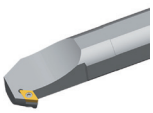
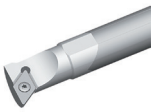
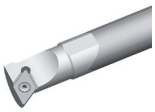
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
Flat	**DCMW11T304**	0,4	0,5-5,0	0,05-0,20									○															
	DCMW11T308	0,8	0,4-5,0	0,1-0,4									○															
Media Lavor.																												
HR	**DCMT11T304-HR**	0,4	1-4	0,1-0,3			○		○				○		●													
	DCMT11T308-HR	0,8	1-4	0,12-0,35			●		●				○		○													
	DCMT11T312-HR	1,2	1,2-4,0	0,14-0,42			○		●				○															
Sgrossatura																												
LC	**DCGX070201-LC**	0,1	0,3-4,0	0,05-0,10																							●	
	DCGX070202-LC	0,2	0,3-4,0	0,05-0,15													○										●	
	DCGX070204-LC	0,4	0,5-4,0	0,1-0,3													●										●	
	DCGX070208-LC	0,8	0,5-4,0	0,15-0,60																							●	
	DCGX11T302-LC	0,2	0,3-5,5	0,05-0,15													●										●	
Lavorazione Al.	**DCGX11T304-LC**	0,4	0,5-5,5	0,1-0,3													●										●	
	DCGX11T308-LC	0,8	0,5-5,5	0,15-0,60													●										●	

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

SDACR/L	SDJCR/L	SDNCN	SDACR/L-SC	SDHCR/L-SC	SDJCR/L-SC	SDNCN-SC
Kr: 90°	Kr: 93°	Kr: 62°30'	Kr: 90°	Kr: 107°30'	Kr: 93°	Kr: 62°30'
						
A311	A312	A313	A352	A353	A354	A355

S***-SDQCR/L	A***-SDUCR/L	S***-SDZCR/L	E***-SDUCR/L	E***-SDQCR/L
Kr: 107°30'	Kr: 93°	Kr: 85°	Kr: 93°	Kr: 107°30'
				
A381	A382	A383	A405	A403

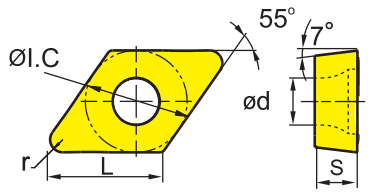
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- ● Buone condizioni di lavorazione
- ✱ Condizioni di lavorazione normali
- ✱ Condizioni di lavorazione sfavorevoli

DCGX	L	I.C	S	d
07 02	7,8	6,35	2,38	2,8
11 T3	11,6	9,525	3,97	4,4

DC** Inserti positivi



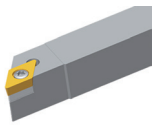
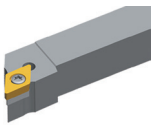
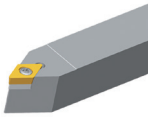
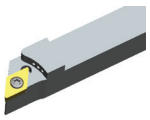
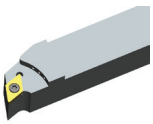
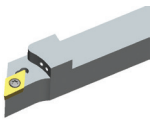
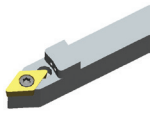
	HC¹ (CVD)											HC¹ (PVD)							HT		HC²		HW		
	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
P	●	●	●	✱	✱	✱										✱	✱	✱		●	✱	●		
M							○	✱						○	○	✱	✱	✱	○	○	✱	○		
K									●	✱	✱	✱												
N													●	●									●	✱
S														●	●	✱	✱	✱	●				●	✱
H																								

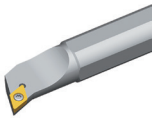
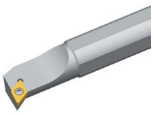
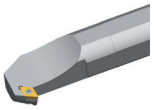
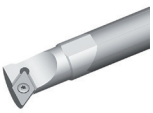
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
LH Lavorazione Al.	**DCGX070201-LH**	0,1	0,1-1,0	0,04-0,15														○										
	DCGX070202-LH	0,2	0,3-4,0	0,05-0,15														●									●	
	DCGX070204-LH	0,4	0,5-4,0	0,1-0,3														●									●	
	DCGX070208-LH	0,8	0,5-4,0	0,15-0,60														○									●	
	DCGX11T301-LH	0,1	0,1-1,0	0,04-0,15														○										
	DCGX11T302-LH	0,2	0,3-5,5	0,05-0,15														●									●	
	DCGX11T304-LH	0,4	0,5-5,5	0,1-0,3														●									●	
	DCGX11T308-LH	0,8	0,5-5,5	0,15-0,60														●									●	

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

SDACR/L	SDJCR/L	SDNCN	SDACR/L-SC	SDHCR/L-SC	SDJCR/L-SC	SDNCN-SC
Kr: 90°	Kr: 93°	Kr: 62°30'	Kr: 90°	Kr: 107°30'	Kr: 93°	Kr: 62°30'
						
A311	A312	A313	A352	A353	A354	A355

S***-SDQCR/L	A***-SDUCR/L	S***-SDZCR/L	E***-SDUCR/L	E***-SDQCR/L
Kr: 107°30'	Kr: 93°	Kr: 85°	Kr: 93°	Kr: 107°30'
				
A381	A382	A383	A405	A403

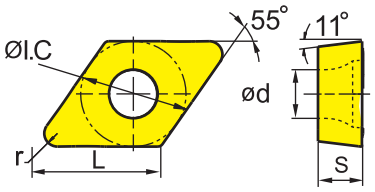
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

DPGT	L	I.C	S	d
07 02	7,8	6,35	2,38	2,8
11 T3	11,6	9,525	3,97	4,4

DP** Inserti positivi



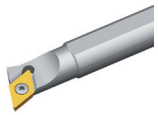
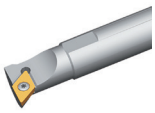
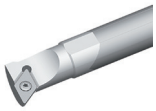
	HC¹ (CVD)												HC¹ (PVD)						HT		HC²		HW		
	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201	
P	●	●	●	❁	❁	❁										❁	❁	❁		●	❁	●			
M							○	❁						○	○	❁	❁	❁	○	○	❁	○			
K									●	❁	❁	❁													
N													●	●									●	❁	
S														●	●	❁	❁	❁	●				●	❁	
H																									

	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
SF Finitura	**DPGT070202-SF**	0,2	0,05-2,00	0,05-0,15																				○		○		
	DPGT070204-SF	0,4	0,05-2,00	0,05-0,30																				●		○		
	DPGT11T304-SF	0,4	0,05-2,00	0,1-0,3																				●		○		
	DPGT11T308-SF	0,8	0,05-2,00	0,1-0,4																				○		○		

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

S***-SDQPR/L	S***-SDUPR/L	C***-SDQPR/L
Kr: 107°30'	Kr: 93°	Kr: 107°30'
		
A395	A396	A402

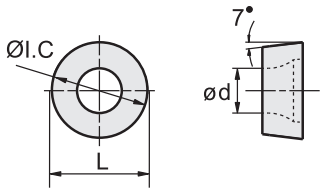
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

RC**	L	I.C	S	d
08 03	8	8	3,18	3,36
10 T3	10	10	3,97	3,6
12 04	12	12	4,76	44,4
16 06	16	16	6,35	5,5
20 06	20	20	6,35	6,5
25 07	25	25	7,94	7,7

- ● Buone condizioni di lavorazione
- ⊛ Condizioni di lavorazione normali
- ⊛ Condizioni di lavorazione sfavorevoli

Inserti - Tornitura

RC** Inserti positivi



	HC¹ (CVD)												HC¹ (PVD)							HT		HC²	HW	
P	●	●	●	⊛	⊛	⊛										⊛	⊛	⊛		●	⊛	●		
M								○	⊛					○	○	⊛	⊛	⊛	○	○	⊛	○		
K										●	⊛	⊛	⊛											
N														●	●								●	⊛
S														○	○	⊛	⊛	⊛	○				○	⊛
H																								

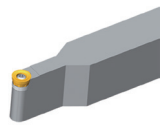
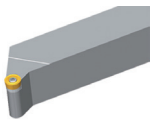
	ISO	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
Basic Media Lavor.	**RCMT0803MO**	0,5-3,0	0,1-0,4					●				●															
	RCMT10T3MO	0,5-4,0	0,1-0,5					●				○															
	RCMT1204MO	0,8-5,0	0,1-0,6			○		●				●		○													
	RCMT1606MO	1-6	0,1-0,8			○		●			○	○															
	RCMT2006MO	1,2-8,0	0,1-1,0			○		●																			
	RCMT2507MO	1,4-10,0	0,1-1,2			○																					
LH Lavorazione Al.	**RCGX0803MO-LH**	1-4	0,2-0,5																							●	
	RCGX1204MO-LH	1,2-5,0	0,2-0,6																							●	

● In magazzino ○ Su richiesta

disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

SRDCN	SRGCR/L
	
A329	A331

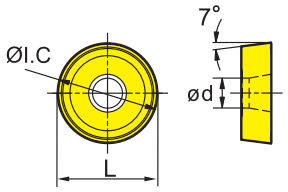
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

RCMX	L	I.C	S	d
08 03	8	8	3,18	3,36
10 03	10	10	3,18	4,4
12 04	12	12	4,76	4,4
16 06	16	16	6,35	5,5
20 06	20	20	6,35	6,5
25 07	25	25	7,94	7,2
32 09	32	32	9,52	10,2

Inserti - Tornitura

- ● Buone condizioni di lavorazione
- ✲ Condizioni di lavorazione normali
- ✲ Condizioni di lavorazione sfavorevoli

RC** Inserti positivi



	HC[1] (CVD)												HC[1] (PVD)						HT		HC[2]		HW	
	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
P	●	●	●	✲	✲	✲										✲	✲	✲		●	✲	●		
M							○	✲						○	○	✲	✲	✲	○	○	✲	○		
K									●	✲	✲	✲												
N													●	●									●	✲
S														●	●	✲	✲	✲	●				●	✲
H																								

	ISO	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
Basic Sgross. leggera	**RCMX0803MO**	0,5-4,0	0,1-0,5					○																			
	RCMX1003MO	0,5-5,0	0,1-0,6					○																			
	RCMX1204MO	1-6	0,1-0,8			○		○																			
	RCMX1606MO	1-7	0,2-0,9			○		●			○								○								
	RCMX2006MO	1-9	0,2-1,0			●		●						○													
	RCMX2507MO	2-10	0,25-1,20					●						○													
	RCMX3209MO	2-13	0,25-1,40			○		●																			
Basic Sgross. leggera	**RCMX2507MO-1**	2-9	0,1-0,4			○																					
Basic Sgross. leggera	**RCMX3209MO-PV**	3-12	0,1-0,4			○		●																			

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

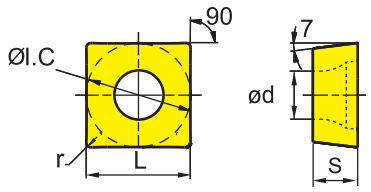
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SCMT	L	I.C	S	d
09 T3	9,525	9,525	3,97	4,4
12 04	12,7	12,7	4,76	5,56

SC** Inserti positivi



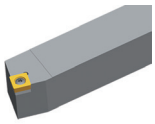
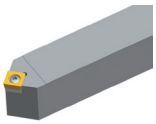
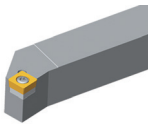
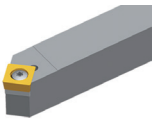
	HC¹ (CVD)											HC¹ (PVD)							HT		HC²	HW	
P	●	●	●	⊛	⊛	⊛									⊛	⊛	⊛		●	⊛	●		
M							○	⊛					○	○	⊛	⊛	⊛	○	○	⊛	○		
K									●	⊛	⊛	⊛											
N													●	●								●	⊛
S														●	●	⊛	⊛	⊛	●			●	⊛
H																							

	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
AHF Finitura	**SCMT09T304-AHF**	0,4	0,5-3,0	0,05-0,30		●															○	●			○			
	SCMT09T308-AHF	0,8	0,5-3,0	0,05-0,40		●																●			●			
EF Finitura	**SCMT09T302-EF**	0,2	0,07-2,00	0,05-0,15																●	○							
	SCMT09T304-EF	0,4	0,11-2,00	0,06-0,23																●	○							
	SCMT09T308-EF	0,8	0,15-2,00	0,08-0,30																●	○							
EM Finitura	**SCMT09T304-EM**	0,4	0,25-3,00	0,08-0,23							○	○								●	○							
	SCMT09T308-EM	0,8	0,5-3,0	0,1-0,3							●	●								●	●							
	SCMT120404-EM	0,4	0,3-3,6	0,09-0,27							○	○								●	○							
	SCMT120408-EM	0,8	0,6-3,6	0,12-0,36							○	○								●	●							
	SCMT120412-EM	1,2	0,72-3,60	0,14-0,43								○								●	○							
XF Finitura	**SCMT09T304-XF**	0,4	0,5-2,0	0,08-0,25	●																							
	SCMT09T308-XF	0,8	0,5-2,0	0,08-0,30	●			○																				

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

SSBCR/L	SSDCN	SSKCR/L	SSSCR/L	S***-SSKCR/L
Kr: 75°	Kr: 45°	Kr: 75°	Kr: 45°	Kr: 75°
				
A320	A321	A322	A323	A384

Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

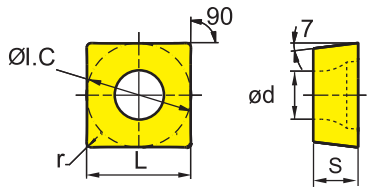
Tornitura generale Inserti positivi

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SCMT	L	I.C	S	d
09 T3	9,525	9,525	3,97	4,4
12 04	12,7	12,7	4,76	5,56

SC** Inserti positivi



	HC[1] (CVD)												HC[1] (PVD)						HT		HC[2]		HW			
P	●	●	●	❁	❁	❁										❁	❁	❁	●	❁	●					
M								●	❁					●	●	❁	❁	❁	●	❁	●					
K										●	❁	❁	❁													
N														●	●								●	❁		
S														●	●	❁	❁	❁	●				●	❁		
H																										

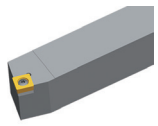
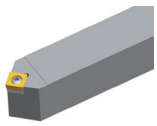
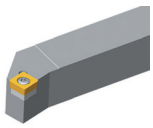
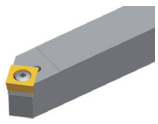
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
HF Finitura	**SCMT09T302-HF**	0,2	0,15-2,00	0,05-0,15					○																			
	SCMT09T304-HF	0,4	0,11-2,00	0,05-0,23					○																			
	SCMT09T308-HF	0,8	0,15-2,00	0,05-0,30			●		○																			
HM Media Lavor.	**SCMT09T304-HM**	0,4	0,25-3,00	0,08-0,23			○		○				○		○													
	SCMT09T308-HM	0,8	0,5-3,0	0,1-0,3			●		●				○		●													
	SCMT120404-HM	0,4	0,3-3,6	0,09-0,27			○		○																			
	SCMT120408-HM	0,8	0,6-3,6	0,12-0,36			●		●				○		●													
	SCMT120412-HM	1,2	0,72-3,60	0,14-0,43					●																			
XM Media Lavor.	**SCMT09T304-XM**	0,4	1-2,5	0,15-0,3	○			○																				
	SCMT09T308-XM	0,8	1-2,5	0,15-0,35	○			○																				
	SCMT09T312-XM	1,2	1-2,5	0,15-0,4	○			○																				
	SCMT120408-XM	0,8	1-3,0	0,15-0,35	○			○																				
	SCMT120412-XM	1,2	1-3,0	0,15-0,4	○			○																				

● In magazzino ○ Su richiesta

disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

SSBCR/L	SSDCN	SSKCR/L	SSSCR/L	S***-SSKCR/L
Kr: 75°	Kr: 45°	Kr: 75°	Kr: 45°	Kr: 75°
				
A320	A321	A322	A323	A384

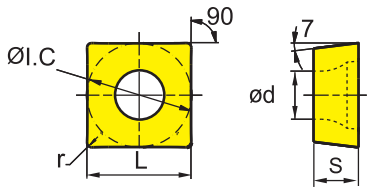
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SC**	L	I.C	S	d
09 T3	9,525	9,525	3,97	4,4
12 04	12,7	12,7	4,76	5,56

SC** Inserti positivi



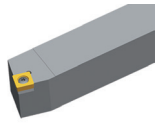
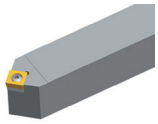
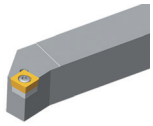
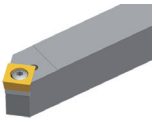
	HC¹ (CVD)											HC¹ (PVD)							HT		HC²	HW	
P	●	●	●	⊛	⊛	⊛									⊛	⊛	⊛		●	⊛	●		
M							○	⊛					○	○	⊛	⊛	⊛	○	○	⊛	○		
K									●	⊛	⊛	⊛											
N													●	●								●	⊛
S														●	●	⊛	⊛	⊛	●			●	⊛
H																							

	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
HR Sgrossatura	**SCMT09T304-HR**	0,4	0,2-4,0	0,05-0,40					○																			
	SCMT09T308-HR	0,8	1-4	0,12-0,35			○		●				○		○													
	SCMT09T312-HR	1,2	1,2-4,0	0,14-0,42					○																			
	SCMT120404-HR	0,4	0,5-4,0	0,05-0,50			○		○																			
	SCMT120408-HR	0,8	1,2-4,8	0,14-0,42			●		●				○		●													
	SCMT120412-HR	1,2	1,44-4,80	0,17-0,50			○		●				○		○													
LC Lavorazione Al.	**SCGX09T304-LC**	0,4	0,5-5,0	0,1-0,5																							●	
	SCGX09T308-LC	0,8	0,5-5,0	0,15-0,60																							●	
	SCGX120408-LC	0,8	1-7	0,15-0,60													●										●	

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

SSBCR/L	SSDCN	SSKCR/L	SSSCR/L	S***-SSKCR/L
Kr: 75°	Kr: 45°	Kr: 75°	Kr: 45°	Kr: 75°
				
A320	A321	A322	A323	A384

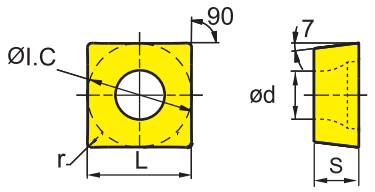
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SCGX	L	I.C	S	d
09 T3	9,525	9,525	3,97	4,4
12 04	12,7	12,7	4,76	5,56

SC** Inserti positivi



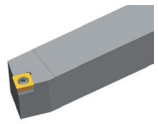
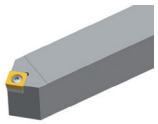
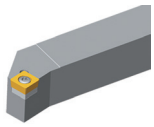
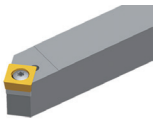
	HC[1] (CVD)												HC[1] (PVD)						HT		HC[2]		HW			
P	●	●	●	⊛	⊛	⊛									⊛	⊛	⊛		●	⊛	●					
M							○	⊛					○	○	⊛	⊛	⊛	○	○	⊛	○					
K									●	⊛	⊛	⊛														
N													●	●									●	⊛		
S													●	●	⊛	⊛	⊛	●					●	⊛		
H																										

	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
LH Lavorazione Al.	**SCGX09T302-LH**	0,2	0,5-4,0	0,05-0,15														○									●	
	SCGX09T304-LH	0,4	0,5-4,0	0,1-0,3														○									●	
	SCGX09T308-LH	0,8	0,5-4,0	0,15-0,60																							●	
	SCGX120408-LH	0,8	0,5-5,0	0,15-0,60														○									●	

● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

SSBCR/L	SSDCN	SSKCR/L	SSSCR/L	S***-SSKCR/L
Kr: 75°	Kr: 45°	Kr: 75°	Kr: 45°	Kr: 75°
				
A320	A321	A322	A323	A384

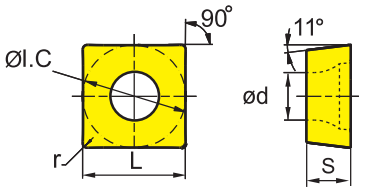
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SPMW	L	I.C	S	d
09 T3	9,525	9,525	3,97	4,4
12 04	12,7	12,7	4,76	5,56

SP** Inserti positivi



	HC¹ (CVD)											HC¹ (PVD)							HT		HC²	HW	
	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
P	●	●	●	✱	✱	✱										✱	✱	✱		●	✱	●		
M							○	✱						○	○	✱	✱	✱	○	○	✱	○		
K									●	✱	✱	✱												
N													●	●									●	✱
S														○	○	✱	✱	✱	○				○	✱
H																								

	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
Flat	**SPMW09T304**	0,4	0,5-4,0	0,1-0,4											○													
	SPMW09T308	0,8	0,5-4,0	0,2-0,4											○													
	SPMW120408	0,8	1-6	0,3-0,6											○													

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

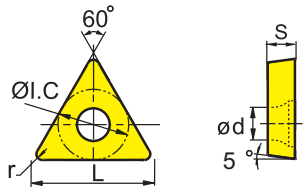
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

TBGH	L	I.C	S	d
06 01	6,87	3,97	1,59	2,2

TB** Inserti positivi



	HC[1] (CVD)												HC[1] (PVD)						HT		HC[2]		HW		
	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201	
P	●	●	●	✱	✱	✱										✱	✱	✱		●	✱	●			
M							●	✱						●	●	✱	✱	●	●	●	✱	●			
K									●	✱	✱	✱													
N													●	●									●	✱	
S														●	●	✱	✱	✱	●				●	✱	
H																									

	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
	TBGH060102L	0,2	0,5-3,5	0,05-0,40														●						●				
	TBGH060104L	0,4	0,5-3,5	0,05-0,40														○						●				

● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

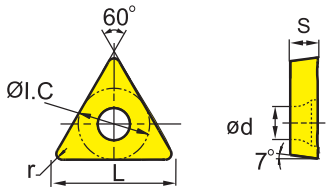
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

TCGT	L	I.C	S	d
06 T1	6,87	3,97	1,98	2,2
09 02	9,63	5,56	2,38	2,5
11 03	11	6,35	3,18	2,8

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

TC** Inserti positivi



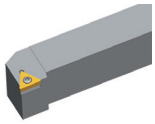
	HC¹ (CVD)											HC¹ (PVD)							HT		HC²	HW	
	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
P	●	●	●	✱	✱	✱										✱	✱	✱		●	✱	●		
M							○	✱						○	○	✱	✱	✱	○	○	✱	○		
K									●	✱	✱	✱												
N													●	●									●	✱
S														●	●	✱	✱	✱	●				●	✱
H																								

	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
SF Finitura	**TCGT06T102-SF**	0,2	0,05-2,00	0,05-0,15																						●		
	TCGT090202-SF	0,2	0,05-2,00	0,05-0,15																						○		
	TCGT090204-SF	0,4	0,05-2,00	0,1-0,3																						●		
	TCGT090208-SF	0,8	0,05-2,00	0,10-0,35																						○		
	TCGT110302-SF	0,2	0,05-2,00	0,05-0,15																						○		
	TCGT110304-SF	0,4	0,05-2,00	0,1-0,3																				●		●		

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

STGCR/L	E***-STFCR/L
Kr: 91°	Kr: 90°
	
A326	A407

Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

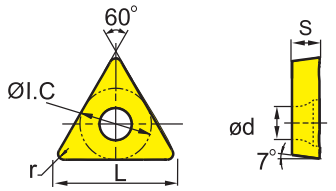
Tornitura generale Inserti positivi

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

TCMT	L	I.C	S	d
09 02	9,63	5,56	2,38	2,5
11 02	11	6,35	2,38	2,8
16 T3	16,5	9,525	3,97	4,4

TC** Inserti positivi



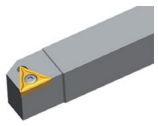
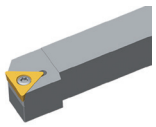
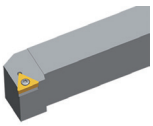
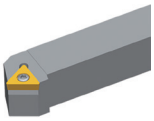
	HC¹ (CVD)												HC¹ (PVD)						HT		HC²		HW		
P	○	○	○	⊛	⊛	⊛										⊛	⊛	⊛	○	⊛	○				
M							○	⊛						○	○	⊛	⊛	⊛	○	⊛	○				
K									○	⊛	⊛	⊛													
N													○	○									○	⊛	
S														○	○	⊛	⊛	⊛	○				○	⊛	
H																									

	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
AHF Finitura	**TCMT110204-AHF**	0,4	0,2-2,5	0,05-0,30		●																●						
	TCMT110208-AHF	0,8	0,2-2,5	0,1-0,4		●																●						
	TCMT16T304-AHF	0,4	0,5-3,0	0,05-0,30		●																●						
	TCMT16T308-AHF	0,8	0,5-3,5	0,1-0,4		●																●						
HF Finitura	**TCMT090202-HF**	0,2	0,06-1,70	0,03-0,13			○		○															○				
	TCMT090204-HF	0,4	0,1-1,7	0,05-0,19			○		○																			
	TCMT090208-HF	0,8	0,15-1,70	0,10-0,25					○																			
	TCMT110202-HF	0,2	0,08-2,00	0,05-0,20					○																			
	TCMT110204-HF	0,4	0,1-2,0	0,05-0,30			○		●						○													
	TCMT110208-HF	0,8	0,1-2,0	0,05-0,35			○		○				○															
	TCMT16T304-HF	0,4	0,1-2,0	0,05-0,30			○		○																			
XF Finitura	**TCMT090202-XF**	0,2	0,5-1,5	0,08-0,15				○																				
	TCMT090204-XF	0,4	0,5-1,5	0,08-0,20	●																							
	TCMT110202-XF	0,2	0,5-2,0	0,08-0,15				○																				
	TCMT110204-XF	0,4	0,5-2,0	0,08-0,20	●																							
	TCMT110208-XF	0,8	0,5-2,5	0,08-0,25	●																							
	TCMT16T304-XF	0,4	0,5-2,5	0,08-0,20	●																							
	TCMT16T308-XF	0,8	0,5-2,5	0,08-0,25	●																							

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

STACR/L	STFCR/L	STGCR/L	STTCR/L	S***-STFCR/L	E***-STFCR/L
Kr: 90°	Kr: 91°	Kr: 91°	Kr: 60°	Kr: 91°	Kr: 90°
					
A324	A325	A326	A327	A386	A407

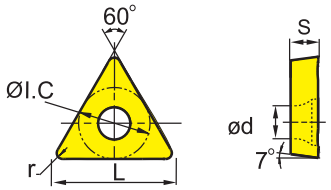
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

TCMT	L	I.C	S	d
09 02	9,63	5,56	2,38	2,5
11 02	11	6,35	2,38	2,8
16 T3	16,5	9,525	3,97	4,4
22 04	22	12,7	4,76	5,5

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

TC** Inserti positivi



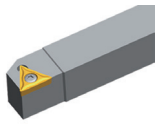
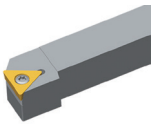
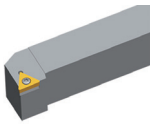
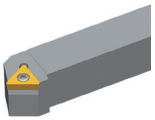
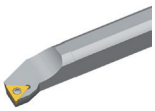
	HC¹ (CVD)											HC¹ (PVD)							HT		HC²	HW	
P	●	●	●	⊛	⊛	⊛									⊛	⊛	⊛		●	⊛	●		
M							○	⊛					○	○	⊛	⊛	⊛	○	○	⊛	○		
K									●	⊛	⊛	⊛											
N													●	●								●	⊛
S													●	●	⊛	⊛	⊛	●				●	⊛
H																							

	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
EF Finitura	**TCMT090204-EF**	0,4	0,1-1,7	0,05-0,19																●	○							
	TCMT110202-EF	0,2	0,2-2,0	0,05-0,13																●	○							
	TCMT110204-EF	0,4	0,2-2,0	0,05-0,20																●	●							
	TCMT110208-EF	0,8	0,2-2,0	0,1-0,35																	○							
	TCMT16T304-EF	0,4	0,3-3,0	0,05-0,23																●	○							
	TCMT16T308-EF	0,8	0,3-3,0	0,1-0,4							○									●	○							
EM Media Lavor.	**TCMT090204-EM**	0,4	0,19-2,25	0,06-0,17							○									●	●							
	TCMT110204-EM	0,4	0,2-2,7	0,05-0,30							○									●	●							
	TCMT110208-EM	0,8	0,8-2,7	0,08-0,30																●	○							
	TCMT16T304-EM	0,4	0,25-3,00	0,08-0,23							○									●								
	TCMT16T308-EM	0,8	0,5-3,0	0,1-0,3							○	●								●	●							
	TCMT220408-EM	0,8	1,0-4,0	0,12-0,35																	●							
XM Media Lavor.	**TCMT16T304-XM**	0,4	1-3,0	0,15-0,3	○			●																				
	TCMT16T308-XM	0,8	1-3,0	0,15-0,35	○			○																				
	TCMT16T312-XM	1,2	1-3,0	0,15-0,4	○			○																				

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

STACR/L	STFCR/L	STGCR/L	STTCR/L	S***-STFCR/L	E***-STFCR/L
Kr: 90°	Kr: 91°	Kr: 91°	Kr: 60°	Kr: 91°	Kr: 90°
					
A324	A325	A326	A327	A386	A407

Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

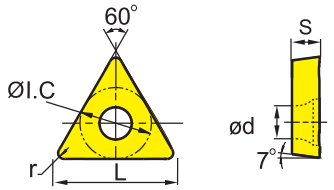
Tornitura generale Inserti positivi

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

TC**	L	I.C	S	d
09 02	9,63	5,56	2,38	2,5
11 02	11	6,35	2,38	2,8
16 T3	16,5	9,525	3,97	4,4
22 04	22	12,7	4,76	5,5

TC** Inserti positivi



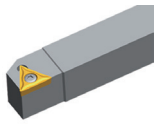
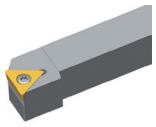
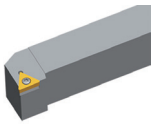
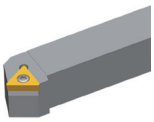
	HC¹ (CVD)												HC¹ (PVD)						HT		HC²		HW		
	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201	
P	●	●	●	⊛	⊛	⊛										⊛	⊛	⊛		●	⊛	●			
M							●	⊛						●	●	⊛	⊛	⊛	●	●	⊛	●			
K									●	⊛	⊛	⊛													
N													●	●									●	⊛	
S														●	●	⊛	⊛	⊛	●				●	⊛	
H																									

	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
Flat	**TCMW16T308**	0,8	0,5-5,0	0,05-0,60											○													
Media Lavor.																												
HM	**TCMT090204-HM**	0,4	0,19-2,25	0,06-0,17			○		●				○		●													
	TCMT090208-HM	0,8	0,38-2,25	0,08-0,23			○		○						○													
	TCMT110204-HM	0,4	0,2-2,7	0,07-0,20			○		●				○		●													
	TCMT110208-HM	0,8	0,5-2,7	0,1-0,3			○		●						●													
	TCMT16T304-HM	0,4	0,25-3,00	0,08-0,23			●		●				●		○													
Media Lavor.	**TCMT16T308-HM**	0,8	0,5-3,0	0,1-0,3			●		●				●		●													
	TCMT16T312-HM	1,2	0,6-3,0	0,12-0,36			○		○																			
HR	**TCMT090208-HR**	0,8	0,5-3,5	0,08-0,50					○						○													
	TCMT110204-HR	0,4	0,5-3,0	0,1-0,4					○																			
	TCMT110208-HR	0,8	1-4	0,1-0,5					○																			
	TCMT16T304-HR	0,4	0,5-4,0	0,1-0,4					●																			
Sgrossatura	**TCMT16T308-HR**	0,8	1-4	0,12-0,35					●				●		●													
	TCMT16T312-HR	1,2	1,2-4,0	0,14-0,42			○								●													
	TCMT220408-HR	0,8	1,2-4,8	0,14-0,42			○		●						●													

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

STACR/L	STFCR/L	STGCR/L	STTCR/L	S***-STFCR/L	E***-STFCR/L
Kr: 90°	Kr: 91°	Kr: 91°	Kr: 60°	Kr: 91°	Kr: 90°
					
A324	A325	A326	A327	A386	A407

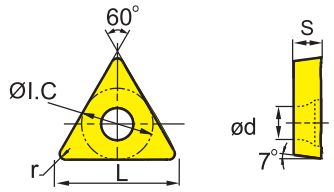
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

TCMT	L	I.C	S	d
22 04	22	12,7	4,76	5,5

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

Inserti - Tornitura

TC** Inserti positivi



	HC¹ (CVD)											HC¹ (PVD)							HT		HC²	HW	
	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
P	●	●	●	✱	✱	✱										✱	✱	✱		●	✱	●		
M							○	✱						○	○	✱	✱	✱	○	○	✱	○		
K									●	✱	✱	✱												
N													●	●									●	✱
S														●	●	✱	✱	✱	●				●	✱
H																								

	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
Basic	**TCMT220408**	0,8	1,2-4,8	0,14-0,42									○															

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

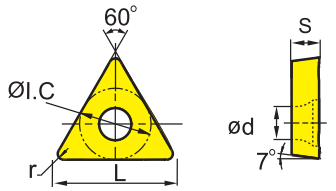
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

TCGX	L	I.C	S	d
09 02	9,63	5,56	2,38	2,5
11 02	11	6,35	2,38	2,8
16 T3	16,5	9,525	3,97	4,4

TC** Inserti positivi



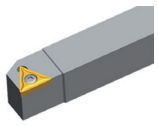
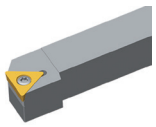
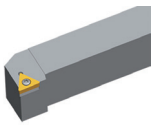
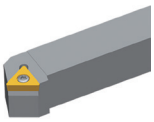
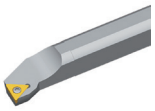
	HC¹ (CVD)												HC¹ (PVD)						HT		HC²	HW	
P	○	○	○	✲	✲	✲									✲	✲	✲		○	✲	○		
M							○	✲						○	○	✲	✲	✲	○	✲	○		
K									○	✲	✲	✲											
N													○	○								○	✲
S														○	○	✲	✲	✲	○			○	✲
H																							

	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
LC Lavorazione Al.	**TCGX090202-LC**	0,2	0,3-4,0	0,05-0,15																							●	
	TCGX090204-LC	0,4	0,5-4,0	0,1-0,3													●										●	
	TCGX110202-LC	0,2	0,3-5,0	0,05-0,15																							●	
	TCGX110204-LC	0,4	0,5-5,0	0,1-0,3													●										●	
	TCGX110208-LC	0,8	0,5-5,0	0,15-0,60													●										●	
	TCGX16T304-LC	0,4	0,5-7,0	0,1-0,3																							●	
	TCGX16T308-LC	0,8	0,5-7,0	0,15-0,60													●										●	
LH Lavorazione Al.	**TCGX090202-LH**	0,2	0,3-4,0	0,05-0,15														○									●	
	TCGX090204-LH	0,4	0,5-4,0	0,1-0,3																							●	
	TCGX110202-LH	0,2	0,3-5,0	0,05-0,15														●									●	
	TCGX110204-LH	0,4	0,5-5,0	0,1-0,3														○									●	
	TCGX110208-LH	0,8	0,5-5,0	0,15-0,60																							●	
	TCGX16T302-LH	0,2	0,5-7,0	0,05-0,15																							●	
	TCGX16T304-LH	0,4	0,5-7,0	0,1-0,3														○									●	
	TCGX16T308-LH	0,8	0,5-7,0	0,15-0,60														○									●	

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

STACR/L	STFCR/L	STGCR/L	STTCR/L	S***-STFCR/L	E***-STFCR/L
Kr: 90°	Kr: 91°	Kr: 91°	Kr: 60°	Kr: 91°	Kr: 90°
					
A324	A325	A326	A327	A386	A407

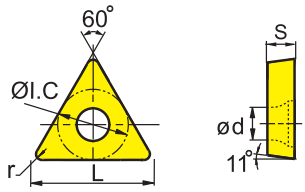
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

TPGH	L	I.C	S	d
09 02	9,63	5,56	2,38	2,8
11 03	11	6,35	3,18	3,18

TP** Inserti positivi



	HC¹ (CVD)												HC¹ (PVD)							HT		HC²	HW		
	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201	
P	●	●	●	✱	✱	✱										✱	✱	✱		●	✱	●			
M							○	✱						○	○	✱	✱	✱	○	○	✱	○			
K									●	✱	✱	✱													
N													●	●									●	✱	
S														●	●	✱	✱	✱	●				●	✱	
H																									

	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
Finitura	**TPGH090202L**	0,2	0,2-3,0	0,05-0,15														●						●	●			
	TPGH090204L	0,4	0,2-3,0	0,05-0,30														○						●	●			
	TPGH110302L	0,2	0,2-3,5	0,05-0,15														●						●	●			
	TPGH110304L	0,4	0,2-3,5	0,05-0,30														●						●	●			

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

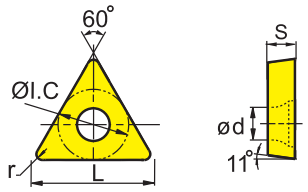
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

TPGT	L	I.C	S	d
09 02	9,63	5,56	2,38	2,5
11 03	11	6,35	3,18	2,8

TP** Inserti positivi



	HC¹ (CVD)												HC¹ (PVD)						HT		HC²		HW			
	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201		
P	●	●	●	✱	✱	✱										✱	✱	✱		●	✱	●				
M							○	✱						○	○	✱	✱	✱	○	○	✱	○				
K									●	✱	✱	✱														
N													●	●									●	✱		
S														●	●	✱	✱	✱	●				●	✱		
H																										

	ISO	r	a_p	f
SF Finitura	**TPGT090202-SF**	0,2	0,05-2,00	0,05-0,15
	TPGT090204-SF	0,4	0,05-2,00	0,05-0,25
	TPGT090208-SF	0,8	0,05-2,00	0,05-0,35
	TPGT110302-SF	0,2	0,05-2,00	0,05-0,15
	TPGT110304-SF	0,4	0,05-2,00	0,05-0,25
	TPGT110308-SF	0,8	0,05-2,00	0,05-0,35

	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
TPGT090202-SF																						○		
TPGT090204-SF														○						○		○		
TPGT090208-SF																				○				
TPGT110302-SF																				○		○		
TPGT110304-SF																				○		●		
TPGT110308-SF																						○		

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

S***-STUPR/L	C***-STUPR/L	E***-STFPR/L
Kr: 93°	Kr: 93°	Kr: 90°
A397	A406	A408

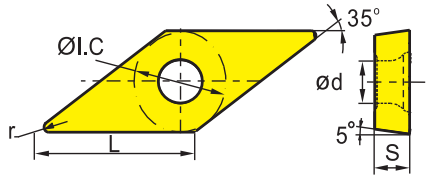
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

VBMT	L	I.C	S	d
11 02	11	6,35	2,38	2,8
11 03	11	6,35	3,18	2,8
16 04	16,5	9,525	4,76	4,4

VB** Inserti positivi



	HC¹ (CVD)											HC¹ (PVD)							HT		HC²		HW	
P	○	○	○	⊛	⊛	⊛									⊛	⊛	⊛		○	⊛	○			
M							○	⊛				○	○	⊛	⊛	⊛	○		○	⊛	○			
K									○	⊛	⊛	⊛												
N													○	○									○	⊛
S													○	○	⊛	⊛	⊛	○					○	⊛
H																								

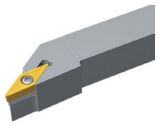
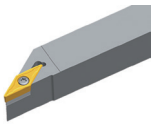
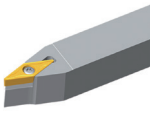
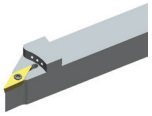
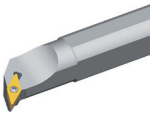
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
AHF	**VBMT160402-AHF**	0,2	0,2-2,5	0,05-0,25																		○						
	VBMT160404-AHF	0,4	0,2-3,0	0,05-0,30		●																●						
	VBMT160408-AHF	0,8	0,8-3,5	0,08-0,40		●																●						
	VBMT160412-AHF	1,2	0,8-2,6	0,13-0,4		○																						
Finitura																												
EF	**VBMT110302-EF**	0,2	0,06-1,70	0,03-0,13																●	○							
	VBMT110304-EF	0,4	0,1-1,7	0,05-0,19							●									●	○							
	VBMT110308-EF	0,8	0,13-1,70	0,07-0,26							●									○	○							
	VBMT160404-EF	0,4	0,1-1,8	0,05-0,20							●									●	○							
Finitura	**VBMT160408-EF**	0,8	0,14-1,80	0,07-0,27							○									●	○							
XF	**VBMT110202-XF**	0,2	0,5-2,0	0,08-0,20				○																				
	VBMT110204-XF	0,4	0,5-2,0	0,08-0,20	●																							
	VBMT110302-XF	0,2	0,5-2,0	0,08-0,20				○																				
	VBMT110304-XF	0,4	0,5-2,0	0,08-0,20	●																							
Finitura	**VBMT160404-XF**	0,4	0,5-2,5	0,08-0,20	●																							
	VBMT160408-XF	0,8	0,5-2,5	0,08-0,25	●																							

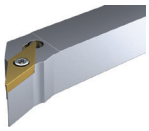
● In magazzino ○ Su richiesta

disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

SVJBR/L	SVABR/L	SVVBN	SVJBR/L-SC	S***-SVQBR/L	S***-SVUBR/L	S***-SVXBR/L
Kr: 93°	Kr: 90°	Kr: 72°30'	Kr: 93°	Kr: 107°30'	Kr: 93°	Kr: 93°
						
A314	A315	A316	A357	A391	A392	A393

SVHBR/L
Kr: 107°30'

A317

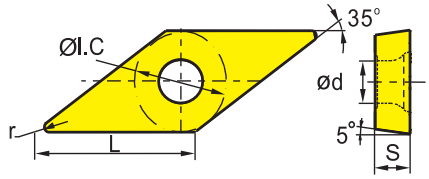
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

VBET	L	I.C	S	d
16 04	16,5	9,525	4,76	4,4

VB** Inserti positivi



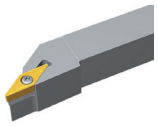
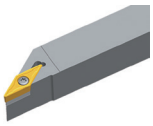
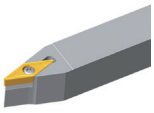
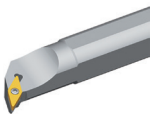
	HC¹ (CVD)												HC¹ (PVD)						HT		HC²		HW		
P	○	○	○	❁	❁	❁									❁	❁	❁		○	❁	○				
M							○	❁						○	○	❁	❁	❁	○	❁	○				
K									○	❁	❁	❁													
N													○	○									○	❁	
S														○	○	❁	❁	❁	○				○	❁	
H																									

	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
NF	**VBET160404-NF**	0,4	0,2-3,0	0,05-0,30															●									
	VBET160408-NF	0,8	0,2-3,0	0,08-0,40															●									
Finitura																												

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

SVJBR/L	SVABR/L	SVVBN	S***-SVQBR/L	S***-SVUBR/L	S***-SVXBR/L
Kr: 93°	Kr: 90°	Kr: 72°30'	Kr: 107°30'	Kr: 93°	Kr: 93°
					
A314	A315	A316	A391	A392	A393

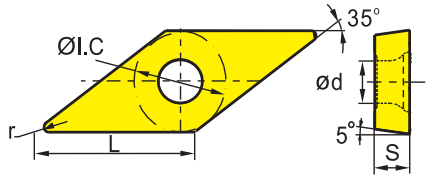
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

VBGT	L	I.C	S	d
11 03	11	6,35	3,18	2,8
16 04	16,6	9,525	4,76	4,4

VB** Inserti positivi



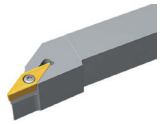
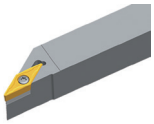
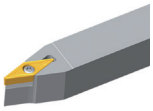
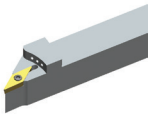
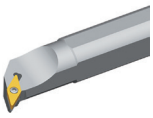
	HC¹ (CVD)											HC¹ (PVD)							HT		HC²	HW	
	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
P	●	●	✱	✱	✱											✱	✱	✱		●	✱	●		
M							○	✱						○	○	✱	✱	✱	○	○	✱	○		
K									●	✱	✱	✱												
N													●	●									●	✱
S														●	●	✱	✱	✱	●				●	✱
H																								

	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
QF	**VBGT110301-QF**	0,1	0,05-0,2	0,03-0,1																	●							
	VBGT110302-QF	0,2	0,1-0,4	0,05-0,2																	●					●		
	VBGT110304-QF	0,4	0,4-1,0	0,1-0,3																	●					○		
	VBGT160402-QF	0,2	0.2-1.0	0.05-0.15	●																●					○		
Finitura	**VBGT160404-QF**	0,4	0.2-1.5	0.08-0.15	●																●					○		
	VBGT160408-QF	0,8	0.5-2	0.05-0.2																	●					○		
SF	**VBGT110302-SF**	0,2	0,05-2,00	0,05-0,15																				○	○	○		
	VBGT110304-SF	0,4	0,05-2,00	0,05-0,20																					○	○		
Finitura																												

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

SVJBR/L	SVABR/L	SVVBN	SVJBR/L-SC	S***-SVQBR/L	S***-SVUBR/L	S***-SVXBR/L
Kr: 93°	Kr: 90°	Kr: 72°30'	Kr: 93°	Kr: 107°30'	Kr: 93°	Kr: 93°
						
A314	A315	A316	A357	A391	A392	A393

Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

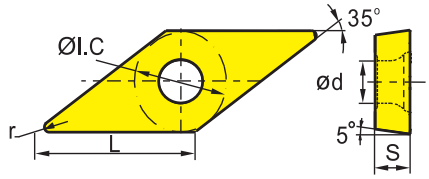
Tornitura generale Inserti positivi

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

VB**	L	I.C	S	d
11 03	11	6,35	3,18	2,8
16 04	16,5	9,525	4,76	4,4

VB** Inserti positivi



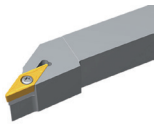
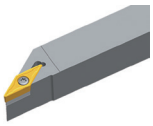
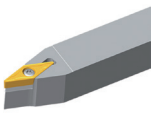
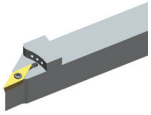
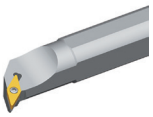
	HC¹ (CVD)												HC¹ (PVD)						HT		HC²	HW	
P	○	○	○	⊛	⊛	⊛									⊛	⊛	⊛		○	⊛	○		
M							○	⊛						○	○	⊛	⊛	⊛	○	⊛	○		
K									○	⊛	⊛	⊛											
N													○	○								○	⊛
S														○	○	⊛	⊛	⊛	○			○	⊛
H																							

	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
NGF	**VBET160408-NGF**	0,8	0,2-3,0	0,08-0,30															●									
	VBET160412-NGF	1,2	0,2-3,0	0,1-0,4															●									
Finitura																												
EM	**VBMT110304-EM**	0,4	0,15-2,00	0,07-0,20							○									●	○							
	VBMT110308-EM	0,8	0,2-2,0	0,09-0,27			○				○									●	○							
	VBMT160404-EM	0,4	0,23-2,70	0,07-0,20							●									●	○							
	VBMT160408-EM	0,8	0,45-2,70	0,09-0,27							●									●	○							
Media Lavor.																												
HM	**VBMT160404-HM**	0,4	0,23-2,70	0,07-0,20			●		●		●		●															
	VBMT160408-HM	0,8	0,45-2,70	0,09-0,27			●		●		○	●	●		●													
	VBMT160412-HM	1,2	0,54-2,70	0,11-0,32			○		○																			
Media Lavor.																												
XM	**VBMT160404-XM**	0,4	1-2,5	0,15-0,25	●			○																				
	VBMT160408-XM	0,8	1-2,5	0,15-0,3	●			○																				
	VBMT160412-XM	1,2	1-2,5	0,15-0,35	●			○																				
Media Lavor.																												

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

SVJBR/L	SVABR/L	SVVBN	SVJBR/L-SC	S***-SVQBR/L	S***-SVUBR/L	S***-SVXBR/L
Kr: 93°	Kr: 90°	Kr: 72°30'	Kr: 93°	Kr: 107°30'	Kr: 93°	Kr: 93°
						
A314	A315	A316	A357	A391	A392	A393

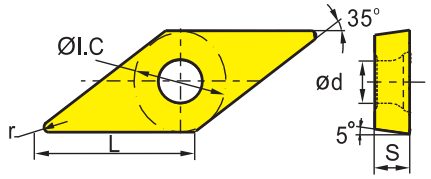
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

VBMT	L	I.C	S	d
16 04	16,5	9,525	4,76	4,4

VB** Inserti positivi



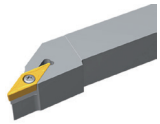
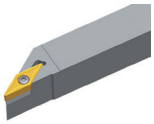
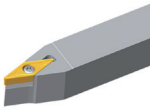
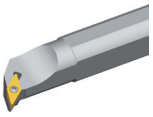
	HC¹ (CVD)												HC¹ (PVD)							HT		HC²	HW	
P	●	●	●	❁	❁	❁										❁	❁	❁		●	❁	●		
M								●	❁					●	●	❁	❁	❁	●	●	❁	●		
K										●	❁	❁	❁											
N														●	●								●	❁
S															●	❁	❁	❁	●				●	❁
H																								

	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
HR	**VBMT160404-HR**	0,4	0,5-3,0	0,1-0,3			○		○																			
	VBMT160408-HR	0,8	0,9-3,6	0,11-0,32			○		○																			
	VBMT160412-HR	1,2	1,08-3,60	0,13-0,38			○		○																			
Sgrossatura																												
SNR	**VBMT160408-SNR**	0,8	0,5-4,0	0,1-0,3															●				○					
	VBMT160412-SNR	1,2	0,5-4,0	0,3-0,6															●				○					
Sgrossatura																												

● In magazzino ○ Su richiesta
disponibili YBC152F, YBC252F, YBM153F, YBM253F

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

SVJBR/L	SVABR/L	SVVBN	S***-SVQBR/L	S***-SVUBR/L	S***-SVXBR/L
Kr: 93°	Kr: 90°	Kr: 72°30'	Kr: 107°30'	Kr: 93°	Kr: 93°
					
A314	A315	A316	A391	A392	A393

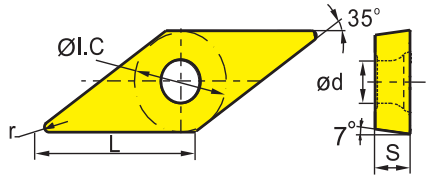
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

VCGT	L	I.C	S	d
11 03	11	6,35	3,18	2,8
16 04	16,6	9,525	4,76	4,4

VC** Inserti positivi



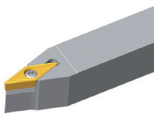
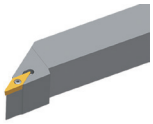
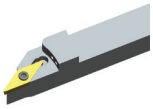
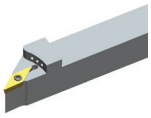
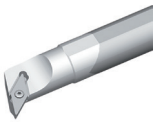
	HC¹ (CVD)												HC¹ (PVD)						HT		HC²		HW	
P	●	●	✱	✱	✱											✱		✱	●	✱				
M							○	✱						○	○	✱		○	○	✱				
K									●	✱	✱	✱												
N													●	●									●	✱
S														●	○	✱		✱	○				●	✱
H																								

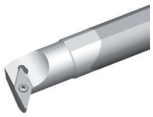
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
SF	**VCGT110302-SF**	0,2	0,05-1,00	0,05-0,15																				●	●	●		
	VCGT110304-SF	0,4	0,05-1,00	0,05-0,25														○		●				●	○	●		
	VCGT160404-SF	0,4	0,05-1,50	0,05-0,25																						●		
Finitura																												
	VCGT110301-QF	0,1	0.1-1	0.05-0.2																	●							
	VCGT110302-QF	0,2	0.1-0.5	0.05-0.1																	●					●		
	VCGT110304-QF	0,4	0.2-0.7	0.08-0.2																	●					○		
	VCGT160402-QF	0,2	0.2-1.5	0.05-0.15	●																●					○		
Finitura	**VCGT160404-QF**	0,4	0.2-1.5	0.08-0.15	●																●					○		
	VCGT160408-QF	0,8	0.5-2	0.05-0.2																	○							

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

SVVCN	SVJCR/L	SVACR/L-SC	SVJCR/L-SC	S***-SVQCR/L	S***-SVUCR/L	C***-SVQCR/L
Kr: 72°30'	Kr: 93°	Kr: 90°	Kr: 93°	Kr: 107°30'	Kr: 93°	Kr: 107°30'
						
A318	A319	A356	A358	A389	A390	A409

C***-SVUCR/L	S***-SVJCR/L
Kr: 93°	Kr: 93°
	
A410	A388

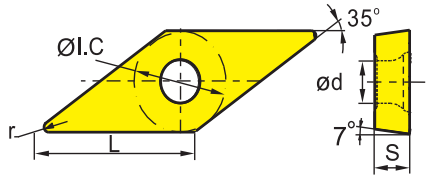
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

VCGT	L	I.C	S	d
11 03	11	6,35	3,18	2,8
16 04	16,5	9,525	4,76	4,4

VC** Inserti positivi



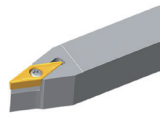
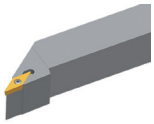
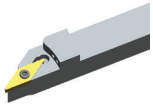
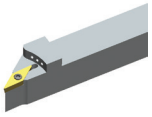
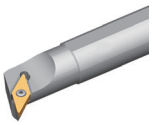
	HC¹ (CVD)												HC¹ (PVD)							HT		HC²		HW	
	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C		YD101	YD201
P	●	●	●	✱	✱	✱										✱	✱	✱		●	✱	●			
M							○	✱						○	○	✱	✱	✱	○	○	✱	○			
K									●	✱	✱	✱													
N													●	●										●	✱
S														●	●	✱	✱	✱	●					●	✱
H																									

	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C		YD101	YD201
HF	**VCGT110304-HF**	0,4	0,2-2,0	0,05-0,30																○									
Finitura																													
NF	**VCGT160408-NF**	0,8	0,2-2,0	0,1-0,4															●										
Finitura																													

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

SVVCN	SVJCR/L	SVACR/L-SC	SVJCR/L-SC	S***-SVQCR/L	S***-SVUCR/L	C***-SVQCR/L
Kr: 72°30'	Kr: 93°	Kr: 90°	Kr: 93°	Kr: 107°30'	Kr: 93°	Kr: 107°30'
						
A318	A319	A356	A358	A389	A390	A409

C***-SVUCR/L	S***-SVJCR/L
Kr: 93°	Kr: 93°
A410	A388

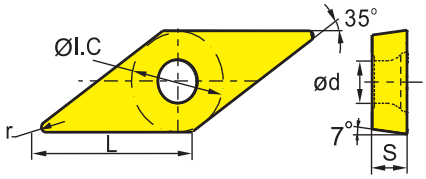
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

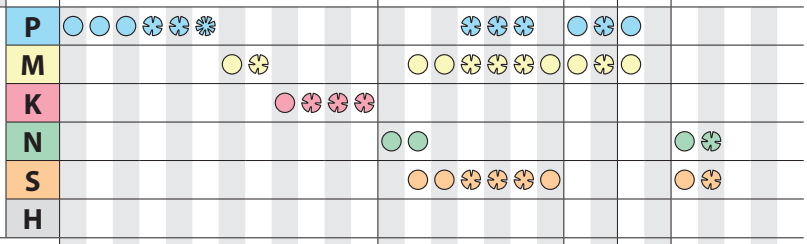
Inserti - Tornitura/Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

VCGX	L	I.C	S	d
11 03	11	6,35	3,18	2,8
16 04	16,6	9,525	4,76	4,4
22 05	22	12,7	5,56	5,5

VC ** Inserti - Tornitura/Fresatura



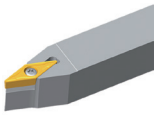
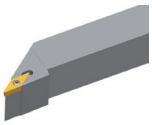
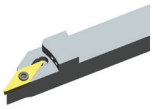
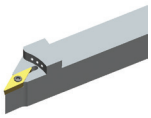
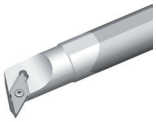


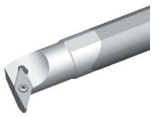
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
LC	**VCGX110301-LC**	0,1	0,3-3,0	0,05-0,10													●			●							●	
	VCGX110302-LC	0,2	0,3-3,0	0,05-0,15													●			○							●	
	VCGX110304-LC	0,4	0,5-3,0	0,1-0,3													●										●	
	VCGX110308-LC	0,8	1-3	0,1-0,5													●										●	
	VCGX160402-LC	0,2	0,5-5,0	0,05-0,10													○										○	
Lavorazione Al.	**VCGX160404-LC**	0,4	0,5-5,0	0,1-0,3													●										●	
	VCGX160408-LC	0,8	0,5-5,0	0,15-0,60													●										●	
	VCGX160412-LC	1,2	0,5-5,0	0,15-0,80													○										●	
	VCGX220530-LC	3	0,5-7,0	0,25-1,00													●										○	●

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

SVVCN	SVJCR/L	SVACR/L-SC	SVJCR/L-SC	S***-SVQCR/L	S***-SVUCR/L	C***-SVQCR/L
Kr: 72°30'	Kr: 93°	Kr: 90°	Kr: 93°	Kr: 107°30'	Kr: 93°	Kr: 107°30'
						
A318	A319	A356	A358	A389	A390	A409

C***-SVUCR/L	S***-SVJCR/L
Kr: 93°	Kr: 93°
	
A410	A388

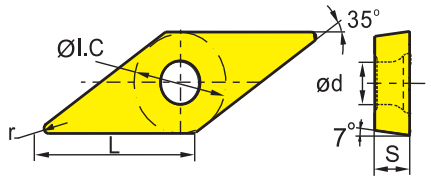
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

VCGX	L	I.C	S	d
11 02	11	6,35	2,38	2,8
11 03	11	6,35	3,18	2,8
16 04	16,6	9,525	4,76	4,4
22 05	22	12,7	5,56	5,5

Inserti - Tornitura/Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

VC ** Inserti - Tornitura/Fresatura



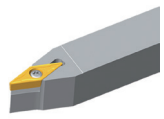
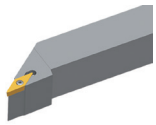
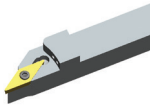
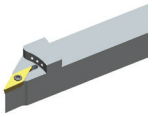
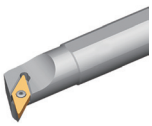
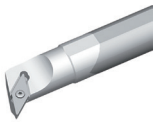
	HC¹ (CVD)												HC¹ (PVD)							HT		HC²	HW	
	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
P	○	○	○	⊛	⊛	⊛										⊛	⊛	⊛		○	⊛	○		
M							○	⊛						○	○	⊛	⊛	⊛	○	○	⊛	○		
K									○	⊛	⊛	⊛												
N													○	○									○	⊛
S														○	○	⊛	⊛	⊛	○				○	⊛
H																								

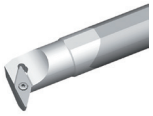
	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
LH	**VCGX110204-LH**	0,4	0,5-3,0	0,1-0,3																							●	
	VCGX110301-LH	0,1	0,5-3,0	0,05-0,10																							●	
	VCGX110302-LH	0,2	0,3-3,0	0,05-0,15														●									●	○
	VCGX110304-LH	0,4	0,5-3,0	0,1-0,3														●									●	○
	VCGX110308-LH	0,8	0,5-3,0	0,15-0,60																							●	
	VCGX160402-LH	0,2	0,5-5,0	0,05-0,10														●									●	
Lavorazione Al.	**VCGX160404-LH**	0,4	0,5-5,0	0,1-0,3														●									●	
	VCGX160408-LH	0,8	0,5-5,0	0,15-0,60														●									●	
	VCGX160412-LH	1,2	0,5-5,0	0,15-0,80														○									●	
	VCGX220530-LH	3	0,5-7,0	0,25-1,00																							●	○

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

SVVCN	SVJCR/L	SVACR/L-SC	SVJCR/L-SC	S***-SVQCR/L	S***-SVUCR/L	C***-SVQCR/L
Kr: 72°30'	Kr: 93°	Kr: 90°	Kr: 93°	Kr: 107°30'	Kr: 93°	Kr: 107°30'
						
A318	A319	A356	A358	A389	A390	A409

C***-SVUCR/L	S***-SVJCR/L
Kr: 93°	Kr: 93°
	
A410	A388

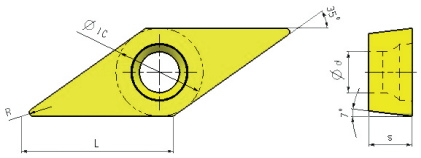
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

VCMT	L	I.C	S	d
11 03	11	6,35	3,18	2,8
16 04	16	9,525	4,76	4,4

VC** Inserti positivi



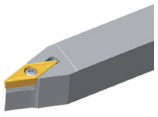
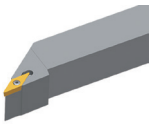
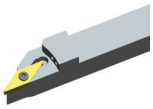
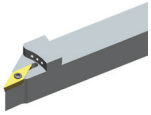
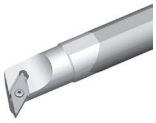
	HC¹ (CVD)												HC¹ (PVD)						HT		HC²		HW		
P	●	●	●	⊛	⊛	⊛									⊛	⊛	⊛		●	⊛	●				
M							●	⊛					●	●	⊛	⊛	⊛	●	●	⊛	●				
K									●	⊛	⊛	⊛													
N													●	●									●	⊛	
S													●	●	⊛	⊛	⊛	●					●	⊛	
H																									

	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
XF	**VCMT110302-XF**	0,2	0,5-2,0	0,08-0,20				○																				
	VCMT110304-XF	0,4	0,5-2,0	0,08-0,20	●																							
	VCMT110308-XF	0,8	0,5-2,0	0,08-0,25	●																							
	VCMT160404-XF	0,4	0,5-2,5	0,08-0,20	●																							
Finitura	**VCMT160408-XF**	0,8	0,5-2,5	0,08-0,25	●																							

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

SVVCN	SVJCR/L	SVACR/L-SC	SVJCR/L-SC	S***-SVQCR/L	S***-SVUCR/L	C***-SVQCR/L
Kr: 72°30'	Kr: 93°	Kr: 90°	Kr: 93°	Kr: 107°30'	Kr: 93°	Kr: 107°30'
						
A318	A319	A356	A358	A389	A390	A409

C***-SVUCR/L	S***-SVJCR/L
Kr: 93°	Kr: 93°
A410	A388

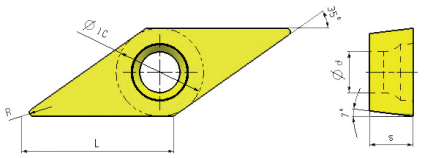
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

VCMT	L	I.C	S	d
16 04	16	9,525	4,76	4,4

VC** Inserti positivi



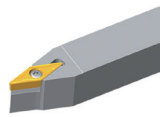
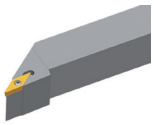
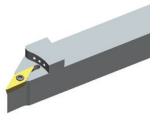
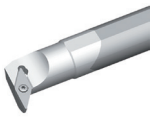
	HC¹ (CVD)												HC¹ (PVD)							HT		HC²	HW	
P	●	●	●	⊛	⊛	⊛										⊛	⊛	⊛		●	⊛	●		
M								○	⊛					○	○	⊛	⊛	⊛	○	○	⊛	○		
K										●	⊛	⊛	⊛											
N														●	●								●	⊛
S															●	⊛	⊛	⊛	●				●	⊛
H																								

	ISO	r	a_p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YBG205H	YB9320	YBS103	YNG151	YNT251	YNG151C	YD101	YD201
AHF	**VCMT160404-AHF**	0,4	0,5-2,5	0,05-0,3		○																						
	VCMT160408-AHF	0,8	0,6-2,5	0,1-0,35		○																						
	VCMT160412-AHF	1,2	0,5-3,0	0,08-0,35		○																						
Finitura																												
EF	**VCMT160404-EF**	0,4	0,5-2,5	0,05-0,20																●	○							
Media Lavor.																												
EM	**VCMT160404-EM**	0,4	0,5-2,5	0,05-0,35							○									●	○							
	VCMT160408-EM	0,8	0,5-2,5	0,10-0,45							○									●	○							
Media Lavor.																												
XM	**VCMT160412-XM**	1,2	1-2,5	0,15-0,35	○			○																				
Media Lavor.																												

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Portautensile

SVVCN	SVJCR/L	SVJCR/L-SC	S***-SVUCR/L	E***-SVUCR/L
Kr: 72°30'	Kr: 93°	Kr: 93°	Kr: 93°	Kr: 93°
				
A318	A319	A358	A390	A410

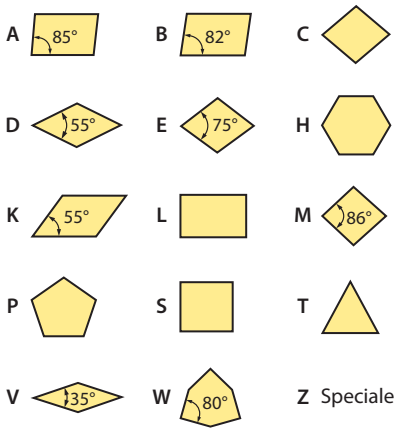
Codice sistema A52 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Tornitura generale

Codice ISO – inserti PCBN & PCD

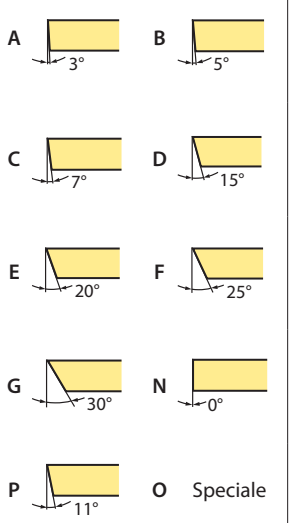
C	N	G	A	12	04	08	T	020	20	–	2	(W)
1	2	3	4	5	6	7	8	9	10		11	12

Forma dell'inserto



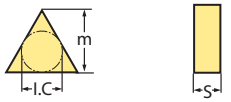
1

Angolo di spoglia inferiore



2

Grado di tolleranza

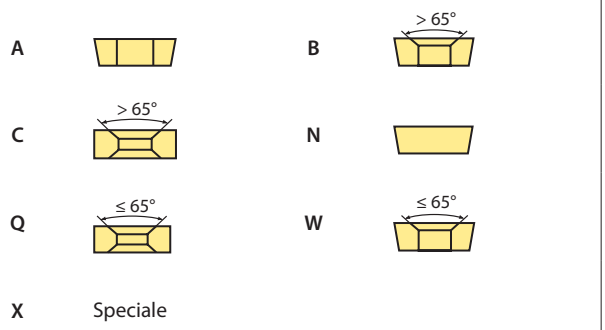


Code	I.C [mm]	m [mm]	S [mm]
A	±0,025	±0,005	±0,025
C	±0,025	±0,013	±0,025
E	±0,025	±0,025	±0,025
F	±0,013	±0,005	±0,025
G	±0,025	±0,025	±0,130
H	±0,013	±0,013	±0,025
J	±0,05–0,15	±0,005	±0,025
K	±0,05–0,15	±0,013	±0,025
L	±0,05–0,15	±0,025	±0,025
M	±0,05–0,15	±0,08–0,20	±0,130
N	±0,05–0,15	±0,08–0,20	±0,025
U	±0,08–0,25	±0,13–0,38	±0,130

3

Caratteristiche di fissaggio (metrico)

Forma dell'inserto



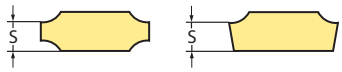
4

Lunghezza tagliente [mm]

I.C [mm]	Forma dell'inserto C	D	S	T	V	W
3,97				06		
5,0						
5,56				09		
6,0						
6,35	06	07		11	11	
8,0						
9,525	09	11	09	16	16	06
10,0						
12,0						
12,7	12	15	12	22	22	08
15,875	16		15	27		
16,0		19				
19,05	19		19	33		
20,0						
25,0	25	25				
25,4			25			
31,75						
32						

5

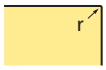
Spessore dell'inserto S [mm]



Code	S	Code	S
02	2,38	**06**	6,35
T2	2,58	**T6**	6,75
03	3,18	**07**	7,94
T3	3,97	**09**	9,52
04	4,76	**T9**	9,72
T4	4,96	**11**	11,11
05	5,56	**12**	12,70
T5	5,95		

6

Raggio di punta r [mm]



Code	r
00	–
02	0,2
04	0,4
08	0,8
12	1,2
16	1,6
20	2,0
24	2,4
32	3,2
X	Speciale
MO	Inserto rotondo

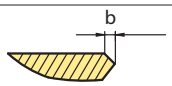
7

Versione del tagliente

Code	Tagliente	Forma dell'inserto
E	Arrotondato	
F	Spigolo vivo	
T	Smusso	
S	Smusso + Arrotondamento	

8

Larghezza smusso b [mm]



Code	b
010	0,10
015	0,15
020	0,20
025	0,25
030	0,30
035	0,35
040	0,40
045	0,45
050	0,50
100	1,00
200	2,00

9

Angolo dello smusso α

Code	α
05	5°
10	10°
15	15°
20	20°
25	25°
30	30°

10

Numero taglienti

Code	Forma
1	
2	
3	
4	

11

Extra

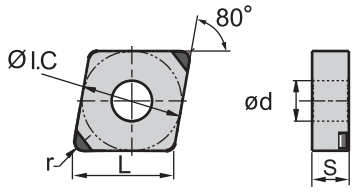
Code	Descrizione
W	Wiper
HS	Riporto -FULL FACE- unilaterale
M	Nicchia per fissaggio (CBN integrale)
CB	Rompitruciolo (CBN)
MED	Rompitruciolo per finitura – taglio medio (PCD)
ROF	Rompitruciolo per taglio medio – sgrossatura (PCD)
L (L/R)	Riporto tagliente completo (PCD)

12

Inserti - Tornitura (CBN)

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

CNGA	L	I.C	S	d
12 04	12,9	12,7	4,76	5,16



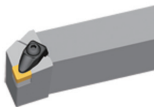
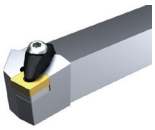
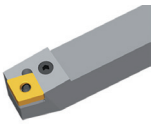
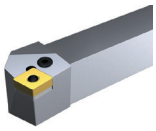
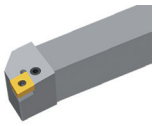
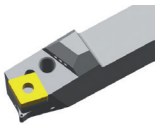
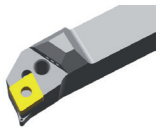
CN** Inserti negativi	BL (CBN)				BC (CBN)			BH (CBN)
P								
M								
K								○
N								
S	○			⊛				
H		○	⊛	⊛	○	⊛	⊛	

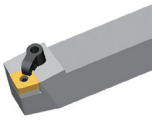
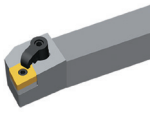
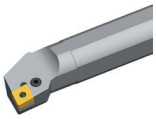
ISO	r	a_p	f	YCB112	YCB113	YCB121	YCB131	YCB113C	YCB121C	YCB131C	YCB215
CNGA120402S01020-2	0,2	0,08-0,50	0,05-0,15			○			○		
CNGA120402S01225-2	0,2	0,08-0,50	0,05-0,15		○			○			
CNGA120404E-2	0,4	0,08-0,50	0,05-0,20	○			○				
CNGA120404S01020-2	0,4	0,08-0,50	0,05-0,20			●			○		○
CNGA120404S01225-2	0,4	0,08-0,50	0,05-0,20		●			○			
CNGA120408E-2	0,8	0,08-0,50	0,05-0,25	○			○				
CNGA120408S01525-2	0,8	0,08-0,50	0,05-0,25		●		●	●			
CNGA120408S02020-2	0,8	0,08-0,50	0,05-0,25			●			●		○
CNGA120412E-2	1,2	0,08-0,50	0,05-0,30	○			○				
CNGA120412S01020-2	1,2	0,08-0,50	0,05-0,30								●
CNGA120412S01525-2	1,2	0,08-0,50	0,05-0,30		●		●	●			
CNGA120412S02020-2	1,2	0,08-0,50	0,05-0,30			●			○		
CNGA120416S01020-2	1,6	0,08-0,50	0,05-0,35								○
CNGA120416S01525-2	1,6	0,08-0,50	0,05-0,35		○		○	○			
CNGA120416S02020-2	1,6	0,08-0,50	0,05-0,35			○			○		

● In magazzino ○ Su richiesta

BL CBN con ridotto contenuto di CBN
BC CBN con rivestimento
BH CBN con elevato contenuto di CBN

Portautensile

DCLNR/L	DCKNR/L	PCBNR/L	PCKNR/L	PCLNR/L	PCBNR/LC	PCLNR/LC
Kr: 95°	Kr: 75°	Kr: 75°	Kr: 75°	Kr: 95°	Kr: 75°	Kr: 95°
						
A262	A263	A270	A271	A272	A286	A287

MCBNR/L	MCLNR/L	S***-PCLNR/L
Kr: 75°	Kr: 95°	Kr: 95°
		
A291	A292	A370

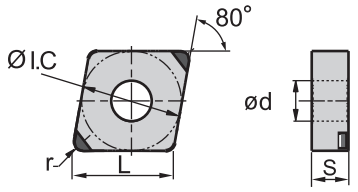
Codice sistema A188 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

CNGA	L	I.C	S	d
12 04	12,9	12,7	4,76	5,16

Inserti - Tornitura (CBN)

CN** Inserti negativi



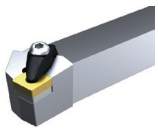
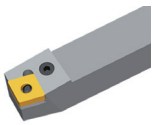
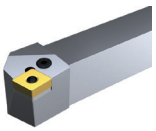
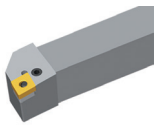
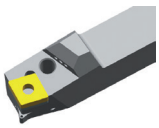
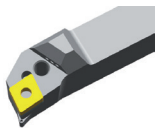
	BL (CBN)				BC (CBN)				BH (CBN)			
P												
M												
K									●			
N												
S	○			⊛								
H		○	⊛	❁	○	⊛	❁					

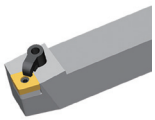
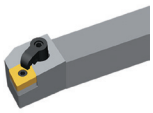
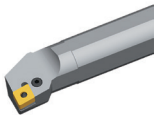
	ISO	r	a_p	f	YCB112	YCB113	YCB121	YCB131	YCB113C	YCB121C	YCB131C	YCB215
	CNGA120408S01525-2W	0,8	0,08-0,50	0,05-0,25		●		○	○			
	CNGA120408S02020-2W	0,8	0,08-0,50	0,05-0,25			●			○		

● In magazzino ○ Su richiesta

BL CBN con ridotto contenuto di CBN
BC CBN con rivestimento
BH CBN con elevato contenuto di CBN

Portautensile

DCLNR/L	DCKNR/L	PCBNR/L	PCKNR/L	PCLNR/L	PCBNR/LC	PCLNR/LC
Kr: 95°	Kr: 75°	Kr: 75°	Kr: 75°	Kr: 95°	Kr: 75°	Kr: 95°
						
A262	A263	A270	A271	A272	A286	A287

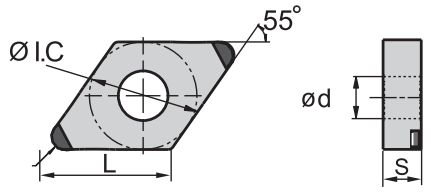
MCBNR/L	MCLNR/L	S***-PCLNR/L
Kr: 75°	Kr: 95°	Kr: 95°
		
A291	A292	A370

Codice sistema A188 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura (CBN)

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

DNGA	L	I.C	S	d
15 06	15,5	12,7	6,35	5,16



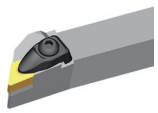
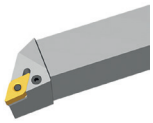
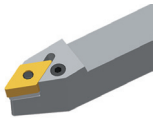
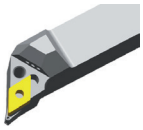
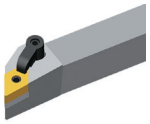
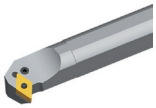
DN** Inserti negativi	BL (CBN)				BC (CBN)			BH (CBN)
P								
M								
K								○
N								
S	○			⊛				
H		○	⊛	⊛	○	⊛	⊛	

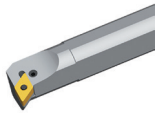
ISO	r	a_p	f	YCB112	YCB113	YCB121	YCB131	YCB113C	YCB121C	YCB131C	YCB215
DNGA150604E-2	0,4	0,08-0,50	0,05-0,20	○			○				
DNGA150604S01020-2	0,4	0,08-0,50	0,05-0,20			○			○		○
DNGA150604S01225-2	0,4	0,08-0,50	0,05-0,20		○		○	○			
DNGA150608E-2	0,8	0,08-0,50	0,05-0,25	○			○				
DNGA150608S01020-2	0,8	0,08-0,50	0,05-0,25								○
DNGA150608S01525-2	0,8	0,08-0,50	0,05-0,25		●		●	●			
DNGA150608S02020-2	0,8	0,08-0,50	0,05-0,25			●			●		
DNGA150612S01020-2	1,2	0,08-0,50	0,05-0,30								○
DNGA150612S01525-2	1,2	0,08-0,50	0,05-0,30		●						
DNGA150612S02020-2	1,2	0,08-0,50	0,05-0,30			●			○		

● In magazzino ○ Su richiesta

BL CBN con ridotto contenuto di CBN
BC CBN con rivestimento
BH CBN con elevato contenuto di CBN

Portautensile

DDJNR/L	PDJNR/L	PDNNR/L	PDJNR/LC	MDJNR/L	MDPNN	S***-PDSNR/L
Kr: 93°	Kr: 93°	Kr: 63°	Kr: 93°	Kr: 93°	Kr: 62°30'	Kr: 62°30'
						
A264	A274	A275	A288	A294	A295	A372

S***-PDUNR/L
Kr: 93°

A373

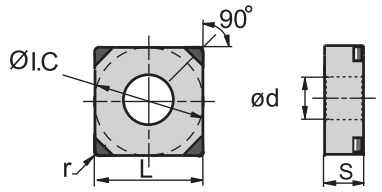
Codice sistema A188 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

SNGA	L	I.C	S	d
12 04	12,7	12,7	4,76	5,16

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

Inserti - Tornitura (CBN)

SN** Inserti negativi



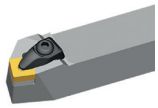
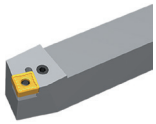
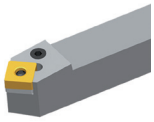
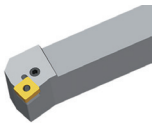
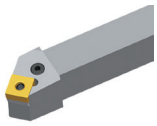
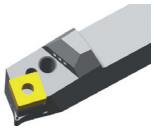
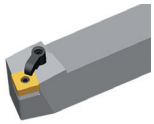
	BL (CBN)				BC (CBN)			BH (CBN)
P								
M								
K								●
N								
S	●			⊛				
H		●	⊛	⊛	●	⊛	⊛	

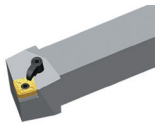
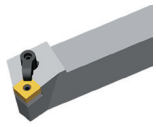
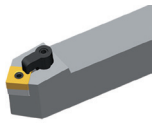
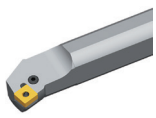
	ISO	r	a_p	f	YCB112	YCB113	YCB121	YCB131	YCB113C	YCB121C	YCB131C	YCB215
	SNGA120408S01020-4	0,8	0,08-0,50	0,05-0,25								○
	SNGA120408S01525-4	0,8	0,08-0,50	0,05-0,25		○		○	○			
	SNGA120408S02020-4	0,8	0,08-0,50	0,05-0,25			○			○		
	SNGA120412S01020-4	1,2	0,08-0,50	0,05-0,30								○
	SNGA120412S01525-4	1,2	0,08-0,50	0,05-0,30		○		○	○			
	SNGA120412S02020-4	1,2	0,08-0,50	0,05-0,30			○			○		

● In magazzino ○ Su richiesta

BL CBN con ridotto contenuto di CBN
BC CBN con rivestimento
BH CBN con elevato contenuto di CBN

Portautensile

DSBNR/L	PSBNR/L	PSDNN	PSKNR/L	PSSNR/L	PSBNR/LC	MSBNR/L
Kr: 75°	Kr: 75°	Kr: 45°	Kr: 75°	Kr: 45°	Kr: 75°	Kr: 75°
						
A265	A276	A278	A279	A280	A289	A296

MSRNR/L	MSKNR/L	MSDNN	S***-PSKNR/L
Kr: 75°	Kr: 75°	Kr: 45°	Kr: 75°
			
A297	A298	A299	A375

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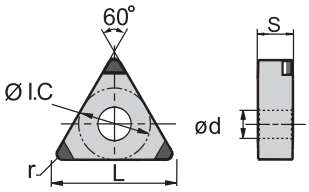
Inserti - Tornitura (CBN)

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

TNGA	L	I.C	S	d
16 04	16,5	9,525	4,76	3,81



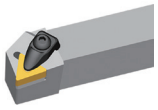
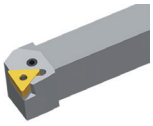
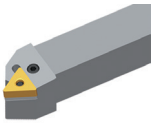
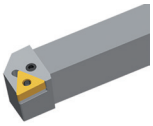
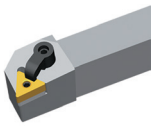
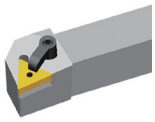
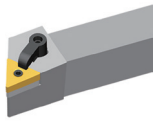
TN** Inserti negativi	BL (CBN)	BC (CBN)	BH (CBN)
P			
M			
K			●
N			
S	○ ⊛		
H	● ⊛ ⊛	● ⊛ ⊛	

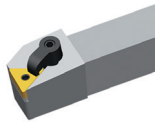
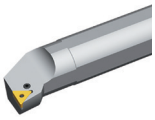
	ISO	r	a_p	f	YCB112	YCB113	YCB121	YCB131	YCB113C	YCB121C	YCB131C	YCB215
	TNGA160404S01020-3	0,4	0,08-0,50	0,05-0,20			○			○		○
	TNGA160404S01225-3	0,4	0,08-0,50	0,05-0,20		○			○			
	TNGA160408S01020-3	0,8	0,08-0,50	0,05-0,25								○
	TNGA160408S01525-3	0,8	0,08-0,50	0,05-0,25		○		○	○			
	TNGA160408S02020-3	0,8	0,08-0,50	0,05-0,25			●			○		
	TNGA160412S01020-3	1,2	0,08-0,50	0,05-0,30								○
	TNGA160412S01525-3	1,2	0,08-0,50	0,05-0,30		○		○	○			
	TNGA160412S02020-3	1,2	0,08-0,50	0,05-0,30			○			○		

● In magazzino ○ Su richiesta

BL CBN con ridotto contenuto di CBN
BC CBN con rivestimento
BH CBN con elevato contenuto di CBN

Portautensile

DTGNR/L	PTFNR/L	PTTNR/L	PTGNR/L	MTGNR/L	MTJNR/L	MTJNR/L
Kr: 91°	Kr: 91°	Kr: 60°	Kr: 90°	Kr: 90°	Kr: 93°	Kr: 93°
						
A266	A281	A282	A283	A300	A301	A302

MTFNR/L	S***-PTFNR/L
Kr: 91°	Kr: 90°
	
A303	A376

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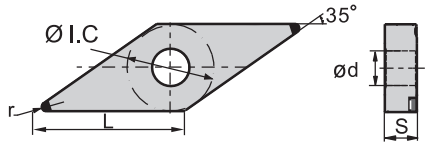
- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

VNGA	L	I.C	S	d
16 04	16,6	9,525	4,76	3,81

Inserti - Tornitura (CBN)

VN** Inserti negativi



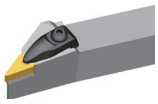
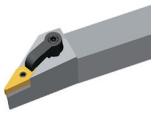
	BL (CBN)				BC (CBN)			BH (CBN)
P								
M								
K								●
N								
S	○		⊛					
H		●	⊛	❁	○	⊛	❁	

	ISO	r	a_p	f	YCB112	YCB113	YCB121	YCB131	YCB113C	YCB121C	YCB131C	YCB215
	VNGA160402S01020-2	0,2	0,08-0,30	0,05-0,20			○					
	VNGA160404S01020-2	0,4	0,08-0,50	0,05-0,20			●			○		○
	VNGA160404S01225-2	0,4	0,08-0,50	0,05-0,20		●			○			
	VNGA160408S01020-2	0,8	0,08-0,50	0,05-0,25								○
	VNGA160408S01525-2	0,8	0,08-0,50	0,05-0,25		●			○			
	VNGA160408S02020-2	0,8	0,08-0,50	0,05-0,25			●			○		

● In magazzino ○ Su richiesta

BL CBN con ridotto contenuto di CBN
BC CBN con rivestimento
BH CBN con elevato contenuto di CBN

Portautensile

DVVNN	DVJNR/L	MVVNN	MVJNR/L
Kr: 72°30'	Kr: 93°	Kr: 72°30'	Kr: 93°
			
A267	A268	A304	A305

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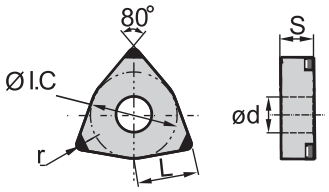
Inserti - Tornitura (CBN)

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

WNGA	L	I.C	S	d
08 04	8,69	12,7	4,76	5,16



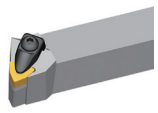
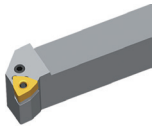
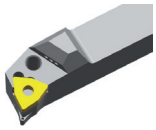
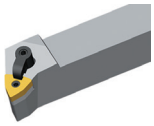
WN** Inserti negativi	BL (CBN)	BC (CBN)	BH (CBN)
P			
M			
K			●
N			
S	● ○		
H	○ ○ ○	● ○ ○	

	ISO	r	a_p	f	YCB112	YCB113	YCB121	YCB131	YCB113C	YCB121C	YCB131C	YCB215
	WNGA080404S01020-3	0,4	0,08-0,50	0,05-0,20			○			○		○
	WNGA080404S01225-3	0,4	0,08-0,50	0,05-0,20		○			○			
	WNGA080408S01020-3	0,8	0,08-0,50	0,05-0,25								○
	WNGA080408S01525-3	0,8	0,08-0,50	0,05-0,25		○			○			
	WNGA080408S02020-3	0,8	0,08-0,50	0,05-0,25			○			○		
	WNGA080412S01020-3	1,2	0,08-0,50	0,05-0,30								○
	WNGA080412S01525-3	1,2	0,08-0,50	0,05-0,30		○		○	○			
	WNGA080412S02020-3	1,2	0,08-0,50	0,05-0,30			○			○		

● In magazzino ○ Su richiesta

BL CBN con ridotto contenuto di CBN
BC CBN con rivestimento
BH CBN con elevato contenuto di CBN

Portautensile

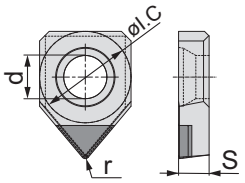
DWLNR/L	PWLNR/L	PWLNR/LC	MWLNR/L	S***-PWLNR/L
Kr: 95°	Kr: 95°	Kr: 95°	Kr: 95°	Kr: 95°
				
A269	A285	A290	A306	A378

Codice sistema A188 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

● Buone condizioni di lavorazione
Condizioni di lavorazione normali
Condizioni di lavorazione sfavorevoli

ZNEX	I.C	S	d
04 01	4,76	1,59	2,3

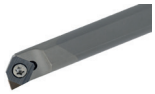
Inserti - Tornitura (CBN)

ZN** Inserti negativi					BL (CBN)				BC (CBN)				BH (CBN)							
				P																
				M																
				K									●							
				N																
				S	○			⊛												
				H		●	⊛	❁	○	⊛	❁									
ISO		r	a_p	f	YCB112	YCB113	YCB121	YCB131	YCB113C	YCB121C	YCB131C		YCB215							
	ZNEX040102S01515	0,2	0,08-0,50	0,05-0,15		○	○													
	ZNEX040104S01515	0,4	0,08-0,50	0,05-0,20		○	○													

● In magazzino ○ Su richiesta

BL CBN con ridotto contenuto di CBN
BC CBN con rivestimento
BH CBN con elevato contenuto di CBN

Portautensile
C*-SZLNR/L**
Kr: 95°



A411

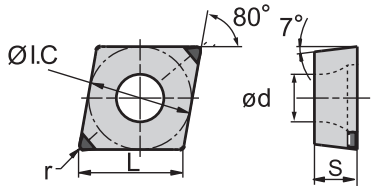
Codice sistema A188 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura (CBN)

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

CCGW	L	I.C	S	d
06 02	6,4	6,35	2,38	2,8
09 T3	9,7	9,525	3,97	4,4
12 04	12,9	12,7	4,76	5,5

CC** Inserti positivi



	BL (CBN)				BC (CBN)			BH (CBN)
P								
M								
K								○
N								
S	○			⊛				
H		○	⊛	❁	○	⊛	❁	

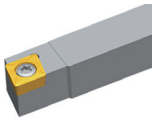
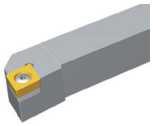
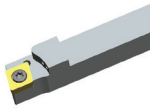
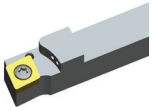
ISO	r	a_p	f	YCB112	YCB113	YCB121	YCB131	YCB113C	YCB121C	YCB131C	YCB215
CCGW060202S01020-2	0,2	0,08-0,50	0,05-0,20								○
CCGW060202S01225-2	0,2	0,08-0,50	0,05-0,20		○			○			
CCGW060204S01020-2	0,4	0,08-0,50	0,05-0,20			○			○		○
CCGW060204S01225-2	0,4	0,08-0,50	0,05-0,20		○			○			
CCGW060208S01020-2	0,8	0,08-0,50	0,05-0,25			○					○
CCGW060208S01525-2	0,8	0,08-0,50	0,05-0,25		○			○			
CCGW060208S02020-2	0,8	0,08-0,50	0,05-0,25			○			○		
CCGW09T302S01020-2	0,2	0,08-0,50	0,05-0,15			○			○		○
CCGW09T302S01225-2	0,2	0,08-0,50	0,05-0,15		○						
CCGW09T304S01225-2	0,4	0,08-0,50	0,05-0,20		●						
CCGW09T308S01525-2	0,8	0,08-0,50	0,05-0,25		●						
CCGW09T308S02020-2	0,8	0,08-0,50	0,05-0,25			●			●		
CCGW09T312E-2	1,2	0,08-0,50	0,05-0,30	○			○				
CCGW120404S01020-2	0,4	0,08-0,50	0,05-0,20			○			○		○
CCGW120404S01225-2	0,4	0,08-0,50	0,05-0,20		○			○			
CCGW120408S01020-2	0,8	0,08-0,50	0,05-0,25								○
CCGW120408S01525-2	0,8	0,08-0,50	0,05-0,25		○		○	○			
CCGW120408S02020-2	0,8	0,08-0,50	0,05-0,25			○			○		
CCGW120412S01020-2	1,2	0,08-0,50	0,05-0,30								○
CCGW120412S01525-2	1,2	0,08-0,50	0,05-0,30		○		○	○			
CCGW120412S02020-2	1,2	0,08-0,50	0,05-0,30			○			○		

● In magazzino ○ Su richiesta

BL CBN con ridotto contenuto di CBN
BC CBN con rivestimento
BH CBN con elevato contenuto di CBN

Codice sistema A188 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Portautensile

SCACR/L	SCLCR/L	SCACR/L-SC	SCLCR/L-SC	A***-SCLCR/L	S***-SCFCR/L	S***-SCLCR
Kr: 90°	Kr: 95°	Kr: 90°	Kr: 95°	Kr: 95°	Kr: 90°	Kr: 95°
						
A309	A310	A350	A351	A379	A398	A399

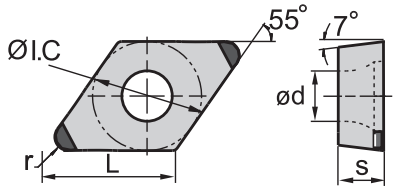
E***-SCLCR/L
Kr: 95°
A401

Codice sistema A188 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura (CBN)

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

DCGW	L	I.C	S	d
07 02	7,8	6,35	2,38	2,8
11 T3	11,6	9,525	3,97	4,4



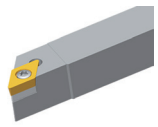
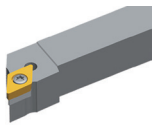
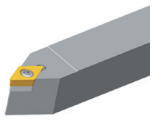
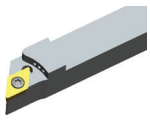
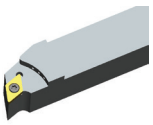
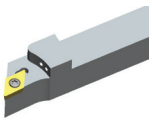
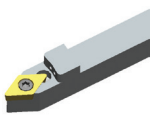
DC** Inserti positivi	BL (CBN)				BC (CBN)			BH (CBN)
P								
M								
K								○
N								
S	○		⊛					
H		○	⊛	⊛	○	⊛	⊛	

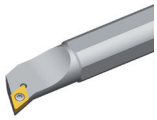
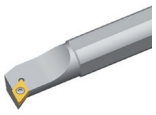
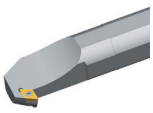
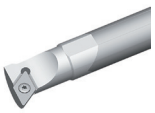
ISO	r	a_p	f	YCB112	YCB113	YCB121	YCB131	YCB113C	YCB121C	YCB131C	YCB215
DCGW070202S01020-2	0,2	0,08-0,50	0,05-0,15			●			○		
DCGW070202S01225-2	0,2	0,08-0,50	0,05-0,15		○			○			
DCGW070204S01020-2	0,4	0,08-0,50	0,05-0,20			●			○		○
DCGW070204S01225-2	0,4	0,08-0,50	0,05-0,20		●			○			
DCGW070208S01020-2	0,8	0,08-0,50	0,05-0,25								○
DCGW070208S01525-2	0,8	0,08-0,50	0,05-0,25		●			○			
DCGW070208S02020-2	0,8	0,08-0,50	0,05-0,25			●			○		
DCGW11T302S01020-2	0,2	0,08-0,50	0,05-0,15			○			○		○
DCGW11T302S01225-2	0,2	0,08-0,50	0,05-0,15		○			○			
DCGW11T304E-2	0,4	0,08-0,50	0,05-0,20	○			○				
DCGW11T304S01020-2	0,4	0,08-0,50	0,05-0,20			●			○		●
DCGW11T304S01225-2	0,4	0,08-0,50	0,05-0,20		●			○			
DCGW11T308E-2	0,8	0,08-0,50	0,05-0,25	○			○				
DCGW11T308S01020-2	0,8	0,08-0,50	0,05-0,25			●					●
DCGW11T308S01525-2	0,8	0,08-0,50	0,05-0,25		●		○	●			
DCGW11T308S02020-2	0,8	0,08-0,50	0,05-0,25			●			●		
DCGW11T312E-2	1,2	0,08-0,50	0,05-0,30	○			○				
DCGW11T312S01020-2	1,2	0,08-0,50	0,05-0,25								○

● In magazzino ○ Su richiesta

BL CBN con ridotto contenuto di CBN
BC CBN con rivestimento
BH CBN con elevato contenuto di CBN

Portautensile

SDACR/L	SDJCR/L	SDNCN	SDACR/L-SC	SDHCR/L-SC	SDJCR/L-SC	SDNCN-SC
Kr: 90°	Kr: 93°	Kr: 62°30'	Kr: 90°	Kr: 107°30'	Kr: 93°	Kr: 62°30'
						
A311	A312	A313	A352	A353	A354	A355

S***-SDQCR/L	A***-SDUCR/L	S***-SDZCR/L	E***-SDQCR/L	E***-SDUCR/L
Kr: 107°30'	Kr: 93°	Kr: 85°	Kr: 107°30'	Kr: 93°
				
A381	A382	A383	A403	A405

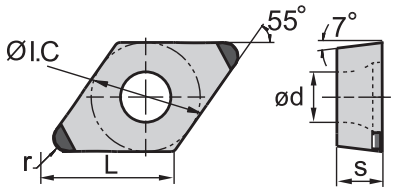
Codice sistema A188 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

DCGW	L	I.C	S	d
11 T3	11,6	9,525	3,97	4,4

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

Inserti - Tornitura (CBN)

DC** Inserti positivi



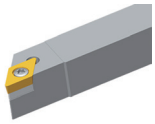
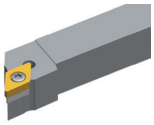
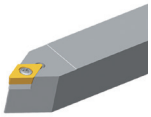
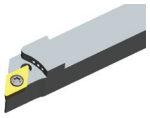
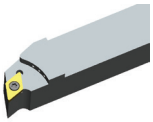
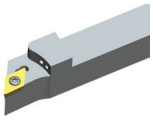
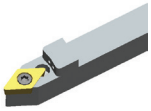
	BL (CBN)				BC (CBN)				BH (CBN)
P									
M									
K									●
N									
S	○			⊛					
H		○	⊛	❁	○	⊛	❁		

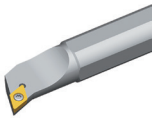
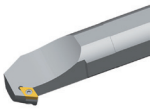
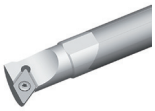
	ISO	r	a_p	f	YCB112	YCB113	YCB121	YCB131	YCB113C	YCB121C	YCB131C	YCB215
	DCGW11T304S01020-2W	0,4	0,08-0,50	0,05-0,20					○			

● In magazzino ○ Su richiesta

BL CBN con ridotto contenuto di CBN
BC CBN con rivestimento
BH CBN con elevato contenuto di CBN

Portautensile

SDACR/L	SDJCR/L	SDNCN	SDACR/L-SC	SDHCR/L-SC	SDJCR/L-SC	SDNCN-SC
Kr: 90°	Kr: 93°	Kr: 62°30'	Kr: 90°	Kr: 107°30'	Kr: 93°	Kr: 62°30'
						
A311	A312	A313	A352	A353	A354	A355

S***-SDQCR/L	A***-SDUCR/L	S***-SDZCR/L	E***-SDQCR/L	E***-SDUCR/L
Kr: 107°30'	Kr: 93°	Kr: 85°	Kr: 107°30'	Kr: 93°
				
A381	A382	A383	A403	A405

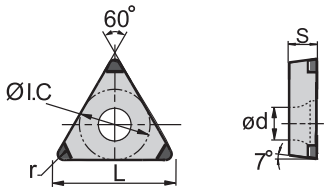
Codice sistema A188 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura (CBN)

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

TCGW	L	I.C	S	d
11 02	11	6,35	2,5	2,5
16 T3	16,5	9,525	3,97	4,4

TC** Inserti positivi



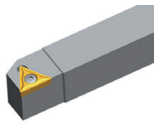
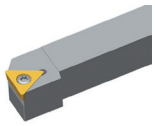
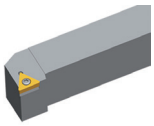
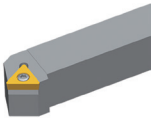
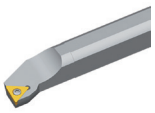
	BL (CBN)				BC (CBN)			BH (CBN)
P								
M								
K								●
N								
S	○			⊛				
H		○	⊛	❁	○	⊛	❁	

	ISO	r	a_p	f	YCB112	YCB113	YCB121	YCB131	YCB113C	YCB121C	YCB131C	YCB215
	TCGW110204S01020-3	0,4	0,08-0,50	0,05-0,20			○			○		○
	TCGW110204S01225-3	0,4	0,08-0,50	0,05-0,20		○			○			
	TCGW110208S01015-3	0,8	0,08-0,5	0,05-0,25					○			
	TCGW110208S01020-3	0,8	0,08-0,50	0,05-0,25								○
	TCGW110208S01525-3	0,8	0,08-0,50	0,05-0,25		○			○			
	TCGW110208S02020-3	0,8	0,08-0,50	0,05-0,25						○		
	TCGW16T304S01020-3	0,4	0,08-0,50	0,05-0,20			●			○		○
	TCGW16T304S01225-3	0,4	0,08-0,50	0,05-0,20		●			○			
	TCGW16T308S01020-3	0,8	0,08-0,50	0,05-0,25								○
	TCGW16T308S01525-3	0,8	0,08-0,50	0,05-0,25		●			○			
	TCGW16T308S02020-3	0,8	0,08-0,50	0,05-0,25			●			○		
	TCGW110204S01020-3W	0,4	0,08-0,50	0,05-0,20					○			

● In magazzino ○ Su richiesta

BL CBN con ridotto contenuto di CBN
BC CBN con rivestimento
BH CBN con elevato contenuto di CBN

Portautensile

STACR/L	STFCR/L	STGCR/L	STTCR/L	S***-STFCR/L	E***-STFCR/L
Kr: 90°	Kr: 91°	Kr: 91°	Kr: 60°	Kr: 91°	Kr: 90°
					
A324	A325	A326	A327	A386	A407

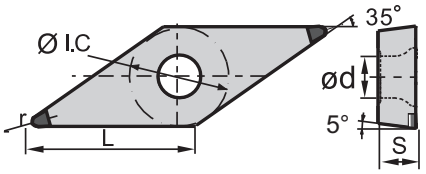
Codice sistema A188 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

Inserti - Tornitura (CBN)

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

VBGW	L	I.C	S	d
11 02	11	6,35	2,38	2,8
16 04	16,6	9,525	4,76	4,4

VB** Inserti positivi



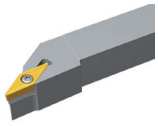
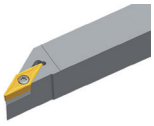
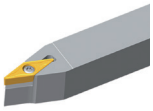
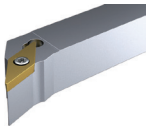
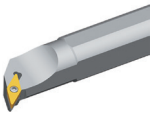
	BL (CBN)				BC (CBN)			BH (CBN)
P								
M								
K								●
N								
S	○			⊛				
H		○	⊛	❁	○	⊛	❁	

	ISO	r	a_p	f	YCB112	YCB113	YCB121	YCB131	YCB113C	YCB121C	YCB131C	YCB215
	VBGW110202S01020-2	0,2	0,08-0,50	0,05-0,15			○					
	VBGW160402S01020-2	0,2	0,08-0,30	0,05-0,20			○					
	VBGW160402S01225-2	0,2	0,08-0,30	0,05-0,20		○						
	VBGW160404S01020-2	0,4	0,08-0,50	0,05-0,20			●	○		○		○
	VBGW160404S01225-2	0,4	0,08-0,50	0,05-0,20		●			○			
	VBGW160408S01020-2	0,8	0,08-0,50	0,05-0,25								○
	VBGW160408S01525-2	0,8	0,08-0,50	0,05-0,25		●			○			
	VBGW160408S02020-2	0,8	0,08-0,50	0,05-0,25			●			○		

● In magazzino ○ Su richiesta

BL CBN con ridotto contenuto di CBN
BC CBN con rivestimento
BH CBN con elevato contenuto di CBN

Portautensile

SVJBR/L	SVABR/L	SVVBN	SVHBR/L	S***-SVQBR/L	S***-SVUBR/L	S***-SVXBR/L
Kr: 93°	Kr: 90°	Kr: 72°30'	Kr: 107°30'	Kr: 107°30'	Kr: 93°	Kr: 93°
						
A314	A315	A316	A317	A391	A392	A393

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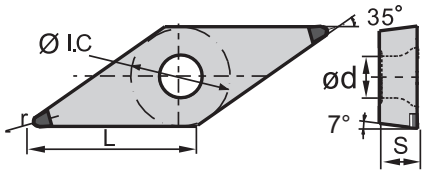
Inserti - Tornitura (CBN)

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

VCGW	L	I.C	S	d
11 03	11,1	6,35	3,18	2,8
16 04	16,6	9,525	4,76	4,4

VC** Inserti positivi



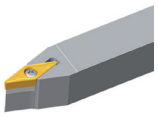
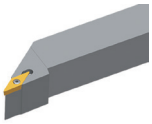
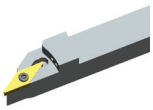
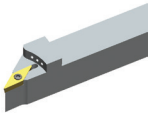
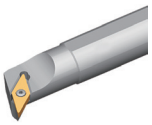
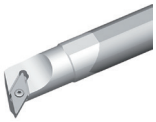
	BL (CBN)				BC (CBN)			BH (CBN)
P								
M								
K								●
N								
S	○			⊛				
H		○	⊛	⊛	○	⊛	⊛	

	ISO	r	a_p	f	YCB112	YCB113	YCB121	YCB131	YCB113C	YCB121C	YCB131C	YCB215
	VCGW110302E-2	0,2	0,08-0,50	0,05-0,15	○			○				
	VCGW110304E-2	0,4	0,08-0,50	0,05-0,20	○			○				
	VCGW160404E-2	0,4	0,08-0,50	0,05-0,20	○			○				○
	VCGW160404S01020-2	0,4	0,08-0,50	0,05-0,20			●			○		○
	VCGW160404S01225-2	0,4	0,08-0,50	0,05-0,20		●			○			
	VCGW160408E-2	0,8	0,08-0,50	0,05-0,25	○			○				
	VCGW160408S01020-2	0,8	0,08-0,50	0,05-0,25								○
	VCGW160408S01525-2	0,8	0,08-0,50	0,05-0,25		●			○			
	VCGW160408S02020-2	0,8	0,08-0,50	0,05-0,25			●			○		
	VCGW160412E-2	1,2	0,08-0,50	0,05-0,30	○			○				

● In magazzino ○ Su richiesta

BL CBN con ridotto contenuto di CBN
BC CBN con rivestimento
BH CBN con elevato contenuto di CBN

Portautensile

SVVCN	SVJCR/L	SVACR/L-SC	SVJCR/L-SC	S***-SVQCR/L	S***-SVUCR/L	C***-SVQCR/L
Kr: 72°30'	Kr: 93°	Kr: 90°	Kr: 93°	Kr: 107°30'	Kr: 93°	Kr: 107°30'
						
A318	A319	A356	A358	A389	A390	A409

S***-SVJCR/L	C***-SVUCR/L
Kr: 93°	Kr: 93°
A388	A410

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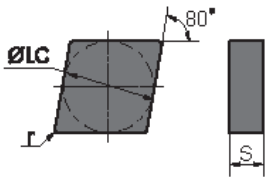
Inserti - Tornitura (CBN)

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

CNGN	L	I.C	S
09 03	9,7	9,525	3,18
12 04	12,9	12,7	4,76

CN** Inserti negativi



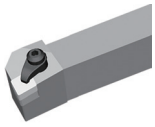
	BL (CBN)	BC (CBN)	BH (CBN)
P			
M			
K			⊛
N			
S			
H	⊛	⊛	

	ISO	r	a_p	f	YZB630	YZB630C	YZB223
	CNGN090308S01525	0,8	0,5-2,0	0,3-0,5	○	○	
	CNGN090308T01525	0,8	0,5-2,0	0,3-0,5			○
	CNGN090312S01525	1,2	0,5-2,0	0,3-0,5	○	○	
	CNGN090312T01525	1,2	0,5-2,0	0,3-0,5			○
	CNGN120408S01525	0,8	0,5-2,0	0,3-0,5	○	○	
	CNGN120408T01525	0,8	0,5-2,0	0,3-0,5			●
	CNGN120412S01525	1,2	0,5-2,0	0,3-0,5	●	○	
	CNGN120412T01525	1,2	0,5-2,0	0,3-0,5			●
	CNGN120416S01525	1,6	0,5-2,0	0,3-0,5	○	○	
	CNGN120408T01525-M	0,8	0,5-2,0	0,3-0,5			○
	CNGN120412T01525-M	1,2	0,5-2,0	0,3-0,5			○
	CNGN120416T01525-M	1,6	0,5-2,0	0,3-0,5			○

● In magazzino ○ Su richiesta

BL CBN con ridotto contenuto di CBN
BC CBN con rivestimento
BH CBN con elevato contenuto di CBN

Portautensile
CCLNR/L
Kr: 95°



A336

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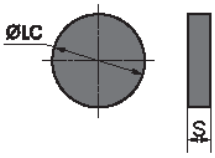
Inserti - Tornitura (CBN)

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

RNGN	I.C	S
09 03	9,525	3,18
12 04	12,7	4,76



RN** Inserti negativi	BL (CBN)	BC (CBN)	BH (CBN)
P			
M			
K			⊛
N			
S			
H	⊛	⊛	

	ISO	a_p	f	YZB630	YZB630C	YZB223
	RNGN090300S01525	0,2-2,0	0,08-0,25	○	○	
	RNGN090300T01525	0,2-2,0	0,08-0,25			○
	RNGN120400S01525	0,3-2,4	0,1-0,4	○	○	
	RNGN120400T01525	0,3-2,4	0,1-0,4			●

● In magazzino ○ Su richiesta

BL CBN con ridotto contenuto di CBN
BC CBN con rivestimento
BH CBN con elevato contenuto di CBN

Portautensile
CRDNN

A342

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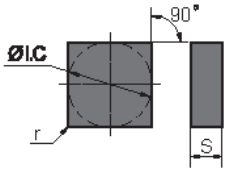
Inserti - Tornitura (CBN)

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

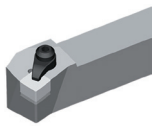
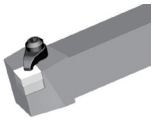
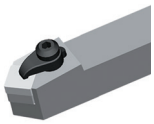
SNGN	L	I.C	S
12 04	12,7	12,7	4,76

SN** Inserti negativi					BL (CBN)			BC (CBN)			BH (CBN)		
				P									
				M									
				K							⊛		
				N									
				S									
				H	⊛			⊛					
ISO		r	a_p	f	YZB630			YZB630C			YZB223		
	SNGN120408S01525	0,8	0,5-2,0	0,3-0,5	○			○					
	SNGN120408T01525	0,8	0,5-2,0	0,3-0,5							●		
	SNGN120412S01525	1,2	0,5-2,0	0,3-0,5	○			○					
	SNGN120412T01525	1,2	0,5-2,0	0,3-0,5							○		
	SNGN120416T02020	1,6	0,1-0,6	0,1-0,4							○		
	SNGN120412T01525-M	1,2	0,5-2,0	0,3-0,5							○		
	SNGN120416T01525-M	1,6	0,5-2,0	0,3-0,5							●		

● In magazzino ○ Su richiesta

BL CBN con ridotto contenuto di CBN
BC CBN con rivestimento
BH CBN con elevato contenuto di CBN

Portautensile

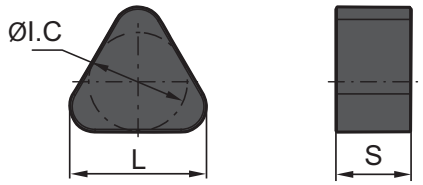
CSKNR/L	CSRNR/L	CSDNN
Kr: 75°	Kr: 75°	Kr: 45°
		
A340	A341	A343

Codice sistema A188 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura (CBN)

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

TNGN	L	I.C	S
11 04	11	6,35	4,76



TN** Inserti negativi					BL (CBN)	BC (CBN)	BH (CBN)
				P			
				M			
				K			⊛
				N			
				S			
				H	⊛	⊛	
ISO		r	a_p	f	YZB630	YZB630C	YZB223
	TNGN110416T01525	1,6	0,1-0,5	0,1-0,6			○

● In magazzino ○ Su richiesta

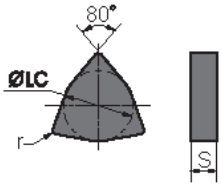
BL CBN con ridotto contenuto di CBN
BC CBN con rivestimento
BH CBN con elevato contenuto di CBN

Codice sistema A188 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

WNGN	L	I.C	S
08 04	8,69	12,7	4,76

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

Inserti - Tornitura (CBN)



WN** Inserti negativi	BL (CBN)	BC (CBN)	BH (CBN)
P			
M			
K			⊛
N			
S			
H	⊛	⊛	

	ISO	r	a_p	f	YZB630	YZB630C	YZB223
	WNGN080408T01525	0,8	0,5-2,0	0,3-0,5			○
	WNGN080412T01525	1,2	0,5-2,0	0,3-0,5			○
	WNGN080416T01525	1,6	0,5-2,0	0,3-0,5			○
	WNGN080408T01525-M	0,8	0,5-2,0	0,3-0,5			○
	WNGN080412T01525-M	1,2	0,5-2,0	0,3-0,5			○
	WNGN080416T01525-M	1,6	0,5-2,0	0,3-0,5			○

● In magazzino ○ Su richiesta

BL CBN con ridotto contenuto di CBN
BC CBN con rivestimento
BH CBN con elevato contenuto di CBN

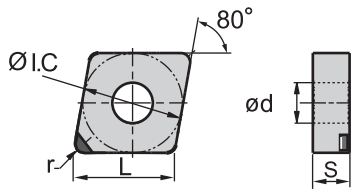
Codice sistema A188 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura (PCD)

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

CNGA	L	I.C	S	d
12 04	12,9	12,7	4,76	5,16

CN** Inserti negativi



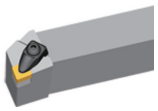
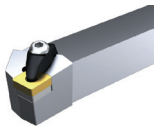
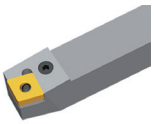
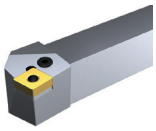
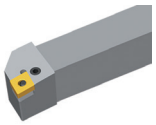
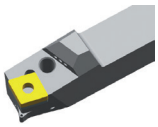
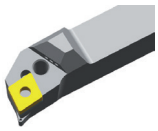
	DP
P	
M	
K	
N	○
S	
H	

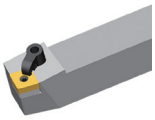
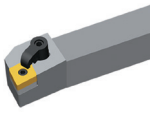
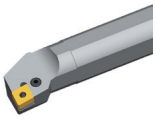
	ISO	r	a_p	f	YCD421
	CNGA120402F-1	0,2	0,08-0,50	0,05-0,15	○
	CNGA120404F-1	0,4	0,08-0,50	0,05-0,20	○
	CNGA120408F-1	0,8	0,08-0,50	0,05-0,25	○
	CNGA120412F-1	1,2	0,08-0,50	0,05-0,30	○

● In magazzino ○ Su richiesta

DP Diamante policristallino

Portautensile

DCLNR/L	DCKNR/L	PCBNR/L	PCKNR/L	PCLNR/L	PCBNR/LC	PCLNR/LC
Kr: 95°	Kr: 75°	Kr: 75°	Kr: 75°	Kr: 95°	Kr: 75°	Kr: 95°
						
A262	A263	A270	A271	A272	A286	A287

MCBNR/L	MCLNR/L	S***-PCLNR/L
Kr: 75°	Kr: 95°	Kr: 95°
		
A291	A292	A370

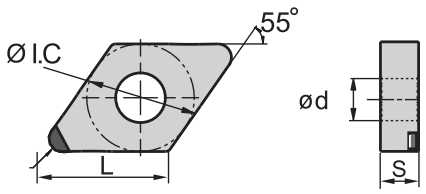
Codice sistema A188 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

DNGA	L	I.C	S	d
15 06	15,5	12,7	6,35	5,16

Inserti - Tornitura (PCD)

DN** Inserti negativi



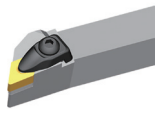
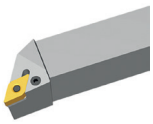
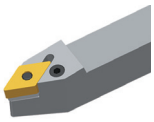
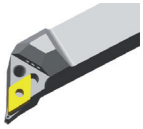
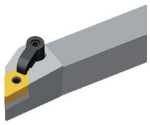
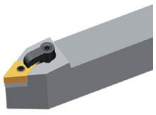
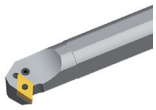
	DP
P	
M	
K	
N	○
S	
H	

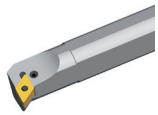
	ISO	r	a_p	f	YCD421
	DNGA150602F-1	0,2	0,08-0,50	0,05-0,15	○
	DNGA150604F-1	0,4	0,08-0,50	0,05-0,20	○
	DNGA150608F-1	0,8	0,08-0,50	0,05-0,25	○

● In magazzino ○ Su richiesta

DP Diamante policristallino

Portautensile

DDJNR/L	PDJNR/L	PDNNR/L	PDJNR/LC	MDJNR/L	MDPNN	S***-PDSNR/L
Kr: 93°	Kr: 93°	Kr: 63°	Kr: 93°	Kr: 93°	Kr: 62°30'	Kr: 62°30'
						
A264	A274	A275	A288	A294	A295	A372

S***-PDUNR/L
Kr: 93°

A373

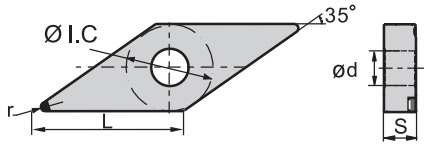
Codice sistema A188 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura (PCD)

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

VNGA	L	I.C	S	d
16 04	16,6	9,525	4,76	3,81

VN** Inserti negativi



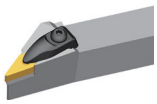
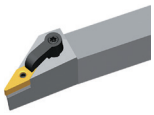
	DP
P	
M	
K	
N	●
S	
H	

	ISO	r	a_p	f	YCD421
	VNGA160402F-1	0,2	0,08-0,50	0,05-0,15	○
	VNGA160404F-1	0,4	0,08-0,50	0,05-0,20	○

● In magazzino ○ Su richiesta

DP Diamante policristallino

Portautensile

DVVNN	DVJNR/L	MVVNN	MVJNR/L
Kr: 72°30'	Kr: 93°	Kr: 72°30'	Kr: 93°
			
A267	A268	A304	A305

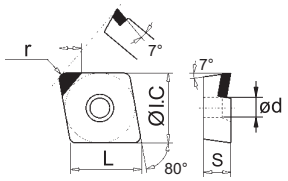
Codice sistema A188 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

CCGT	L	I.C	S	d
06 02	6,4	6,35	2,38	2,8
09 T3	9,7	9,525	3,97	4,4
12 04	12,9	12,7	4,76	5,56

Inserti - Tornitura (PCD)

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

CC** Inserti positivi



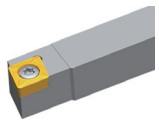
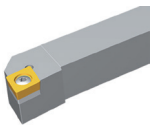
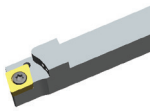
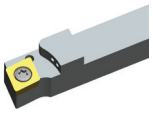
	DP
P	
M	
K	
N	
S	
H	

	ISO	r	a_p	f	YCD421
	CCGT060202F-1	0,2	0,05-0,50	0,05-0,15	○
	CCGT060204F-1	0,4	0,08-0,50	0,05-0,20	●
	CCGT060208F-1	0,8	0,08-0,50	0,05-0,25	○
	CCGT09T302F-1	0,2	0,08-0,50	0,05-0,15	○
	CCGT09T304F-1	0,4	0,08-0,50	0,05-0,20	○
	CCGT09T308F-1	0,8	0,08-0,50	0,05-0,25	○
	CCGT120402F-1	0,2	0,08-0,50	0,05-0,15	○
	CCGT120404F-1	0,4	0,08-0,50	0,05-0,20	○
	CCGT060201F-1MED	0,1	0,05-0,10	0,05-0,08	○
	CCGT060202F-1MED	0,2	0,05-0,30	0,05-0,15	○
	CCGT060204F-1MED	0,4	0,08-0,50	0,05-0,20	○
	CCGT060208F-1MED	0,8	0,08-0,50	0,05-0,25	○
	CCGT09T302F-1MED	0,2	0,08-0,50	0,05-0,15	○
	CCGT09T304F-1MED	0,4	0,08-0,50	0,05-0,20	○
	CCGT09T308F-1MED	0,8	0,08-0,50	0,05-0,25	○

● In magazzino ○ Su richiesta

DP Diamante policristallino

Portautensile

SCACR/L	SCLCR/L	SCACR/L-SC	SCLCR/L-SC	A***-SCLCR/L	S***-SCFCR/L	S***-SCLCR
Kr: 90°	Kr: 95°	Kr: 90°	Kr: 95°	Kr: 95°	Kr: 90°	Kr: 95°
						
A309	A310	A350	A351	A379	A398	A399

E***-SCLCR/L
Kr: 95°
A401

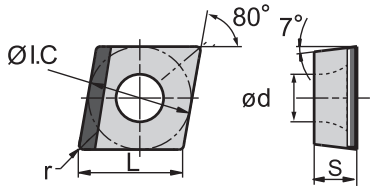
Codice sistema A188 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura (PCD)

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

CCGT	L	I.C	S	d
09 T3	9,7	9,525	3,97	4,4
12 04	12,9	12,7	4,76	5,56

CC** Inserti positivi



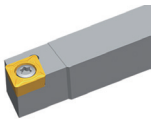
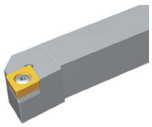
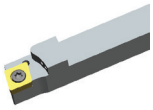
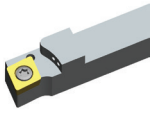
	DP
P	
M	
K	
N	●
S	
H	

	ISO	r	a_p	f	YCD421
	CCGT09T304-LL	0,4	0,1-8,0	0,05-0,3	○
	CCGT09T304-LR	0,4	0,1-8,0	0,05-0,3	○
	CCGT09T308-LL	0,8	0,1-8,0	0,05-0,25	○
	CCGT09T308-LR	0,8	0,1-8,0	0,05-0,25	○
	CCGT120402-LL	0,2	0,1-8,0	0,05-0,25	○

● In magazzino ○ Su richiesta

DP Diamante policristallino

Portautensile

SCACR/L	SCLCR/L	SCACR/L-SC	SCLCR/L-SC	A***-SCLCR/L	S***-SCFCR/L	S***-SCLCR
Kr: 90°	Kr: 95°	Kr: 90°	Kr: 95°	Kr: 95°	Kr: 90°	Kr: 95°
						
A309	A310	A350	A351	A379	A398	A399

E***-SCLCR/L
Kr: 95°
A401

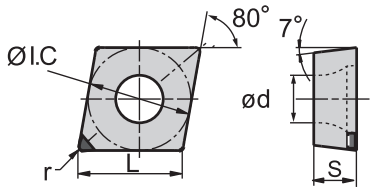
Codice sistema A188 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

Inserti - Tornitura (PCD)

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

CCGW	L	I.C	S	d
06 02	6,4	6,35	2,38	2,8
12 04	12,9	12,7	4,76	5,56

CC** Inserti positivi



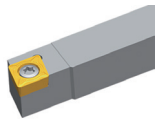
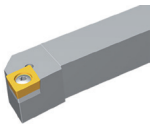
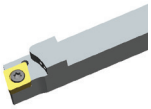
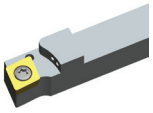
	DP
P	
M	
K	
N	●
S	
H	

	ISO	r	a_p	f	YCD421
	CCGW060204F-1	0,4	0,08-0,50	0,05-0,20	○
	CCGW120404F-1	0,4	0,08-0,50	0,05-0,20	●
	CCGW120408F-1	0,8	0,08-0,50	0,05-0,25	●

● In magazzino ○ Su richiesta

DP Diamante policristallino

Portautensile

SCACR/L	SCLCR/L	SCACR/L-SC	SCLCR/L-SC	A***-SCLCR/L	S***-SCFCR/L	S***-SCLCR
Kr: 90°	Kr: 95°	Kr: 90°	Kr: 95°	Kr: 95°	Kr: 90°	Kr: 95°
						
A309	A310	A350	A351	A379	A398	A399

E***-SCLCR/L
Kr: 95°
A401

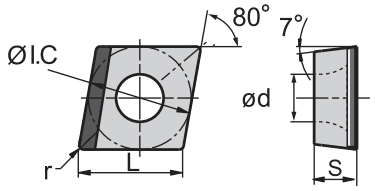
Codice sistema A188 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura (PCD)

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

CCGW	L	I.C	S	d
06 02	6,4	6,35	2,38	2,8
12 04	12,9	12,7	4,76	5,56

CC** Inserti positivi



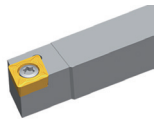
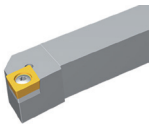
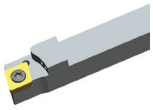
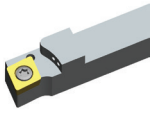
	DP
P	
M	
K	
N	●
S	
H	

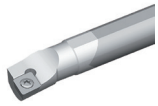
	ISO	r	a_p	f	YCD421
	CCGW060204-LL	0,2	0,08-4,0	0,05-0,20	○
	CCGW120404-LL	0,4	0,1-8,0	0,05-0,20	○
	CCGW120404-LR	0,4	0,1-8,0	0,05-0,20	○
	CCGW120408-LL	0,8	0,1-8,0	0,05-0,25	○
	CCGW120408-LR	0,8	0,1-8,0	0,05-0,25	○

● In magazzino ○ Su richiesta

DP Diamante policristallino

Portautensile

SCACR/L	SCLCR/L	SCACR/L-SC	SCLCR/L-SC	A***-SCLCR/L	S***-SCFCR/L	S***-SCLCR
Kr: 90°	Kr: 95°	Kr: 90°	Kr: 95°	Kr: 95°	Kr: 90°	Kr: 95°
						
A309	A310	A350	A351	A379	A398	A399

E***-SCLCR/L
Kr: 95°

A401

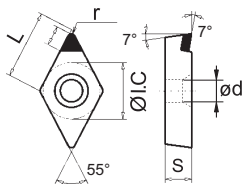
Codice sistema A188 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura (PCD)

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

DCGT	L	I.C	S	d
07 02	7,8	6,35	2,38	2,8
11 T3	11,6	9,525	3,97	4,4

DC** Inserti positivi



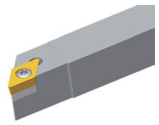
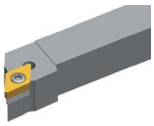
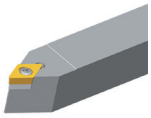
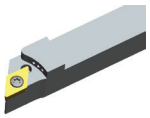
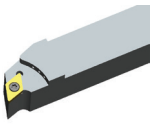
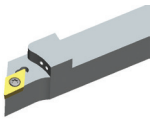
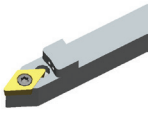
	DP
P	
M	
K	
N	●
S	
H	

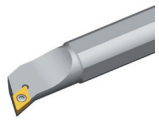
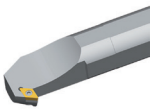
	ISO	r	a_p	f	YCD421
	DCGT070202F-1	0,2	0,08-0,50	0,05-0,15	○
	DCGT070204F-1	0,4	0,08-0,50	0,05-0,20	○
	DCGT11T302F-1	0,2	0,08-0,50	0,05-0,15	●
	DCGT11T304F-1	0,4	0,08-0,50	0,05-0,20	●
	DCGT11T308F-1	0,8	0,08-0,50	0,05-0,25	○

● In magazzino ○ Su richiesta

DP Diamante policristallino

Portautensile

SDACR/L	SDJCR/L	SDNCN	SDACR/L-SC	SDHCR/L-SC	SDJCR/L-SC	SDNCN-SC
Kr: 90°	Kr: 93°	Kr: 62°30'	Kr: 90°	Kr: 107°30'	Kr: 93°	Kr: 62°30'
						
A311	A312	A313	A352	A353	A354	A355

S***-SDQCR/L	A***-SDUCR/L	S***-SDZCR/L	E***-SDQCR/L	E***-SDUCR/L
Kr: 107°30'	Kr: 93°	Kr: 85°	Kr: 107°30'	Kr: 93°
				
A381	A382	A383	A403	A405

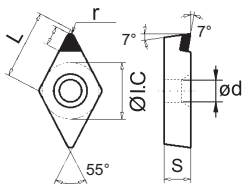
Codice sistema A188 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura (PCD)

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

DCGT	L	I.C	S	d
07 02	7,8	6,35	2,38	2,8
11 T3	11,6	9,525	3,97	4,4

DC** Inserti positivi



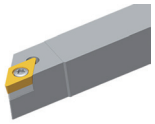
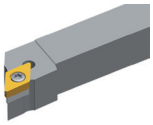
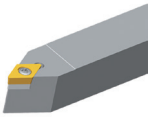
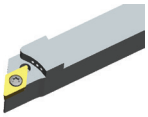
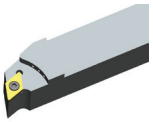
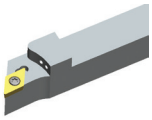
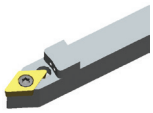
	DP
P	
M	
K	
N	○
S	
H	

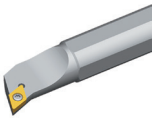
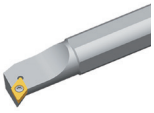
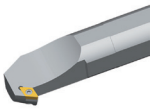
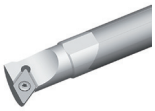
	ISO	r	a_p	f	YCD421
	DCGT070202F-1MED	0,2	0,08-0,50	0,05-0,15	○
	DCGT070204F-1MED	0,4	0,08-0,50	0,05-0,20	○
	DCGT070208F-1MED	0,8	0,08-0,50	0,05-0,25	○
	DCGT11T302F-1MED	0,2	0,08-0,50	0,05-0,15	○
	DCGT11T304F-1MED	0,4	0,08-0,50	0,05-0,20	○
	DCGT11T308F-1MED	0,8	0,08-0,50	0,05-0,25	○

● In magazzino ○ Su richiesta

DP Diamante policristallino

Portautensile

SDACR/L	SDJCR/L	SDNCN	SDACR/L-SC	SDHCR/L-SC	SDJCR/L-SC	SDNCN-SC
Kr: 90°	Kr: 93°	Kr: 62°30'	Kr: 90°	Kr: 107°30'	Kr: 93°	Kr: 62°30'
						
A311	A312	A313	A352	A353	A354	A355

S***-SDQCR/L	A***-SDUCR/L	S***-SDZCR/L	E***-SDQCR/L	E***-SDUCR/L
Kr: 107°30'	Kr: 93°	Kr: 85°	Kr: 107°30'	Kr: 93°
				
A381	A382	A383	A403	A405

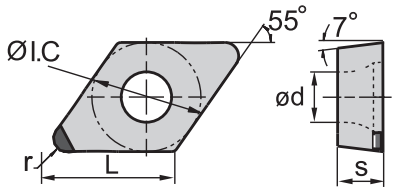
Codice sistema A188 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

Inserti - Tornitura (PCD)

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

DCGW	L	I.C	S	d
07 02	7,8	6,35	2,38	2,8
11 T3	11,6	9,525	3,97	4,4

DC** Inserti positivi



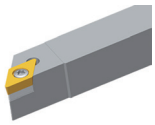
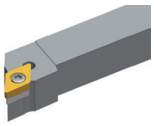
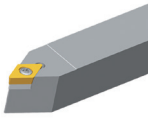
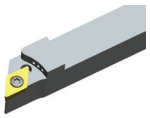
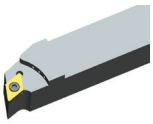
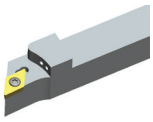
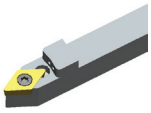
	DP
P	
M	
K	
N	○
S	
H	

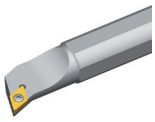
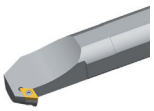
	ISO	r	a_p	f	YCD421
	DCGW070204F-1	0,4	0,08-0,50	0,05-0,20	●
	DCGW070208F-1	0,8	0,08-0,50	0,05-0,25	○
	DCGW11T302F-1	0,2	0,08-0,50	0,05-0,15	●
	DCGW11T304F-1	0,4	0,08-0,50	0,05-0,20	●

● In magazzino ○ Su richiesta

DP Diamante policristallino

Portautensile

SDACR/L	SDJCR/L	SDNCN	SDACR/L-SC	SDHCR/L-SC	SDJCR/L-SC	SDNCN-SC
Kr: 90°	Kr: 93°	Kr: 62°30'	Kr: 90°	Kr: 107°30'	Kr: 93°	Kr: 62°30'
						
A311	A312	A313	A352	A353	A354	A355

S***-SDQCR/L	A***-SDUCR/L	S***-SDZCR/L	E***-SDQCR/L	E***-SDUCR/L
Kr: 107°30'	Kr: 93°	Kr: 85°	Kr: 107°30'	Kr: 93°
				
A381	A382	A383	A403	A405

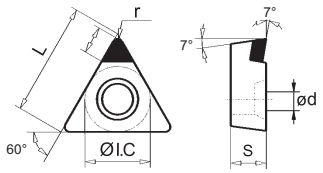
Codice sistema A188 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura (PCD)

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

TCGT	L	I.C	S	d
11 02	11	6,35	2,38	2,8
16 T3	16,5	9,525	3,97	4,4

TC** Inserti positivi



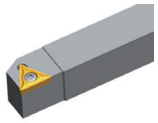
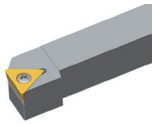
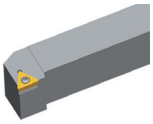
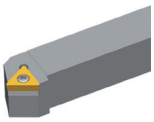
	DP
P	
M	
K	
N	○
S	
H	

	ISO	r	a_p	f	YCD421
	TCGT110202F-1	0,2	0,08-5,0	0,05-0,15	○
	TCGT110204F-1	0,4	0,08-5,0	0,05-0,20	○
	TCGT110208F-1	0,8	0,08-5,0	0,05-0,25	○
	TCGT16T302F-1	0,2	0,08-7,0	0,05-0,15	○
	TCGT16T304F-1	0,4	0,08-7,0	0,05-0,20	○
	TCGT110202F-1MED	0,2	0,08-5,0	0,05-0,15	○
	TCGT110204F-1MED	0,4	0,08-5,0	0,05-0,20	○
	TCGT110208F-1MED	0,8	0,08-5,0	0,05-0,25	○
	TCGT16T302F-1MED	0,2	0,08-7,0	0,05-0,15	○
	TCGT16T304F-1MED	0,4	0,08-7,0	0,05-0,20	○
	TCGT16T308F-1MED	0,8	0,08-7,0	0,05-0,25	○

● In magazzino ○ Su richiesta

DP Diamante policristallino

Portautensile

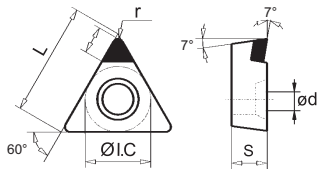
STACR/L	STFCR/L	STGCR/L	STTCR/L	S***-STFCR/L	E***-STFCR/L
Kr: 90°	Kr: 91°	Kr: 91°	Kr: 60°	Kr: 91°	Kr: 90°
					
A324	A325	A326	A327	A386	A407

Codice sistema A188 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

TCGT	L	I.C	S	d
09 02	9,63	5,56	2,38	2,5
11 02	11	6,35	2,38	2,8
16 T3	16,5	9,525	3,97	4,4

Inserti - Tornitura (PCD)

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

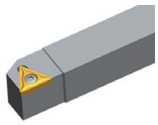
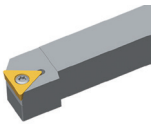
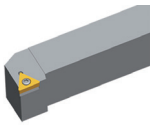
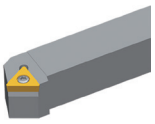
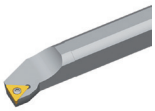
TC** Inserti positivi		DP
	P	
	M	
	K	
	N	●
	S	
	H	

	ISO	r	a_p	f	YCD421
	TCGT090204-L	0,4	0,08-4,0	0,05-0,25	○
	TCGT110202-L	0,2	0,08-5,0	0,05-0,15	○
	TCGT110204-L	0,4	0,08-5,0	0,05-0,20	○
	TCGT110208-L	0,8	0,08-5,0	0,05-0,25	○
	TCGT16T302-L	0,2	0,08-7,0	0,05-0,15	○
	TCGT16T304-L	0,4	0,08-7,0	0,05-0,20	○
	TCGT16T308-L	0,8	0,08-7,0	0,05-0,25	○

● In magazzino ○ Su richiesta

DP Diamante policristallino

Portautensile

STACR/L	STFCR/L	STGCR/L	STTCR/L	S***-STFCR/L	E***-STFCR/L
Kr: 90°	Kr: 91°	Kr: 91°	Kr: 60°	Kr: 91°	Kr: 90°
					
A324	A325	A326	A327	A386	A407

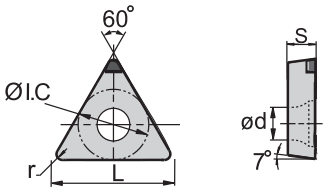
Codice sistema A188 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura (PCD)

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

TCGW	L	I.C	S	d
11 02	11	6,35	2,38	2,8
16 T3	16,5	9,525	3,97	4,4

TC** Inserti positivi



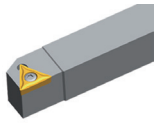
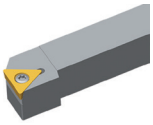
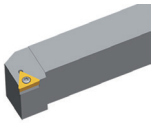
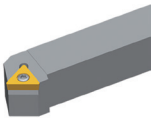
	DP
P	
M	
K	
N	●
S	
H	

	ISO	r	a_p	f	YCD421
	TCGW110202F-1	0,2	0,08-5,0	0,05-0,15	○
	TCGW110204F-1	0,4	0,08-5,0	0,05-0,20	●
	TCGW110208F-1	0,8	0,08-5,0	0,05-0,25	○
	TCGW16T304F-1	0,4	0,08-7,0	0,05-0,20	●
	TCGW16T308F-1	0,8	0,08-7,0	0,05-0,25	○
	TCGW16T312F-1	1,2	0,08-7,0	0,05-0,30	○

● In magazzino ○ Su richiesta

DP Diamante policristallino

Portautensile

STACR/L	STFCR/L	STGCR/L	STTCR/L	S***-STFCR/L	E***-STFCR/L
Kr: 90°	Kr: 91°	Kr: 91°	Kr: 60°	Kr: 91°	Kr: 90°
					
A324	A325	A326	A327	A386	A407

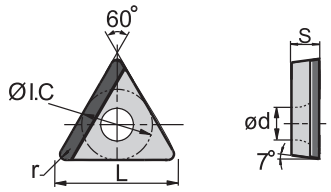
Codice sistema A188 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura (PCD)

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

TCGW	L	I.C	S	d
11 02	11	6,35	2,38	2,8
16 T3	16,5	9,525	3,97	4,4

TC** Inserti positivi



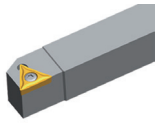
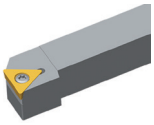
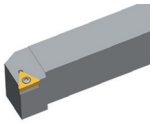
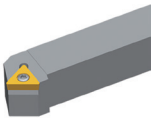
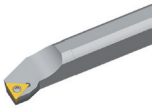
	DP
P	
M	
K	
N	●
S	
H	

	ISO	r	a_p	f	YCD421
	TCGW110202-L	0,2	0,08-5,0	0,05-0,15	○
	TCGW110204-L	0,4	0,08-5,0	0,05-0,20	○
	TCGW110208-L	0,8	0,08-5,0	0,05-0,25	○
	TCGW16T302-L	0,2	0,08-7,0	0,05-0,15	○
	TCGW16T304-L	0,4	0,08-7,0	0,05-0,20	○
	TCGW16T308-L	0,8	0,08-7,0	0,05-0,25	○

● In magazzino ○ Su richiesta

DP Diamante policristallino

Portautensile

STACR/L	STFCR/L	STGCR/L	STTCR/L	S***-STFCR/L	E***-STFCR/L
Kr: 90°	Kr: 91°	Kr: 91°	Kr: 60°	Kr: 91°	Kr: 90°
					
A324	A325	A326	A327	A386	A407

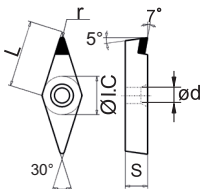
Codice sistema A188 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura (PCD)

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

VBGT	L	I.C	S	d
11 03	11	6,35	3,18	2,8
16 04	16,6	9,525	4,76	4,4

VB** Inserti positivi



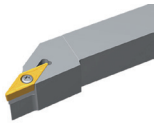
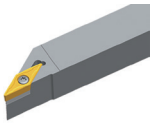
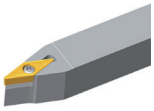
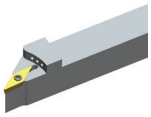
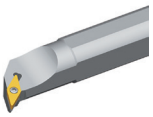
	DP
P	
M	
K	
N	○
S	
H	

	ISO	r	a_p	f	YCD421
	VBGT110302F-1	0,2	0,08-0,50	0,05-0,15	○
	VBGT110304F-1	0,4	0,08-0,50	0,05-0,20	○
	VBGT110308F-1	0,8	0,08-0,50	0,05-0,25	○
	VBGT160402F-1	0,2	0,08-0,50	0,05-0,15	○
	VBGT160404F-1	0,4	0,08-0,50	0,05-0,20	○
	VBGT160408F-1	0,8	0,08-0,50	0,05-0,25	○
	VBGT160404F-1MED	0,4	0,08-0,50	0,05-0,20	○
	VBGT160408F-1MED	0,8	0,08-0,50	0,05-0,25	○

● In magazzino ○ Su richiesta

DP Diamante policristallino

Portautensile

SVJBR/L	SVABR/L	SVVBN	SVJBR/L-SC	S***-SVQBR/L	S***-SVUBR/L	S***-SVXBR/L
Kr: 93°	Kr: 90°	Kr: 72°30'	Kr: 93°	Kr: 107°30'	Kr: 93°	Kr: 93°
						
A314	A315	A316	A357	A391	A392	A393

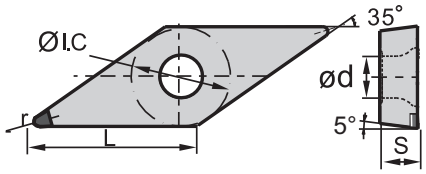
Codice sistema A188 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

VBGW	L	I.C	S	d
11 02	11	6,35	2,38	2,8
11 03	11	6,35	3,18	2,8
16 04	16,6	9,525	4,76	4,4

Inserti - Tornitura (PCD)

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

VB** Inserti positivi



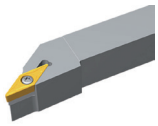
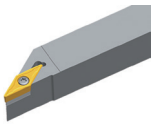
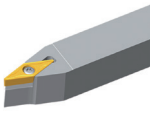
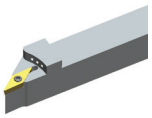
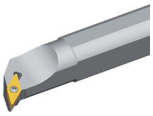
	DP
P	
M	
K	
N	○
S	
H	

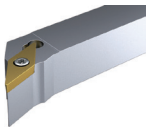
	ISO	r	a_p	f	YCD421
	VBGW110202F-1	0,2	0,08-0,30	0,05-0,15	○
	VBGW110304F-1	0,4	0,08-0,50	0,05-0,20	●
	VBGW160402F-1	0,2	0,08-0,50	0,05-0,15	○
	VBGW160404F-1	0,4	0,08-0,50	0,05-0,20	●
	VBGW160408F-1	0,8	0,08-0,50	0,05-0,25	○

● In magazzino ○ Su richiesta

DP Diamante policristallino

Portautensile

SVJBR/L	SVABR/L	SVVBN	SVJBR/L-SC	S***-SVQBR/L	S***-SVUBR/L	S***-SVXBR/L
Kr: 93°	Kr: 90°	Kr: 72°30'	Kr: 93°	Kr: 107°30'	Kr: 93°	Kr: 93°
						
A314	A315	A316	A357	A391	A392	A393

SVHBR/L
Kr: 107°30'

A317

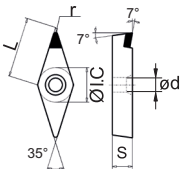
Codice sistema A188 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura (PCD)

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

VCGT	L	I.C	S	d
11 02	11	6,35	2,38	2,8
16 04	16,6	9,525	4,76	4,4

VC** Inserti positivi



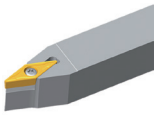
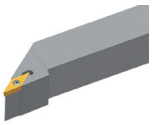
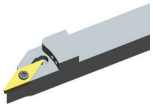
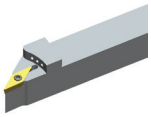
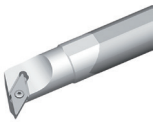
	DP
P	
M	
K	
N	●
S	
H	

	ISO	r	a_p	f	YCD421
	VCGT110202F-1	0,2	0,08-0,50	0,05-0,15	○
	VCGT110204F-1	0,4	0,08-0,50	0,05-0,20	○
	VCGT160402F-1	0,2	0,08-0,50	0,05-0,15	○
	VCGT160404F-1	0,4	0,08-0,50	0,05-0,20	○
	VCGT160408F-1	0,8	0,08-0,50	0,05-0,25	○

● In magazzino ○ Su richiesta

DP Diamante policristallino

Portautensile

SVVCN	SVJCR/L	SVACR/L-SC	SVJCR/L-SC	S***-SVQCR/L	S***-SVUCR/L	C***-SVQCR/L
Kr: 72°30'	Kr: 93°	Kr: 90°	Kr: 93°	Kr: 107°30'	Kr: 93°	Kr: 107°30'
						
A318	A319	A356	A358	A389	A390	A409

C***-SVUCR/L
Kr: 93°
A410

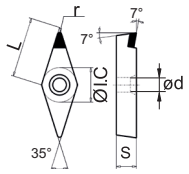
Codice sistema A188 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

Inserti - Tornitura (PCD)

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

VCGT	L	I.C	S	d
11 03	11	6,35	3,18	2,8
16 04	16,6	9,525	4,76	4,4

VC** Inserti positivi



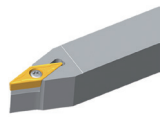
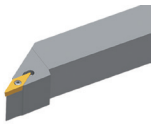
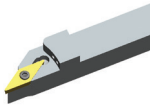
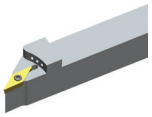
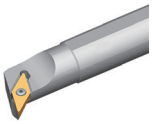
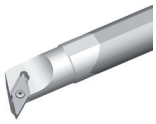
	DP
P	
M	
K	
N	○
S	
H	

	ISO	r	a_p	f	YCD421
	VCGT110302F-1MED	0,2	0,08-0,50	0,05-0,15	○
	VCGT110304F-1MED	0,4	0,08-0,50	0,05-0,20	○
	VCGT160404F-1MED	0,4	0,08-0,50	0,05-0,20	○
	VCGT160408F-1MED	0,8	0,08-0,50	0,05-0,25	○
	VCGT160412F-1MED	1,2	0,08-0,50	0,05-0,30	○

● In magazzino ○ Su richiesta

DP Diamante policristallino

Portautensile

SVVCN	SVJCR/L	SVACR/L-SC	SVJCR/L-SC	S***-SVQCR/L	S***-SVUCR/L	C***-SVQCR/L
Kr: 72°30'	Kr: 93°	Kr: 90°	Kr: 93°	Kr: 107°30'	Kr: 93°	Kr: 107°30'
						
A318	A319	A356	A358	A389	A390	A409

S***-SVJCR/L	C***-SVUCR/L
Kr: 93°	Kr: 93°
A388	A410

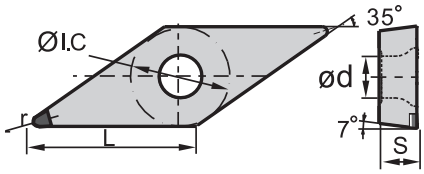
Codice sistema A188 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura (PCD)

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

VCGW	L	I.C	S	d
11 03	11	6,35	3,18	2,8
16 04	16,6	9,525	4,76	4,4

VC** Inserti positivi



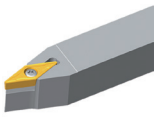
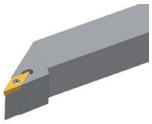
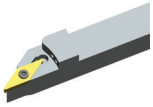
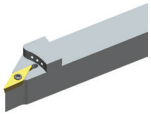
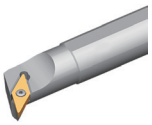
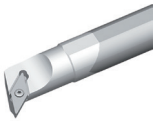
	DP
P	
M	
K	
N	○
S	
H	

	ISO	r	a_p	f	YCD421
	VCGW110302F-1	0,2	0,08-0,50	0,05-0,15	○
	VCGW110304F-1	0,4	0,08-0,50	0,05-0,20	○
	VCGW110308F-1	0,8	0,08-0,30	0,05-0,20	○
	VCGW160402F-1	0,2	0,08-0,50	0,05-0,15	○
	VCGW160404F-1	0,4	0,08-0,50	0,05-0,20	○
	VCGW160408F-1	0,8	0,08-0,50	0,05-0,25	○

● In magazzino ○ Su richiesta

DP Diamante policristallino

Portautensile

SVVCN	SVJCR/L	SVACR/L-SC	SVJCR/L-SC	S***-SVQCR/L	S***-SVUCR/L	C***-SVQCR/L
Kr: 72°30'	Kr: 93°	Kr: 90°	Kr: 93°	Kr: 107°30'	Kr: 93°	Kr: 107°30'
						
A318	A319	A356	A358	A389	A390	A409

S***-SVJCR/L	C***-SVUCR/L
Kr: 93°	Kr: 93°
A388	A410

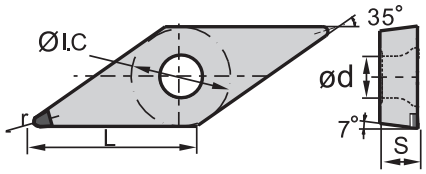
Codice sistema A188 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

VCGX	L	I.C	S	d
22 05	22	12,7	5,56	5,5

Inserti - Tornitura (PCD)

VC** Inserti positivi



	DP
P	
M	
K	
N	●
S	
H	

	ISO	r	a_p	f	YCD421
	VCGX220530-1	3	0,5-10,0	0,25-1,00	○
	VCGX220530-1 SL12	3	0,5-10,0	0,25-1,00	○

● In magazzino ○ Su richiesta

DP Diamante policristallino

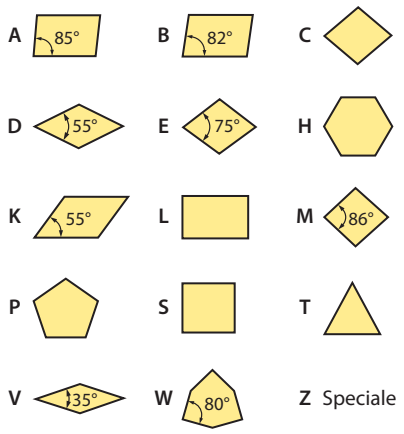
Codice sistema A188 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Tornitura generale

Codice ISO – inserti ceramici

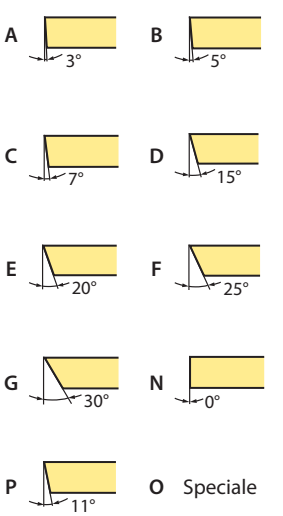
T	N	G	A	12	04	08	T	020	20
1	2	3	4	5	6	7	8	9	10

Forma dell'inserto



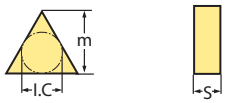
1

Angolo di spoglia inferiore



2

Grado di tolleranza

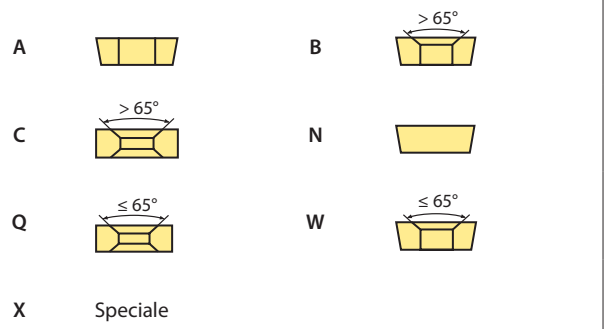


Code	I.C [mm]	m [mm]	S [mm]
A	±0,025	±0,005	±0,025
C	±0,025	±0,013	±0,025
E	±0,025	±0,025	±0,025
F	±0,013	±0,005	±0,025
G	±0,025	±0,025	±0,130
H	±0,013	±0,013	±0,025
J	±0,05–0,15	±0,005	±0,025
K	±0,05–0,15	±0,013	±0,025
L	±0,05–0,15	±0,025	±0,025
M	±0,05–0,15	±0,08–0,20	±0,130
N	±0,05–0,15	±0,08–0,20	±0,025
U	±0,08–0,25	±0,13–0,38	±0,130

3

Caratteristiche di fissaggio (metrico)

Forma dell'inserto



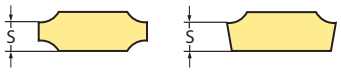
4

Lunghezza tagliente [mm]

I.C [mm]	Forma dell'inserto C	D	S	T	V	W
3,97				06		
5,0						
5,56				09		
6,0						
6,35	06	07		11	11	
8,0						
9,525	09	11	09	16	16	06
10,0						
12,0						
12,7	12	15	12	22	22	08
15,875	16		15	27		
16,0		19				
19,05	19		19	33		
20,0						
25,0	25	25				
25,4			25			
31,75						
32						

5

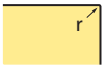
Spessore dell'inserto S [mm]



Code	S	Code	S
02	2,38	**06**	6,35
T2	2,58	**T6**	6,75
03	3,18	**07**	7,94
T3	3,97	**09**	9,52
04	4,76	**T9**	9,72
T4	4,96	**11**	11,11
05	5,56	**12**	12,70
T5	5,95		

6

Raggio di punta r [mm]



Code	r
00	–
02	0,2
04	0,4
08	0,8
12	1,2
16	1,6
20	2,0
24	2,4
32	3,2
X	Speciale
MO	Inserti tondi

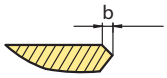
7

Versione del tagliente

Code	Tagliente	Forma dell'inserto
E	Arrotondato	
F	Spigolo vivo	
T	Smusso	
S	Smusso + Arrotondamento	

8

Larghezza smusso b [mm]



Code	b
010	0,10
015	0,15
020	0,20
025	0,25
030	0,30
035	0,35
040	0,40
045	0,45
050	0,50
100	1,00
200	2,00

9

Angolo dello smusso α

Code	α
05	5°
10	10°
15	15°
20	20°
25	25°
30	30°

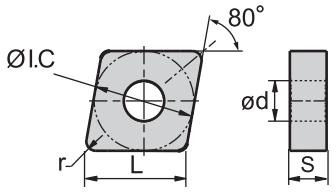
10

Inserti - Tornitura (Ceramici)

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

CNGA	L	I.C	S	d
12 04	12,9	12,7	4,76	5,16
16 06	16,1	15,875	6,35	6,35

CN** Inserti negativi



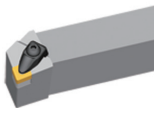
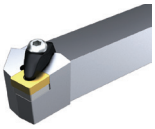
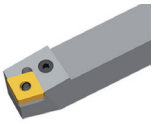
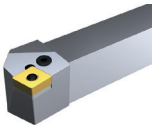
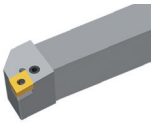
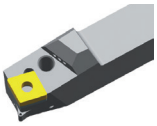
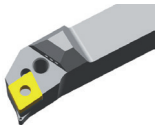
	CM	CC	CN	CR
P	○			
M				
K	○		❁	
N				
S			●	❁ ❁
H		○		

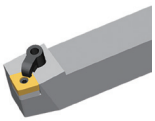
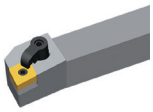
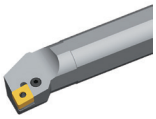
ISO	r	a_p	f	CA1000	CM1000	CN1000	CS1000	CW1400	CW1800
CNGA120402T02020	0,2	0,1-0,2	0,08-0,15		○				
CNGA120404S02020	0,4	0,1-0,3	0,08-0,25		●				
CNGA120404T01020	0,4	0,1-0,3	0,08-0,25		○				
CNGA120404T02020	0,4	0,1-0,3	0,08-0,25	○	●	●			
CNGA120408S01520	0,8	0,1-0,25	0,5-2,5					○	
CNGA120408S02020	0,8	0,1-0,4	0,1-0,3		●				
CNGA120408T00520	0,8	0,1-0,25	0,5-2,5					○	●
CNGA120408T01020	0,8	0,1-0,4	0,1-0,3		○				
CNGA120408T02020	0,8	0,1-0,4	0,1-0,3	○	●	○			
CNGA120412S01520	1,2	0,1-0,3	0,5-2,5					○	
CNGA120412S02020	1,2	0,1-0,5	0,1-0,3		●				
CNGA120412T00520	1,2	0,1-0,3	0,5-2,5						○
CNGA120412T02020	1,2	0,1-0,5	0,1-0,3		○	●			
CNGA120416S01520	1,6	0,1-0,35	0,5-3,0					○	
CNGA120416T00520	1,6	0,1-0,35	0,5-3,0					○	○
CNGA120416T02020	1,6	0,1-0,35	0,5-3,0			○			
CNGA160612T02020	1,2	0,2-2,0	0,1-0,3			●			

● In magazzino ○ Su richiesta

CM Ceramica mista
CC Ceramica mista, rivestita
CN Ceramica Si3N4
CR Al2O3 ceramica, rinforzata

Portautensile

DCLNR/L	DCKNR/L	PCBNR/L	PCKNR/L	PCLNR/L	PCBNR/LC	PCLNR/LC
Kr: 95°	Kr: 75°	Kr: 75°	Kr: 75°	Kr: 95°	Kr: 75°	Kr: 95°
						
A262	A263	A270	A271	A272	A286	A287

MCBNR/L	MCLNR/L	S***-PCLNR/L
Kr: 75°	Kr: 95°	Kr: 95°
		
A291	A292	A370

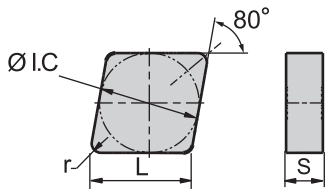
Codice sistema A230 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

CNGN	L	I.C	S
12 07	12,9	12,7	7,94
12 04	12,9	12,7	4,76
16 07	16,1	15,875	7,94

Inserti - Tornitura (Ceramici)

- ● Buone condizioni di lavorazione
- ✱ Condizioni di lavorazione normali
- ✱ Condizioni di lavorazione sfavorevoli

CN** Inserti negativi



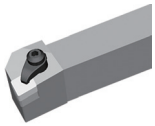
	CM	CC	CN	CR
P	●			
M				
K	●		✱	
N				
S			●	✱ ✱
H		○		

	ISO	r	a_p	f	CA1000	CM1000	CN1000	CS1000	CW1400	CW1800
	CNGN120404T02020	0,4	0,1-0,3	0,08-0,25	○					
	CNGN120408S01520	0,8	0,1-0,25	0,5-2,5					○	
	CNGN120408S02020	0,8	0,1-0,4	0,1-0,3		○				
	CNGN120408T00520	0,8	0,1-0,25	0,5-2,5						●
	CNGN120408T02020	0,8	0,1-0,4	0,1-0,3	●		●			
	CNGN120412S01520	1,2	0,1-0,3	0,5-2,5					○	
	CNGN120412T00520	1,2	0,1-0,3	0,5-2,5						●
	CNGN120412T02020	1,2	0,1-0,5	0,1-0,3	○		○			
	CNGN120416S01520	1,6	0,1-0,35	0,5-3,0					○	
	CNGN120416T00520	1,6	0,1-0,35	0,5-3,0						●
	CNGN120708S01520	0,8	0,1-0,25	0,5-2,5					○	
	CNGN120708T00525	0,8	0,1-0,25	0,5-2,5						○
	CNGN120708T02020	0,8	0,1-0,4	0,1-0,3	○					
	CNGN120712S01520	1,2	0,1-0,3	0,5-2,5					○	
	CNGN120712S02025	1,2	0,1-0,3	0,5-2,5						○
	CNGN120712T00520	1,2	0,1-0,3	0,5-2,5						●
	CNGN120712T00525	1,2	0,1-0,3	0,5-2,5				○	○	○
	CNGN120712T02020	1,2	0,1-0,5	0,1-0,3	●		○			
	CNGN120716S01520	1,6	0,1-0,35	0,5-3,0					○	
	CNGN120716T00520	1,6	0,1-0,35	0,5-3,0						○
	CNGN120716T01520	1,6	0,1-0,35	0,5-3,0					○	
	CNGN120716T02020	1,6	0,1-0,6	0,1-0,4	○		○			
	CNGN160716T01525	1,6	0,1-0,6	0,1-0,4	○					
	CNGN160716T02020	1,6	0,5-2,0	0,1-0,35	○		○			

● In magazzino ○ Su richiesta

CM Ceramica mista
CC Ceramica mista, rivestita
CN Ceramica Si3N4
CR Al2O3 ceramica, rinforzata

Portautensile
CCLNR/L
Kr: 95°



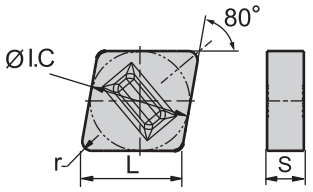
A336

Codice sistema A230 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura (Ceramici)

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

CNGX	L	I.C	S
12 07	12,9	12,7	7,94



CN** Inserti negativi	CM	CC	CN	CR
P	●			
M				
K	●		✱	
N				
S			●	✱ ✱
H		○		

	ISO	r	a_p	f	CA1000	CM1000	CN1000	CS1000	CW1400	CW1800
Media Lavor.	**CNGX120712T02020**	1,2	0,2-2,0	0,1-0,3			●			
	CNGX120716T02020	1,6	0,5-2,0	0,1-0,35			○			

● In magazzino ○ Su richiesta

CM Ceramica mista
CC Ceramica mista, rivestita
CN Ceramica Si3N4
CR Al2O3 ceramica, rinforzata

Portautensile
JCLNR/L
Kr: 95°

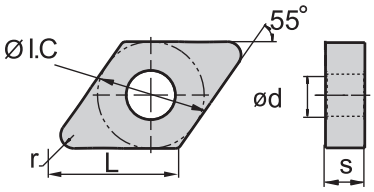
A344

Codice sistema A230 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura (Ceramici)

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

DNGA	L	I.C	S	d
15 04	15,5	12,7	4,76	5,16
15 06	15,5	12,7	6,35	5,16



DN** Inserti negativi	CM	CC	CN	CR
P	●			
M				
K	●		⊛	
N				
S			●	⊛ ⊛
H		○		

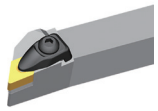
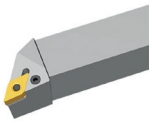
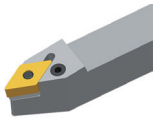
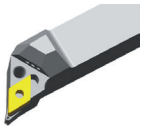
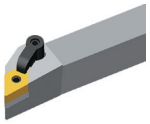
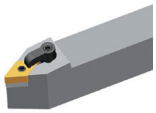
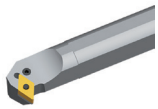
ISO	r	a_p	f	CA1000	CM1000	CN1000	CS1000	CW1400	CW1800
DNGA150404T02020	0,4	0,1-0,3	0,08-0,25		○				
DNGA150408S01520	0,8	0,1-0,25	0,5-2,5					○	
DNGA150408T00520	0,8	0,1-0,25	0,5-2,5						●
DNGA150408T01520	0,8	0,1-0,25	0,5-2,5					○	
DNGA150408T02020	0,8	0,1-0,4	0,1-0,3		○				
DNGA150412S01520	1,2	0,1-0,3	0,5-2,5					○	
DNGA150412T00520	1,2	0,1-0,3	0,5-2,5						●
DNGA150412T01520	1,2	0,1-0,3	0,5-2,5					○	
DNGA150412T02020	1,2	0,1-0,5	0,1-0,3		○	○		○	
DNGA150416S01520	1,6	0,1-0,35	0,5-3,0					○	
DNGA150416T00520	1,6	0,1-0,35	0,5-3,0						○
DNGA150604S02020	0,4	0,1-0,3	0,08-0,25		●				
DNGA150604T01020	0,4	0,1-0,3	0,08-0,25		○				
DNGA150604T02020	0,4	0,1-0,3	0,08-0,25		●	○			
DNGA150608S02020	0,8	0,1-0,4	0,1-0,3		●				
DNGA150608T02020	0,8	0,1-0,4	0,1-0,3		○	●			
DNGA150612S02020	1,2	0,1-0,5	0,1-0,3		●				
DNGA150612T01020	1,2	0,1-0,5	0,1-0,3		○				
DNGA150612T02020	1,2	0,1-0,5	0,1-0,3		●	○			
DNGA150616T02020	1,6	0,5-2,0	0,1-0,35			○			

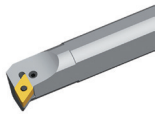
● In magazzino ○ Su richiesta

CM Ceramica mista
CC Ceramica mista, rivestita
CN Ceramica Si3N4
CR Al2O3 ceramica, rinforzata

Codice sistema A230 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Portautensile

DDJNR/L	PDJNR/L	PDNNR/L	PDJNR/LC	MDJNR/L	MDPNN	S***-PDSNR/L
Kr: 93°	Kr: 93°	Kr: 63°	Kr: 93°	Kr: 93°	Kr: 62°30'	Kr: 62°30'
						
A264	A274	A275	A288	A294	A295	A372

S***-PDUNR/L
Kr: 93°

A373

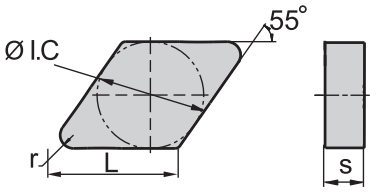
Codice sistema A230 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

Inserti - Tornitura (Ceramici)

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

DNGN	L	I.C	S
15 07	15,5	12,7	7,94
15 04	15,5	12,7	4,76

DN** Inserti negativi



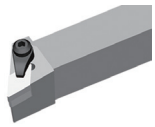
	CM	CC	CN	CR
P	○			
M				
K	○		⊛	
N				
S			●	⊛ ⊛
H		○		

	ISO	r	a_p	f	CA1000	CM1000	CN1000	CS1000	CW1400	CW1800
Media Lavor.	**DNGN150408S01520**	0,8	0,1-0,25	0,5-2,5					○	
	DNGN150408T00520	0,8	0,1-0,25	0,5-2,5						●
	DNGN150408T02020	0,8	0,1-0,4	0,1-0,3		○				
	DNGN150412S01520	1,2	0,1-0,3	0,5-2,5					○	
	DNGN150412T00520	1,2	0,1-0,3	0,5-2,5						●
	DNGN150412T02020	1,2	0,1-0,5	0,1-0,3	○					
	DNGN150416S01520	1,6	0,1-0,35	0,5-3,0					○	
	DNGN150416T00520	1,6	0,1-0,35	0,5-3,0						○
	DNGN150704T02020	0,4	0,1-0,3	0,08-0,25	○		○			
	DNGN150708T01520	0,8	0,1-0,25	0,5-2,5					○	
	DNGN150708T02020	0,8	0,1-0,4	0,1-0,3	●					
	DNGN150712T02020	1,2	0,1-0,5	0,1-0,3	○		○			
	DNGN150716T02020	1,6	0,1-0,6	0,1-0,4	○					

● In magazzino ○ Su richiesta

CM Ceramica mista
CC Ceramica mista, rivestita
CN Ceramica Si3N4
CR Al2O3 ceramica, rinforzata

Portautensile
CDJNR/L
Kr: 93°



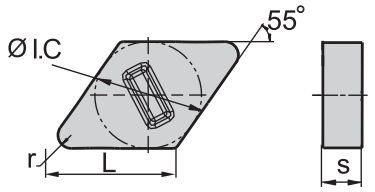
A338

Codice sistema A230 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura (Ceramici)

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

DNGX	L	I.C	S
15 07	15,5	12,7	7,94



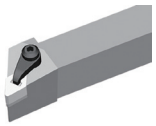
DN** Inserti negativi	CM	CC	CN	CR
P	●			
M				
K	●		⊛	
N				
S			●	⊛ ⊛
H		○		

	ISO	r	a_p	f	CA1000	CM1000	CN1000	CS1000	CW1400	CW1800
Media Lavor.	**DNGX150708T02020**	0,8	0,15-1,5	0,1-025			○			
	DNGX150712T02020	1,2	0,2-2,0	0,1-0,3			○			
	DNGX150716T02020	1,6	0,5-2,0	0,1-0,35			○			

● In magazzino ○ Su richiesta

CM Ceramica mista
CC Ceramica mista, rivestita
CN Ceramica Si3N4
CR Al2O3 ceramica, rinforzata

Portautensile
JDJNR/L
Kr: 93°



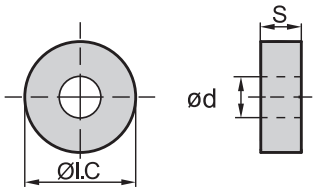
A345

Codice sistema A230 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura (Ceramici)

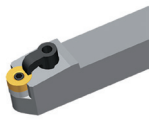
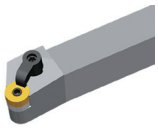
- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

RNGA	I.C	S	d
12 04	12,7	4,76	

RN** Inserti negativi				CM				CC				CN				CR			
			P	●															
			M																
			K	●								⊛							
			N																
			S										●			⊛	⊛		
			H					○											
ISO		a_p	f	CA1000				CM1000				CN1000	CS1000			CW1400	CW1800		
	RNGA120400T02020	0,1-0,6	0,1-0,4					○											

● In magazzino ○ Su richiesta

CM Ceramica mista
CC Ceramica mista, rivestita
CN Ceramica Si3N4
CR Al2O3 ceramica, rinforzata

Portautensile	
MRDNN	**MRGNR/L**
	
A307	A308

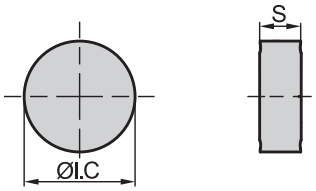
Codice sistema A230 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

RNGN	I.C	S
06 03	6,35	3,18
09 03	9,525	3,18
09 04	9,525	4,76
12 04	12,412,7	4,76
12 07	12,7	7,94
15 07	15,875	7,94
19 07	19,05	7,94
25 07	25,4	7,94
25 10	25,4	10,05

Buone condizioni di lavorazione
Condizioni di lavorazione normali
Condizioni di lavorazione sfavorevoli

Inserti - Tornitura (Ceramici)

RN** Inserti negativi



	CM				CC				CN				CR			
P	○															
M																
K	○								⊛							
N																
S										●			⊛	⊛		
H					○											

ISO	a_p	f	CA1000	CM1000	CN1000	CS1000	CW1400	CW1800
RNGN060300T01020	0,2-2,0	0,08-0,25	○	○				
RNGN090300S01520	0,2-2,0	0,08-0,25						○
RNGN090300T00520	0,2-2,0	0,08-0,25					○	○
RNGN090300T00525	0,2-2,0	0,08-0,25						
RNGN090300T01525	0,2-2,0	0,08-0,25	○	○				
RNGN090300T02020	0,2-2,0	0,08-0,25	○	○				
RNGN090400S01520	0,2-2,0	0,08-0,25					○	
RNGN090400T00520	0,2-2,0	0,08-0,25						○
RNGN090400T02020	0,2-2,0	0,08-0,25	○					
RNGN120400S01520	0,3-2,4	0,1-0,4					○	
RNGN120400S02020	0,3-2,4	0,1-0,4		●				
RNGN120400T00520	0,3-2,4	0,1-0,4						●
RNGN120400T00525	0,3-2,4	0,1-0,4						
RNGN120400T01020	0,3-2,4	0,1-0,4				○		
RNGN120400T01525	0,3-2,4	0,1-0,4	●	●				
RNGN120400T02020	0,3-2,4	0,1-0,4	○		○			
RNGN120700S01520	0,3-2,4	0,1-0,4					○	
RNGN120700S02020	0,3-2,4	0,1-0,4		●				
RNGN120700T00520	0,3-2,4	0,1-0,4					●	●
RNGN120700T00525	0,3-2,4	0,1-0,4				○	○	○
RNGN120700T01520	0,3-2,4	0,1-0,4					○	
RNGN120700T01525	0,3-2,4	0,1-0,4	●	●	○			
RNGN120700T02020	0,3-2,4	0,1-0,4	●		●			
RNGN150700T02020	0,3-2,6	0,1-0,6	○					
RNGN190700S01520	0,5-4,0	0,15-0,7					○	

● In magazzino ○ Su richiesta

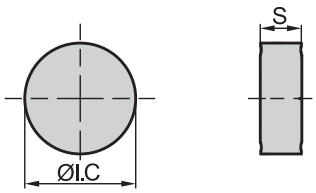
CM Ceramica mista
CC Ceramica mista, rivestita
CN Ceramica Si3N4
CR Al2O3 ceramica, rinforzata

Codice sistema A230 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

RNGN	I.C	S
06 03	6,35	3,18
09 03	9,525	3,18
09 04	9,525	4,76
12 04	12,412,7	4,76
12 07	12,7	7,94
15 07	15,875	7,94
19 07	19,05	7,94
25 07	25,4	7,94
25 10	25,4	10,05

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

Inserti - Tornitura (Ceramici)



RN** Inserti negativi	CM	CC	CN	CR
P	●			
M				
K	●		⊛	
N				
S			●	⊛ ⊛
H		○		

	ISO	a_p	f	CA1000	CM1000	CN1000	CS1000	CW1400	CW1800
	RNGN190700T00520	0,5-4,0	0,15-0,7						○
	RNGN190700T03020	0,5-4,0	0,15-0,7	○					
	RNGN250700T19015	1,0-5,5	0,15-0,7	○					
	RNGN251000T05020	1,0-5,5	0,15-0,7	○					

● In magazzino ○ Su richiesta

CM Ceramica mista
CC Ceramica mista, rivestita
CN Ceramica Si3N4
CR Al2O3 ceramica, rinforzata

Portautensile
CRDNN

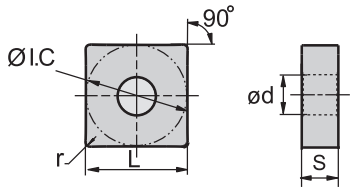
A342

Codice sistema A230 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura (Ceramici)

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SNGA	L	I.C	S	d
12 04	12,7	12,7	4,76	5,16



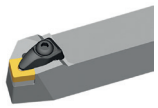
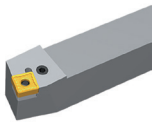
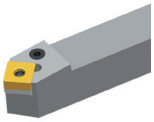
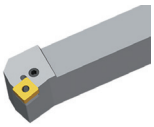
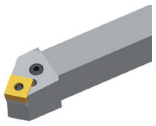
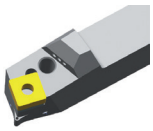
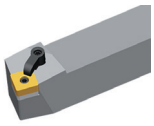
SN** Inserti negativi	CM	CC	CN	CR
P	●			
M				
K	●		⊛	
N				
S			●	⊛ ⊛
H		○		

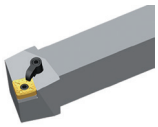
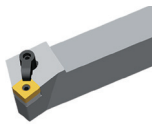
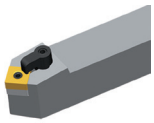
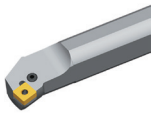
ISO	r	a_p	f	CA1000	CM1000	CN1000	CS1000	CW1400	CW1800
SNGA120404T02020	0,4	0,1-1,0	0,1-0,2			○			
SNGA120408S02020	0,8	0,1-0,4	0,1-0,3		○				
SNGA120408T02020	0,8	0,1-0,4	0,1-0,3	○	○	○			
SNGA120412T02020	1,2	0,2-2,0	0,1-0,3			○			

● In magazzino ○ Su richiesta

CM Ceramica mista
CC Ceramica mista, rivestita
CN Ceramica Si3N4
CR Al2O3 ceramica, rinforzata

Portautensile

DSBNR/L	PSBNR/L	PSDNN	PSKNR/L	PSSNR/L	PSBNR/LC	MSBNR/L
Kr: 75°	Kr: 75°	Kr: 45°	Kr: 75°	Kr: 45°	Kr: 75°	Kr: 75°
						
A265	A276	A278	A279	A280	A289	A296

MSRNR/L	MSKNR/L	MSDNN	S***-PSKNR/L
Kr: 75°	Kr: 75°	Kr: 45°	Kr: 75°
			
A297	A298	A299	A375

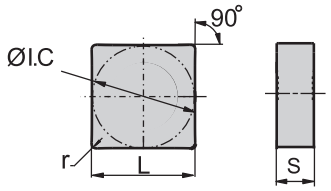
Codice sistema A230 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

SNGN	L	I.C	S
09 04	9,525	9,525	4,76
12 07	12,7	12,7	7,94
12 04	12,7	12,7	4,76
15 07	15,875	15,875	7,94
19 07	19,05	19,05	7,94

● Buone condizioni di lavorazione
✱ Condizioni di lavorazione normali
✱ Condizioni di lavorazione sfavorevoli

Inserti - Tornitura (Ceramici)

SN** Inserti negativi



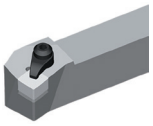
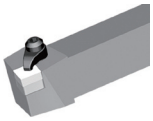
	CM	CC	CN	CR
P	●			
M				
K	●		✱	
N				
S			●	✱ ✱
H		○		

ISO	r	a_p	f	CA1000	CM1000	CN1000	CS1000	CW1400	CW1800
SNGN090416T01525	1,6	0,1-0,3	0,5-3,0			○			
SNGN120404T02020	0,4	0,1-0,3	0,08-0,25	○					
SNGN120408S01520	0,8	0,1-0,25	0,5-2,5					○	
SNGN120408S02020	0,8	0,1-0,4	0,1-0,3		○				
SNGN120408T00520	0,8	0,15-1,5	0,1-025			○			●
SNGN120408T02020	0,8	0,1-0,4	0,1-0,3	○		●			
SNGN120412S01520	1,2	0,1-0,3	0,5-2,5					○	
SNGN120412T00520	1,2	0,1-0,3	0,5-2,5						●
SNGN120412T02020	1,2	0,1-0,5	0,5-2,5	○	○	○			
SNGN120416S01520	1,6	0,1-0,35	0,5-3,0					○	
SNGN120416T00520	1,6	0,1-0,35	0,5-3,0						○
SNGN120416T02020	1,6	0,1-0,6	0,1-0,4			○			
SNGN120704T02020	0,4	0,1-0,3	0,08-0,25	●					
SNGN120708S01520	0,8	0,1-0,25	0,5-2,5					○	
SNGN120708T00520	0,8	0,1-0,25	0,5-2,5						●
SNGN120708T02020	0,8	0,1-0,4	0,1-0,3	○	○	○			
SNGN120712S01520	1,2	0,1-0,3	0,5-2,5					○	
SNGN120712T00520	1,2	0,1-0,3	0,5-2,5						●
SNGN120712T00525	1,2	0,1-0,3	0,5-2,5						○
SNGN120712T02020	1,2	0,1-0,5	0,1-0,3	○	○	●			
SNGN120716S01520	1,6	0,1-0,35	0,5-3,0					○	
SNGN120716T00520	1,6	0,1-0,35	0,5-3,0						○
SNGN120716T00525	1,6	0,1-0,35	0,5-3,0						○
SNGN120716T01520	1,6	0,1-0,35	0,5-3,0					○	
SNGN120716T01525	1,6	0,1-0,35	0,5-3,0			○			
SNGN120716T02020	1,6	0,1-0,6	0,1-0,4	○					
SNGN150708T02020	0,8	0,1-0,4	0,1-0,3	○					
SNGN150712T02020	1,2	0,1-0,5	0,1-0,3	●		○			
SNGN150716T02020	1,6	0,1-0,6	0,1-0,4	●		○			
SNGN190716S02030	1,6	0,5-2,0	0,1-0,35			○			
SNGN190716T03020	1,6	0,1-0,6	0,1-0,4	○					

● In magazzino ○ Su richiesta

CM Ceramica mista
CC Ceramica mista, rivestita
CN Ceramica Si3N4
CR Al2O3 ceramica, rinforzata

Codice sistema A230 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Portautensile		
CSKNR/L	**CSRNR/L**	**CSDNN**
Kr: 75°	Kr: 75°	Kr: 45°
		
A340	A341	A343

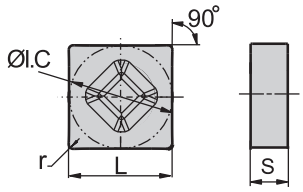
Codice sistema A230 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

SNGX	L	I.C	S
12 07	12,7	12,7	7,94

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

Inserti - Tornitura (Ceramici)

SN** Inserti negativi



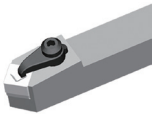
	CM	CC	CN	CR
P	●			
M				
K	●			
N				
S			○	⊛ ⊛
H		○		

	ISO	r	a_p	f	CA1000	CM1000	CS1000	CW1400	CW1800
Media Lavor.	**SNGX120716T01525**	1,6	0,1-0,35	0,5-3,0					

● In magazzino ○ Su richiesta

CM Ceramica mista
CC Ceramica mista, rivestita
CN Ceramica Si3N4
CR Al2O3 ceramica, rinforzata

Portautensile
JSDNN
Kr: 45°



A346

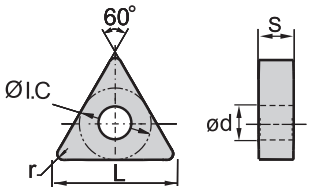
Codice sistema A230 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura (Ceramici)

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

TNGA	L	I.C	S	d
16 04	16,5	9,525	4,76	3,86
22 04	22	12,7	4,76	5,16

TN** Inserti negativi



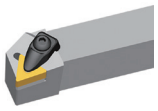
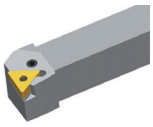
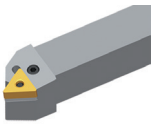
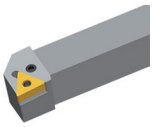
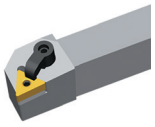
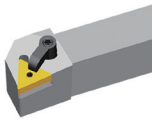
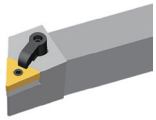
	CM	CC	CN	CR
P	○			
M				
K	○		✱	
N				
S			●	✱ ✱
H		○		

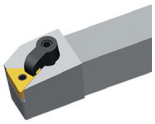
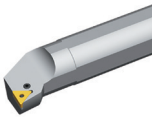
	ISO	r	a_p	f	CA1000	CM1000	CN1000	CS1000	CW1400	CW1800
	TNGA160404S02020	0,4	0,1-0,3	0,08-0,25		●				
	TNGA160404T01020	0,4	0,1-0,3	0,08-0,25		○	●			
	TNGA160404T02020	0,4	0,1-0,3	0,08-0,25		○				
	TNGA160408S02020	0,8	0,1-0,4	0,1-0,3		●				
	TNGA160408T02020	0,8	0,1-0,4	0,1-0,3		○	●			
	TNGA160412T02020	1,2	0,1-0,5	0,1-0,3		○	●			
	TNGA220408T02020	0,8	0,15-1,5	0,1-025			○			
	TNGA220412T02020	1,2	0,2-2,0	0,1-0,3			○			
	TNGA220416T02020	1,6	0,5-2,0	0,1-0,35			○			

● In magazzino ○ Su richiesta

CM Ceramica mista
CC Ceramica mista, rivestita
CN Ceramica Si3N4
CR Al2O3 ceramica, rinforzata

Portautensile

DTGNR/L	PTFNR/L	PTTNR/L	PTGNR/L	MTGNR/L	MTJNR/L	MTJNR/L
Kr: 91°	Kr: 91°	Kr: 60°	Kr: 90°	Kr: 90°	Kr: 93°	Kr: 93°
						
A266	A281	A282	A283	A300	A301	A302

MTFNR/L	S***-PTFNR/L
Kr: 91°	Kr: 90°
	
A303	A376

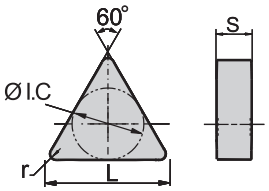
Codice sistema A230 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

TNGN	L	I.C	S
16 07	16,5	9,525	7,94
16 04	16,5	9,525	4,76
22 04	22	12,7	4,76

Inserti - Tornitura (Ceramici)

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

TN** Inserti negativi



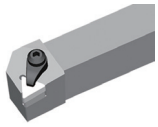
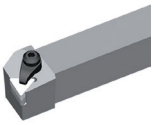
	CM	CC	CN	CR
P	●			
M				
K	●		⊛	
N				
S			●	⊛ ⊛
H		○		

	ISO	r	a_p	f	CA1000	CM1000	CN1000	CS1000	CW1400	CW1800
Media Lavor.	**TNGN160404T02020**	0,4	0,1-0,3	0,08-0,25	○					
	TNGN160408S02020	0,8	0,1-0,4	0,1-0,3		○				
	TNGN160408T02020	0,8	0,1-0,4	0,1-0,3	○		○			
	TNGN160412T02020	1,2	0,1-0,5	0,1-0,3	○		○			
	TNGN160712T02020	1,2	0,1-0,5	0,1-0,3	○					
	TNGN220408T02020	0,8	0,1-0,4	0,1-0,3	○		○			
	TNGN220412T02020	1,2	0,1-0,5	0,1-0,3	○		○			
	TNGN220416T02020	1,6	0,1-0,6	0,1-0,4	○		○			

● In magazzino ○ Su richiesta

CM Ceramica mista
CC Ceramica mista, rivestita
CN Ceramica Si3N4
CR Al2O3 ceramica, rinforzata

Portautensile

CTJNR/L	CTUNR/L
Kr: 93°	Kr: 93°
	
A337	A339

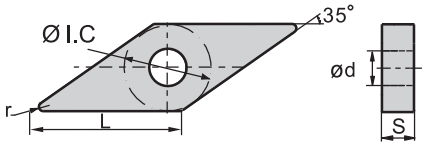
Codice sistema A230 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura (Ceramici)

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

VNGA	L	I.C	S	d
16 04	16,6	9,525	4,76	3,81

VN** Inserti negativi



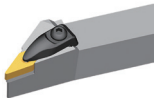
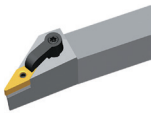
	CM	CC	CN	CR
P	○			
M				
K	○		⊛	
N				
S			●	⊛ ⊛
H		○		

	ISO	r	a_p	f	CA1000	CM1000	CN1000	CS1000	CW1400	CW1800
	VNGA160404S02020	0,4	0,1-0,3	0,08-0,25		●				
	VNGA160404T01020	0,4	0,1-0,3	0,08-0,25		○				
	VNGA160408S02020	0,4	0,1-0,4	0,1-0,3		●				
	VNGA160408T01020	0,8	0,1-0,4	0,1-0,3		○				
	VNGA160408T02020	0,8	0,1-0,4	0,1-0,3		●				

● In magazzino ○ Su richiesta

CM Ceramica mista
CC Ceramica mista, rivestita
CN Ceramica Si3N4
CR Al2O3 ceramica, rinforzata

Portautensile

DVVNN	DVJNR/L	MVVNN	MVJNR/L
Kr: 72°30'	Kr: 93°	Kr: 72°30'	Kr: 93°
			
A267	A268	A304	A305

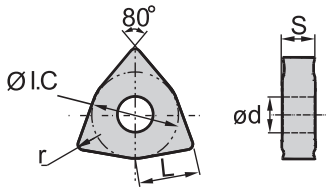
Codice sistema A230 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

WNGA	L	I.C	S	d
08 04	8,69	12,7	4,76	5,16

Inserti - Tornitura (Ceramici)

WN** Inserti negativi



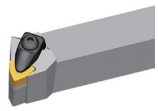
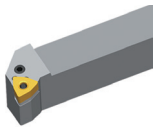
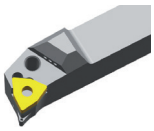
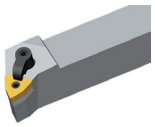
	CM	CC	CN	CR
P	○			
M				
K	○		⊛	
N				
S			○	⊛ ⊛
H		○		

	ISO	r	a_p	f	CA1000	CM1000	CN1000	CS1000	CW1400	CW1800
	WNGA080404T01020	0,4	0,1-0,3	0,08-0,25		○				
	WNGA080408S02020	0,8	0,1-0,4	0,1-0,3		○				
	WNGA080408T02020	0,8	0,1-0,4	0,1-0,3		○	●			
	WNGA080412S02020	1,2	0,1-0,5	0,1-0,3		○				
	WNGA080412T02020	1,2	0,1-0,5	0,1-0,3		○	●			
	WNGA080416T01525	1,6	0,5-2,0	0,1-0,35			○			
	WNGA080416T02020	1,6	0,5-2,0	0,1-0,35		○	●			

● In magazzino ○ Su richiesta

CM Ceramica mista
CC Ceramica mista, rivestita
CN Ceramica Si3N4
CR Al2O3 ceramica, rinforzata

Portautensile

DWLNR/L	PWLNR/L	PWLNR/LC	MWLNR/L	S***-PWLNR/L
Kr: 95°	Kr: 95°	Kr: 95°	Kr: 95°	Kr: 95°
				
A269	A285	A290	A306	A378

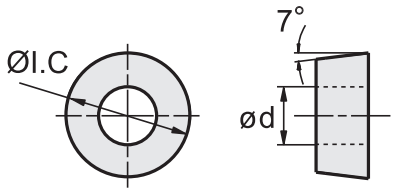
Codice sistema A230 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

RCGX	I.C	S	d
06 07	6	7,94	
06 04	6	4,76	
06 06	6	6,35	
09 07	9	7,94	
12 07	12	7,94	
19 10	19	10	

Inserti - Tornitura (Ceramici)

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

RC** Inserti positivi



	CM	CC	CN	CR
P	●			
M				
K	●		⊛	
N				
S			●	⊛ ⊛
H		○		

	ISO	a_p	f	CA1000	CM1000	CN1000	CS1000	CW1400	CW1800
	RCGX060400S01520	0,1-0,25	0,5-2,5					○	
	RCGX060400T00520	0,1-0,25	0,5-2,5						○
	RCGX060600S02020	0,1-0,3	0,08-0,25	○					
	RCGX060600T01020	0,1-0,25	0,5-2,5					○	
	RCGX060700T00525	0,1-0,25	0,5-2,5				○	○	○
	RCGX090700T00520	0,1-0,3	0,5-2,5						○
	RCGX090700T00525	0,1-0,3	0,5-2,5				○	○	○
	RCGX090700T20015	0,1-0,3	0,1-0,3	○					
	RCGX120700E	0,5-2,0	0,1-0,2				○		
	RCGX120700S01020	0,5-2,0	0,1-0,2				○		
	RCGX120700S01520	0,1-0,35	0,5-3,0					○	
	RCGX120700T00520	0,1-0,35	0,5-3,0						○
	RCGX120700T00525	0,1-0,35	0,5-3,0					○	○
	RCGX120700T01020	0,1-0,35	0,5-3,0		○			○	
	RCGX191000T02020	0,1-0,6	0,1-0,5		○				

● In magazzino ○ Su richiesta

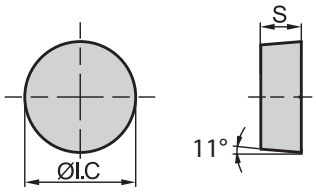
CM Ceramica mista
CC Ceramica mista, rivestita
CN Ceramica Si3N4
CR Al2O3 ceramica, rinforzata

Codice sistema A230 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

RPGN	I.C	S
12 04	12,7	4,76

● Buone condizioni di lavorazione
Condizioni di lavorazione normali
Condizioni di lavorazione sfavorevoli

Inserti - Tornitura (Ceramici)



RP** Inserti positivi	CM				CC				CN				CR							
P	●																			
M																				
K	●								✱											
N																				
S										●			✱	✱						
H					○															

	ISO	a_p	f	CA1000	CM1000	CN1000	CS1000	CW1400	CW1800
	RPGN120400S01520	0,1-0,35	0,5-3,0					○	
	RPGN120400T00520	0,1-0,35	0,5-3,0						○

● In magazzino ○ Su richiesta

CM Ceramica mista
CC Ceramica mista, rivestita
CN Ceramica Si3N4
CR Al2O3 ceramica, rinforzata

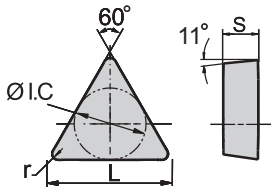
Codice sistema A230 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Inserti - Tornitura (Ceramici)

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

TPGN	L	I.C	S
11 03	11	6,35	3,18
16 03	16,5	9,525	3,18

TP** Inserti positivi



	CM	CC	CN	CR
P	○			
M				
K	○		✱	
N				
S			●	✱ ✱
H		○		

	ISO	r	a_p	f	CA1000	CM1000	CN1000	CS1000	CW1400	CW1800
	TPGN110304T02020	0,4	0,1-0,3	0,08-0,25		○				
	TPGN160304T01020	0,4	0,1-0,3	0,08-0,25		○				
	TPGN160308T01020	0,8	0,1-0,4	0,1-0,3		○				

● In magazzino ○ Su richiesta

CM Ceramica mista
CC Ceramica mista, rivestita
CN Ceramica Si3N4
CR Al2O3 ceramica, rinforzata

Codice sistema A230 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Note

Utensili per tornitura esterna

	Portautensile	Applicazione: Lavorazione esterna	Applicazione: Lavorazione planare	Applicazione: Lavorazione di profili	Applicazione: Lavorazione di profili	Applicazione: Lavorazione di profili	Pezzo: Stabile	Pezzo: Instabile	Pagina
D	DCLNR/L 95°	●	●				●		A262
D	DCKNR/L 75°	●					●		A263
D	DDJNR/L 93°			●	●	●	●	●	A264
D	DSBNR/L 75°	●					●		A265
D	DTGNR/L 91°	●					●		A266
D	DVVNN 72.5°					●	●		A267
D	DVJNR/L 93°			●	●		●	●	A268
D	DWLNR/L 95°	●	●				●		A269
P	PCBNR/L 75°	●					●		A270
P	PCBNR/LC 75°	●					●		A286
P	PCKNR/L 75°	●					●		A271
P	PCLNR/L 95°	●	●				●		A272
P	PCLNR/LC 95°	●	●				●		A287
P	PDJNR/L 93°			●	●	●	●	●	A274
P	PDJNR/LC 93°			●	●	●	●	●	A288

● Raccomandato

Utensili per tornitura esterna

	Portautensile	Applicazione					Pezzo		Pagina
		Lavorazione esterna	Lavorazione planare	Lavorazione di profili	Lavorazione di profili	Lavorazione di profili	Stabile	Instabile	
P	PDNNR/L 63°					●	●		A275
P	PSBNR/L 75°	●					●		A276
P	PSBNR/LC 75°	●					●		A289
P	PSDNN 45°	●				●	●		A278
P	PSKNR/L 75°		●				●		A279
P	PSSNR/ L 45°	●	●				●		A280
P	PTFNR/L 91°		●				●		A281
P	PTTNR/L 60°	●					●		A282
P	PTGNR/L 90°	●					●		A283
P	PWLNR/L 95°	●	●				●		A285
P	PWLNR/LC 95°	●	●				●		A290
P	PLANR/L 90°	●	●			●	●		A362
P	PLFNR/L 90°	●					●		A363
P	PCLNR/L 95°	●	●				●		A364
M	MCBNR/L 75°	●					●		A291

● Raccomandato

Utensili per tornitura esterna

	Portautensile	Applicazione: Lavorazione esterna	Applicazione: Lavorazione planare	Applicazione: Lavorazione di profili	Applicazione: Lavorazione di profili	Applicazione: Lavorazione di profili	Pezzo: Stabile	Pezzo: Instabile	Pagina
M	MCLNR/L 95°	●	●				●		A292
	MDJNR/L 93°			●	●	●	●	●	A294
	MDPNN 62.5°					●	●		A295
	MSBNR/L 75°	●					●		A296
	MSRNR/L 75°	●					●		A297
	MSKNR/L 75°		●				●		A298
	MSDNN 45°					●	●		A299
	MTGNR/L 90°	●					●		A300
	MTJNR/L 93°	●					●		A301
	MTJNR/L-Z 93°		●		●		●		A302
	MTFNR/L 91°		●				●		A303
	MVVNN 72,5°					●	●		A304
	MVJNR/L 93°			●	●		●	●	A305
	MWLNR/L 95°	●	●				●		A306
	MRGNR/L –			●			●		A308

● Raccomandato

Utensili per tornitura esterna

	Portautensile	Applicazione: Lavorazione esterna	Applicazione: Lavorazione planare	Applicazione: Lavorazione di profili	Applicazione: Lavorazione di profili	Applicazione: Lavorazione di profili	Pezzo: Stabile	Pezzo: Instabile	Pagina
M	MRDNN –					●	●		A307
S	SOXNR/L 23°	●	●				●		A332
	SPXNR/L 23°	●	●				●		A333
	SCACR/L 90°	●					●	●	A309
	SCLCR/L 95°	●	●				●	●	A310
	SDACR/L 90°				●		●	●	A311
	SDJCR/L 93°	●			●		●	●	A312
	SDNCN 63°					●	●	●	A313
	SVJBR/L 93°	●			●		●	●	A314
	SVABR/L 90°	●			●		●	●	A315
	SVVBN 72,5°					●	●	●	A316
	SVHBR/L 107°				●		●	●	A317
	SVVCN 72,5°					●	●	●	A318
	SVJCR/L 93°	●			●		●	●	A319
	SSBCR/L 75°	●					●		A320

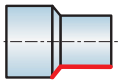
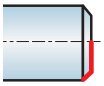
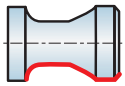
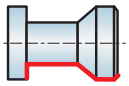
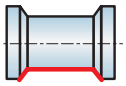
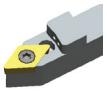
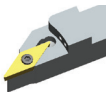
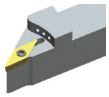
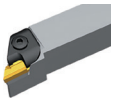
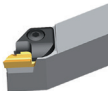
● Raccomandato

Utensili per tornitura esterna

	Portautensile	Applicazione					Pezzo		Pagina
		Lavorazione esterna	Lavorazione planare	Lavorazione di profili	Lavorazione di profili	Lavorazione di profili	Stabile	Instabile	
S	SSDCN 45°					●	●		A321
S	SSKCR/L 75°		●				●		A322
S	SSSCR/L 45°	●					●		A323
S	STACR/L 90°	●					●	●	A324
S	STFCR/L 91°		●				●		A325
S	STGCR/L 91°	●					●	●	A326
S	STTCR/L 60°	●					●		A327
S	SWACR/L 90°	●					●	●	A328
S	SRDCN –					●	●		A329
S	SRGCR/L –			●			●		A331
S	SCACR/L-SC 90°	●					●	●	A350
S	SCLCR/L-SC 95°	●	●				●	●	A351
S	SDACR/L-SC 90°				●		●	●	A352
S	SDHCR/L-SC 107°30'				●		●	●	A353
S	SDJCR/L-SC 93°	●			●		●	●	A354

● Raccomandato

Utensili per tornitura esterna

	Portautensile	Applicazione					Pezzo		Pagina
		Lavorazione esterna	Lavorazione planare	Lavorazione di profili	Lavorazione di profili	Lavorazione di profili	Stabile	Instabile	
									
S	SDNCN-SC 62°30' 					●	●	●	A355
S	SVACR/L-SC 90° 	●			●		●	●	A356
S	SVJCR/L-SC 93° 	●			●		●	●	A358
S	SVJBR/L-SC 93°	●			●		●	●	A357
C	CKJNR/L 93° 	●			●		●		A334
C	CKNNR/L 63° 					●	●		A335

● Raccomandato

Tornitura generale

Codice ISO – portautensili esterni

P	C	L	N	L	25	25	M	12	C
1	2	3	4	5	6	7	8	9	10

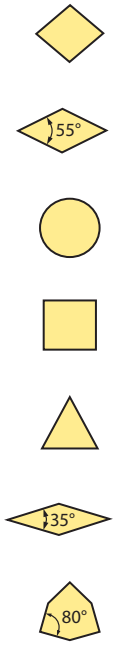
Sistema di bloccaggio

Code	Descrizione
P	Bloccaggio a leva
M	Sistema di bloccaggio a staffa / perno
S	Bloccaggio a vite
C/J	Bloccaggio a staffa
D	Doppio bloccaggio

1

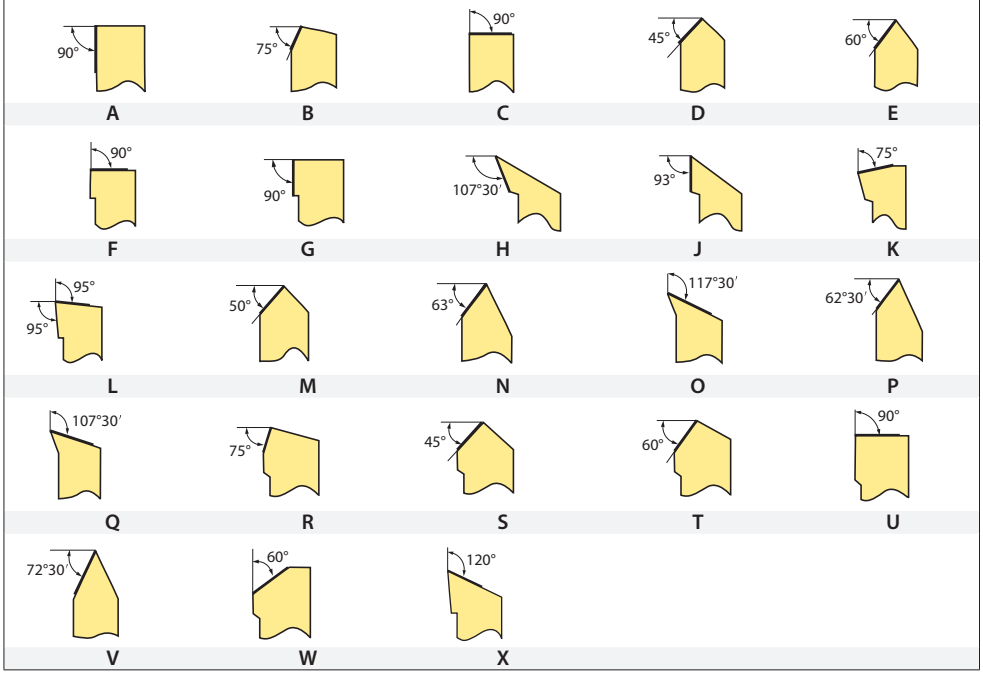
Forma dell'inserto

C
D
R
S
T
V
W



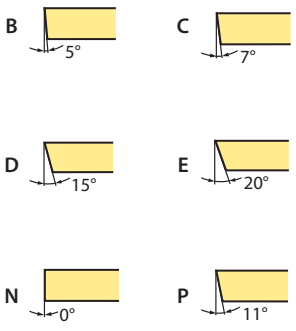
2

Forma portautensile e angolo di regolazione



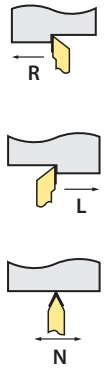
3

Angolo di spoglia inferiore



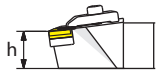
4

Direzione di taglio



5

Altezza stelo h [mm]



Code	h
12	12
16	16
20	20
25	25
32	32
40	40
50	50

6

Larghezza stelo b [mm]

Code	b
12	12
16	16
20	20
25	25
32	32
40	40
50	50

7

Lungh. portautensile L [mm]

Code	L
H	100
K	125
M	150
P	170
Q	180
R	200
S	250
T	300
X	Standard di fabbrica

8

Lunghezza tagliente [mm]

I.C [mm]	Forma dell'inserto						
	C	D	R	S	T	V	W
5,56					**09**		
6,35	**06**	**07**			**11**		
9,525	**09**	**11**	**09**	**09**	**16**	**16**	**06**
12,7	**12**	**15**	**12**	**12**	**22**	**22**	**08**
15,875	**16**	**19**	**15**	**15**	**27**		
19,05	**19**		**19**	**19**	**33**		
25,4	**25**		**25**	**25**	**44**		
32			**32**				

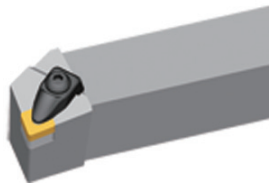
9

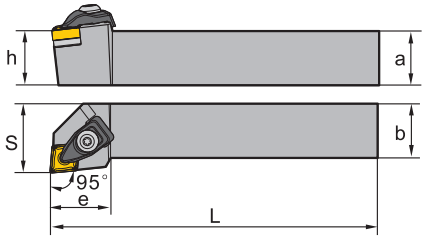
Con raffreddamento interno

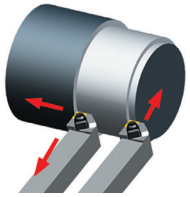
10

CN** Portautensile (esterno) D-Bloccaggio

DCLNR/L Kr: 95°







Articolo	✻	Stock R	Stock L	Dimensioni [mm] a	b	L	h	s	e	Inserto
DCLNR/L1616H09		●	○	16	16	100	16	20	24	CN**0903**
DCLNR/L2020K09		●	●	20	20	125	20	25	24	CN**0903**
DCLNR/L2525M09		●	●	25	25	150	25	32	24	CN**0903**
DCLNR/L2020K12		●	●	20	20	125	20	25	28	CN**1204**
DCLNR/L2525M12		●	●	25	25	150	25	32	28	CN**1204**
DCLNR/L3225P12		●	●	32	25	170	32	32	28	CN**1204**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	CN**0903**	CN**1204**
	h	16-25	20-32
	Staffa	C1RA	C2RA
	Vite (staffa)	CM5×22C (4,0 Nm)	CM6×25C (7,0 Nm)
	Vite (sottoplacchetta)	SM5×8.65XA1	SM6×10XA1
	Sottoplacchetta	C09BM	C12BM
	Molla	SPR6	SPR4
	Chiave (sottoplacchetta)	WH30L	WH40L
	Chiave (staffa)	WH30L	WH40L

Inserto

Raschiante	Finitura	Media Lavor.	Sgrossatura	Lavorazione Al.	Lavor.- ghisa grigia	PCBN/PCD
A55	A57	A59	A65	A74	A73	A210

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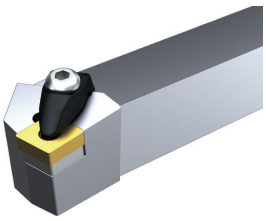
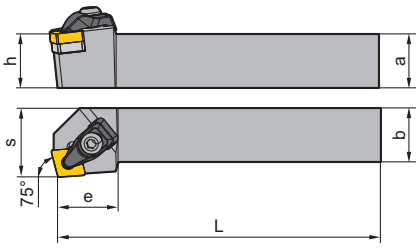
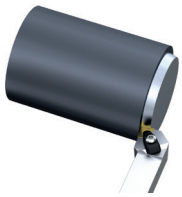
CN** Portautensile (esterno) D-Bloccaggio

DCKNR/L Kr: 75°







Articolo	✻	Stock		Dimensioni [mm]						Inserto
		R	L	a	b	L	h	s	e	
DCKNR/L2525M12		○	●	25	25	152	25	32	28	CN**1204**
DCKNR/L3232P12			○	32	32	170	32	40	28	CN**1204**
DCKNR/L3225P12		○	○	32	25	172	32	32	28	CN**1204**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**CN**1204****
	h	**16-32**
	Staffa	C2RA
	Vite (staffa)	CM6×25C (7,0 Nm)
	Vite (sottoplacchetta)	SM6×10XA1 (7,0 Nm)
	Sottoplacchetta	C12BM
	Molla	SPR4
	Chiave (sottoplacchetta)	WH40L
	Chiave (staffa)	WH40L

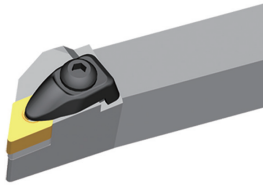
Inserto

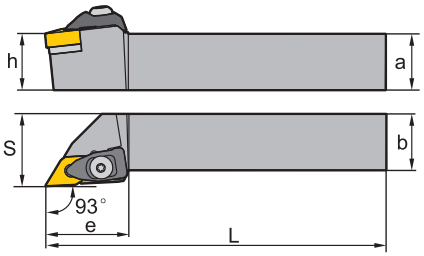
Raschiante	Finitura	Media Lavor.	Sgrossatura	Lavorazione Al.	Lavor.- ghisa grigia	PCBN/PCD
A55	A57	A59	A65	A74	A73	A210

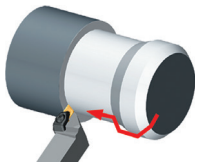
Codice sistema A260 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

DN** Portautensile (esterno) D-Bloccaggio

DDJNR/L Kr: 93°







Articolo	✻	Stock R	Stock L	Dimensioni [mm] a	b	L	h	s	e	Inserto
DDJNR/L1616H11		●	●	16	16	100	16	20	30	DN**1104**
DDJNR/L2020K11		●	●	20	20	125	20	25	30	DN**1104**
DDJNR/L2525M11		●	●	25	25	150	25	32	30	DN**1104**
DDJNR/L3225P11		○		32	25	170	32	32	30	DN**1104**
DDJNR/L2020K15		●	●	20	20	125	20	25	35	DN**1506**
DDJNR/L2525M15		●	●	25	25	150	25	32	35	DN**1506**
DDJNR/L3225P15		●	●	32	25	170	32	32	35	DN**1506**
DDJNR/L3232P15		●	●	32	32	170	32	40	35	DN**1506**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	DN**1104**	DN**1506**
	h	16-32	20-32
	Staffa	C1RA	C2RA
	Vite (staffa)	CM5×22C (4,0 Nm)	CM6×25C (7,0 Nm)
	Vite (sottoplacchetta)	SM5×8.65XA1	SM6×10XA1
	Sottoplacchetta	D11BM	D15BM
	Molla	SPR6	SPR4
	Chiave (sottoplacchetta)	WH30L	WH40L
	Chiave (staffa)	WH30L	WH40L

Inserto

Raschiante	Finitura	Media Lavor.	Sgrossatura	Lavor.- ghisa grigia	PCBN/PCD
A75	A77	A77	A87	A88	A211

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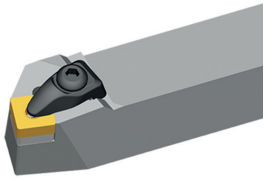
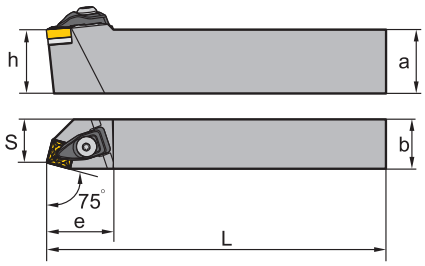
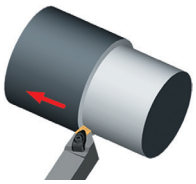
SN** Portautensile (esterno) D-Bloccaggio

DSBNR/L Kr: 75°







Articolo	✻	Stock		Dimensioni [mm]						Inserto
		R	L	a	b	L	h	s	e	
DSBNR/L1616H09		○		16	16	100	16	13	26	SN**0903**
DSBNR/L2020K12			●	20	20	125	20	17	34	SN**1204**
DSBNR/L2525M12		●	●	25	25	150	25	22	34	SN**1204**
DSBNR/L3225P12		●	●	32	25	170	32	22	34	SN**1204**
DSBNR/L3232P15		●	●	32	32	170	32	27	41	SN**1506**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**SN**0903****	**SN**1204****	**SN**1506****
	h	**16**	**20-32**	**32**
	Staffa	C1RA	C2RA	C3RA
	Vite (staffa)	CM5×22C (4,0 Nm)	CM6×25C (7,0 Nm)	CM6×25C (7,0 Nm)
	Vite (sottoplacchetta)	SM5×8.65XA1	SM6×10XA1	SM6×10XA2
	Sottoplacchetta	S09BM	S12BM	S15BM
	Molla	SPR6	SPR4	SPR4
	Chiave (sottoplacchetta)	WH30L	WH40L	WH40L
	Chiave (staffa)	WH30L	WH40L	WH40L

Inserto

Finitura	**Media Lavor.**	**Sgrossatura**	**Lavorazione Al.**	**Lavor.- ghisa grigia**	**PCBN/PCD**
A94	A94	A99	A109	A106	A193

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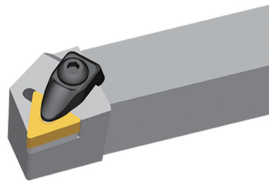
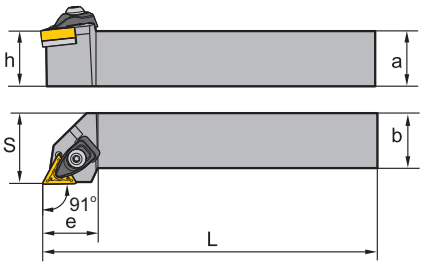
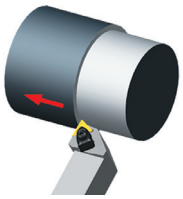
TN** Portautensile (esterno) D-Bloccaggio

DTGNR/L Kr: 91°







Articolo	✻	Stock		Dimensioni [mm]						Inserto
		R	L	a	b	L	h	s	e	
DTGNR/L1616H16		●	●	16	16	100	16	20	25	TN**1604**
DTGNR/L2020K16		●	●	20	20	125	20	25	25	TN**1604**
DTGNR/L2525M16		●	●	25	25	150	25	32	25	TN**1604**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**TN**1604****
	h	**16-25**
	Staffa	C1RA
	Vite (staffa)	CM5×22C (4,0 Nm)
	Vite (sottoplacchetta)	SM5×8.65XA1
	Sottoplacchetta	T16BM
	Molla	SPR6
	Chiave (sottoplacchetta)	WH30L
	Chiave (staffa)	WH30L

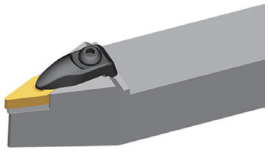
Inserto

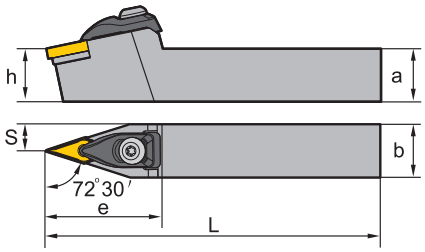
Raschiante	**Finitura**	**Media Lavor.**	**Sgrossatura**	**Lavor.- ghisa grigia**	**PCBN/PCD**
A110	A112	A113	A115	A121	A194

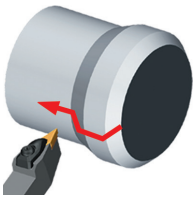
Codice sistema A260 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

VN** Portautensile (esterno) D-Bloccaggio

DVVNN Kr: 72°30'







Articolo	✻	Stock	Dimensioni [mm]						Inserto
			a	b	L	h	s	e	
DVVNN2020K16		●	20	20	125	20	10	44	VN**1604**
DVVNN2525M16		●	25	25	150	25	12,5	44	VN**1604**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**VN**1604****
	h	**20-25**
	Staffa	C6RA
	Vite (staffa)	CM5×22C (4,0 Nm)
	Vite (sottoplacchetta)	SM5×8.65XA1
	Sottoplacchetta	V16BM
	Molla	SPR6
	Chiave (sottoplacchetta)	WH30L
	Chiave (staffa)	WH30L

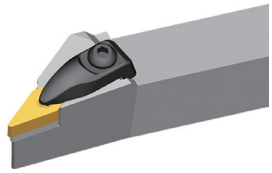
Inserto

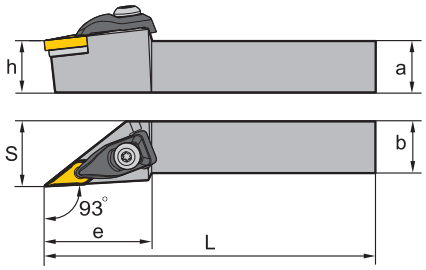
Finitura	**Media Lavor.**	**Sgrossatura**	**Lavor.- ghisa grigia**	**PCBN/PCD**
A124	A124	A126	A126	A212

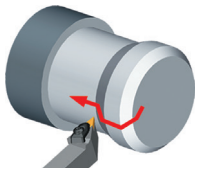
Codice sistema A260 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

VN** Portautensile (esterno) D-Bloccaggio

DVJNR/L Kr: 93°







Articolo	✻	Stock R	Stock L	Dimensioni [mm] a	b	L	h	s	e	Inserto
DVJNR/L2020K16		●	●	20	20	125	20	25	41	VN**1604**
DVJNR/L2525M16		●	●	25	25	150	25	32	41	VN**1604**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**VN**1604****
	h	**20-25**
	Staffa	C6RA
	Vite (staffa)	CM5×22C (4,0 Nm)
	Vite (sottoplacchetta)	SM5×8.65XA1
	Sottoplacchetta	V16BM
	Molla	SPR6
	Chiave (staffa)	WH30L
	Chiave (sottoplacchetta)	WH30L

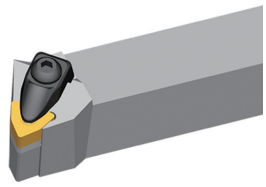
Inserto

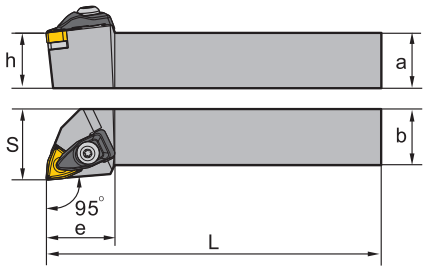
Finitura	**Media Lavor.**	**Sgrossatura**	**Lavor.- ghisa grigia**	**PCBN/PCD**
A124	A124	A126	A126	A212

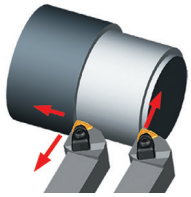
Codice sistema A260 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

WN** Portautensile (esterno) D-Bloccaggio

DWLNR/L Kr: 95°







Articolo	✻	Stock		Dimensioni [mm]						Inserto
		R	L	a	b	L	h	s	e	
DWLNR/L1616H06		●	●	16	16	100	16	25	24	WN**0604**
DWLNR/L2020K06		●	●	20	20	125	20	25	24	WN**0604**
DWLNR/L2525M06		●	●	25	25	150	25	32	24	WN**0604**
DWLNR/L2020K08		●	●	20	20	125	20	25	31	WN**0804**
DWLNR/L2525M08		●	●	25	25	150	25	32	31	WN**0804**
DWLNR/L3225P08		●	●	32	25	170	32	32	31	WN**0804**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**WN**0604****	**WN**0804****
	h	**16-25**	**20-32**
	Staffa	C1RA	C2RA
	Vite (staffa)	CM5×22C (4,0 Nm)	CM6×25C (7,0 Nm)
	Vite (sottoplac-chetta)	SM5×8.65XA1	SM6×10XA1
	Sottoplacchetta	W06BM	W08BM
	Molla	SPR6	SPR4
	Chiave (sotto-placchetta)	WH30L	WH40L
	Chiave (staffa)	WH30L	WH40L

Inserto

Raschiante	**Finitura**	**Media Lavor.**	**Sgrossatura**	**Lavorazione Al.**	**Lavor.- ghisa grigia**	**PCBN/PCD**
A128	A129	A129	A131	A134	A133	A196

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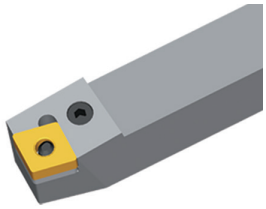
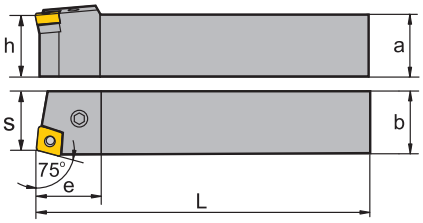
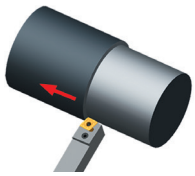
CN** Portautensile (esterno) P-Bloccaggio

PCBNR/L Kr: 75°



Versione destra





Articolo	✻	Stock R	Stock L	Dimensioni [mm] a	b	L	h	s	e	Inserto
PCBNR/L2020K12		●	●	20	20	125	20	17	27	CN**1204**
PCBNR/L2525M12		●	●	25	25	150	25	22	27	CN**1204**
PCBNR/L3232P12		●	●	32	32	170	32	27	27	CN**1204**
PCBNR/L2525M16		●	●	25	25	150	25	22	33	CN**1606**
PCBNR/L3232P16		●	●	32	32	170	32	27	33	CN**1606**
PCBNR/L3232P19		●	●	32	32	170	32	27	38	CN**1906**
PCBNR/L4040S19		●	●	40	40	250	40	35	38	CN**1906**
PCBNR/L4040S2507		●		40	40	250	40	35	50	CN**2507**
PCBNR/L4040S2509		●	●	40	40	250	40	35	50	CN**2509**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	CN**1204**	CN**1606**	CN**1906**	CN**2507**	CN**2509**
	h	20-32	25-32	32-40	40	40
	Leva di fissaggio	L4	L5	L6	L8	L8
	Vite	LEM8×21 (10,2 Nm)	LEM8×25 (10,2 Nm)	LEM10×27 (16,6 Nm)		
	Vite				LEM12×36A (25,2 Nm)	LEM12×36A (25,2 Nm)
	Sottoplacchetta	C12AP	C16AP	C19AP	C25AP-07	C25AP
	Perno dist (sottoplacchetta)	SP4	SP5	SP6	SP8	SP8
	Chiave	WH30L	WH30L	WH40L	WH50L	WH50L

Inserto

Raschiante	Finitura	Media Lavor.	Sgrossatura	Lavorazione Al.	Lavor.- ghisa grigia	PCBN/PCD
A55	A57	A59	A65	A74	A73	A210

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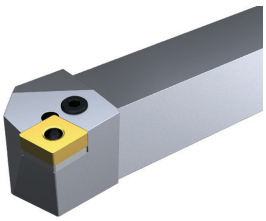
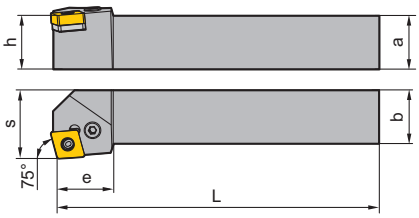
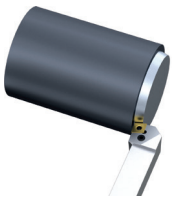
CN** Portautensile (esterno) P-Bloccaggio

PCKNR/L Kr: 75°



Versione destra





Articolo	✻	Stock		Dimensioni [mm]						Inserto
		R	L	a	b	L	h	s	e	
PCKNR/L2525M12		○	○	25	25	153	25	32	29	CN**1204**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**CN**1204****
	h	**20-32**
	Leva di fissaggio	L4
	Vite	LEM8×21 (10,2 Nm)
	Sottoplacchetta	C12AP
	Perno dist (sottoplacchetta)	SP4
	Chiave	WH30L

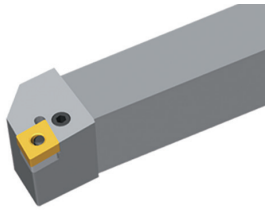
Inserto

Raschiante	**Finitura**	**Media Lavor.**	**Sgrossatura**	**Lavorazione Al.**	**Lavor.- ghisa grigia**	**PCBN/PCD**
A55	A57	A59	A65	A74	A73	A210

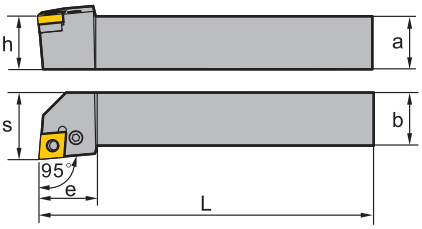
Codice sistema A260 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

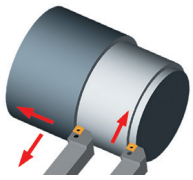
CN** Portautensile (esterno) P-Bloccaggio

PCLNR/L Kr: 95°



Versione destra





Articolo	✻	Stock R	Stock L	Dimensioni [mm] a	b	L	h	s	e	Inserto
PCLNR/L1616H09		●	●	16	16	100	16	20	20	CN**0903**
PCLNR/L2020K09		●	●	20	20	125	20	25	22	CN**0903**
PCLNR/L2525M09		○	●	25	25	150	25	32	22	CN**0903**
PCLNR/L1616H12		○	○	16	16	100	16	20	20	CN**1204**
PCLNR/L2020K12		●	●	20	20	125	20	25	28	CN**1204**
PCLNR/L2525M12		●	●	25	25	150	25	32	28	CN**1204**
PCLNR/L2525M12C	✻	○		25	25	150	25	32	40	CN**1204**
PCLNR/L3225P12		●	○	32	25	170	32	32	33	CN**1204**
PCLNR/L3232P12		●	●	32	32	170	32	40	28	CN**1204**
PCLNR/L2525M16		●	●	25	25	150	25	32	33	CN**1606**
PCLNR/L3232P16		●	●	32	32	170	32	40	33	CN**1606**
PCLNR/L3232P19		●	●	32	32	170	32	40	38	CN**1906**
PCLNR/L4040S19		●	●	40	40	250	40	50	38	CN**1906**
PCLNR/L4040S2507		●	●	40	40	250	40	50	49	CN**2507**
PCLNR/L4040S2509		●	●	40	40	250	40	50	49	CN**2509**
PCLNR/L5050T25		○	○	50	50	300	50	63	49	CN**2509**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	CN**0903**	CN**1204**	CN**1606**	CN**1906**	CN**2507**	CN**2509**
	h	16-25	16-32	25-32	32-40	40	40-50
	Leva di fissaggio	L3	L4	L5	L6	L8	L8
	Vite		LEM8×21 (10,2 Nm)	LEM8×25 (10,2 Nm)	LEM10×27 (16,6 Nm)		
	Vite	LEM6×13,4A (7,0 Nm)				LEM12×36A (25,2 Nm)	LEM12×36A (25,2 Nm)
	Sottoplacchetta	C09AP	C12AP	C16AP	C19AP	C25AP-07	C25AP
	Perno dist (sottoplacchetta)	SP10	SP4	SP5	SP6	SP8	SP8
	Chiave	WH25L	WH30L	WH30L	WH40L	WH50L	WH50L

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CN** Portautensile (esterno)

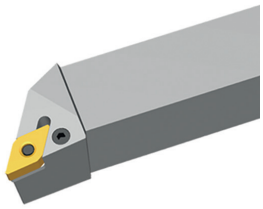
Inserto						
Raschiante	**Finitura**	**Media Lavor.**	**Sgrossatura**	**Lavorazione Al.**	**Lavor.- ghisa grigia**	**PCBN/PCD**
A55	A57	A59	A65	A74	A73	A210

A Tornitura
B Fresatura
C Foratura
D Informazioni tecniche
E Indice

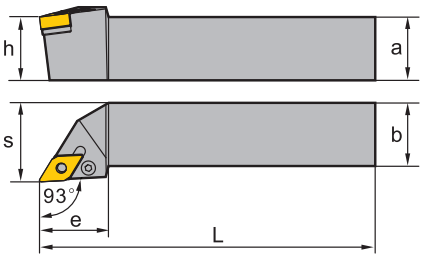
Codice sistema A260 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

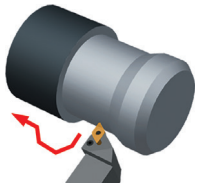
DN** Portautensile (esterno) P-Bloccaggio

PDJNR/L Kr: 93°



Versione destra





Articolo	✻	Stock R	Stock L	Dimensioni [mm] a	b	L	h	s	e	Inserto
PDJNR/L1616H11		●	●	16	16	100	16	20	25	DN**1104**
PDJNR/L2020K11		●	●	20	20	125	20	25	25	DN**1104**
PDJNR/L2525M11		●	●	25	25	150	25	32	30	DN**1104**
PDJNR/L2020K15-3		●	○	20	20	125	20	25	35	DN**1504**
PDJNR/L2525M15-3		●	●	25	25	150	25	32	35	DN**1504**
PDJNR/L3232P15-3		●	●	32	32	170	32	40	35	DN**1504**
PDJNR/L2020K15		●	○	20	20	125	20	25	35	DN**1506**
PDJNR/L2525M15		●	●	25	25	150	25	32	35	DN**1506**
PDJNR/L3225P15		●	○	32	25	170	32	32	35	DN**1506**
PDJNR/L3232P15		●	●	32	32	170	32	40	35	DN**1506**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	DN**1104**	DN**1504**	DN**1506**
	h	16-32	20-32	20-32
	Leva di fissaggio	L3	L4	L4B
	Vite		LEM8×21 (10,2 Nm)	LEM8×21 (10,2 Nm)
	Vite	LEM6×13,4A (7,0 Nm)		
	Sottoplacchetta	D11AP	D15AP	D15AP
	Perno dist (sottoplacchetta)	SP3	SP4	SP4
	Chiave	WH25L	WH30L	WH30L

Inserto

Raschiante	Finitura	Media Lavor.	Sgrossatura	Lavor.- ghisa grigia	PCBN/PCD
A75	A77	A77	A87	A88	A211

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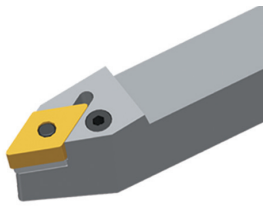
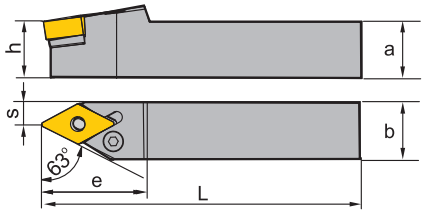
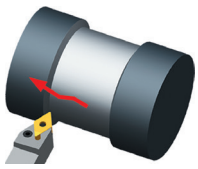
DN** Portautensile (esterno) P-Bloccaggio

PDNNR/L Kr: 63°







Versione sinistra

Articolo	✻	Stock R	Stock L	Dimensioni [mm] a	b	L	h	s	e	Inserto
PDNNR/L2020K15-3			○	20	20	125	20	8	37	DN**1504**
PDNNR/L2525M15-3		●	○	25	25	150	25	12,5	37	DN**1504**
PDNNR/L3232P15-3			●	32	32	170	32	16	37	DN**1504**
PDNNR/L2020K15		●	●	20	20	125	20	8	37	DN**1506**
PDNNR/L2525M15		●	●	25	25	150	25	12,5	37	DN**1506**
PDNNR/L3232P15		●	●	32	32	170	32	16	37	DN**1506**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**DN**1504****	**DN**1506****
	h	**20-32**	**20-32**
	Leva di fissaggio	L4	L4B
	Vite	LEM8×21 (10,2 Nm)	LEM8×21 (10,2 Nm)
	Sottoplacchetta	D15AP	D15AP
	Perno dist (sottoplacchetta)	SP4	SP4
	Chiave	WH30L	WH30L

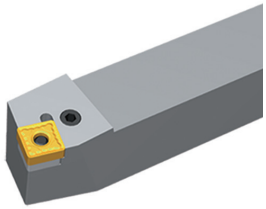
Inserto

Raschiante	**Finitura**	**Media Lavor.**	**Sgrossatura**	**Lavor.- ghisa grigia**	**PCBN/PCD**
A75	A77	A77	A87	A88	A211

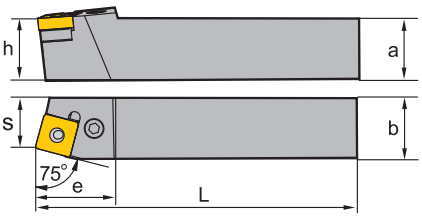
Codice sistema A260 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

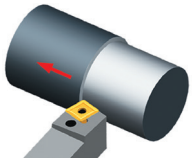
SN** Portautensile (esterno) P-Bloccaggio

PSBNR/L Kr: 75°



Versione destra





Articolo	✻	Stock R	Stock L	Dimensioni [mm] a	b	L	h	s	e	Inserto
PSBNR/L1616H09		●	○	16	16	100	16	13	21	SN**0903**
PSBNR/L2020K09			○	20	20	125	20	17	23	SN**0903**
PSBNR/L2020K12		●	●	20	20	125	20	17	28	SN**1204**
PSBNR/L2525M12		●	●	25	25	125	25	22	28	SN**1204**
PSBNR/L3232P12		●	○	32	32	170	32	27	28	SN**1204**
PSBNR/L2525M15		●	○	25	25	150	25	22	35	SN**1506**
PSBNR/L3232P15		●	●	32	32	170	32	27	35	SN**1506**
PSBNR/L3232P19		●	●	32	32	170	32	27	40	SN**1906**
PSBNR/L4040S19		●	●	40	40	250	40	35	40	SN**1906**
PSBNR/L4040S2507		○	○	40	40	250	40	35	48	SN**2507**
PSBNR/L4040S2509		○	○	40	40	250	40	35	48	SN**2509**
PSBNR/L5050T25		○		50	50	300	50	45	48	SN**2509**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**SN**0903****	**SN**1204****	**SN**1506****	**SN**1906****	**SN**2507****	**SN**2509****
	h	**16-20**	**20-32**	**25-32**	**32-40**	**40**	**40-50**
	Leva di fissaggio	L3	L4	L5	L6	L8	L8
	Vite		LEM8×21 (10,2 Nm)	LEM8×25 (10,2 Nm)	LEM10×27 (16,6 Nm)		
	Vite	LEM6×13,4A (7,0 Nm)				LEM12×36A (25,2 Nm)	LEM12×36A (25,2 Nm)
	Sottoplacchetta	S09AP	S12AP	S15AP	S19AP	S25AP	
	Sottoplacchetta						S25AP-09
	Perno dist (sottoplacchetta)	SP10	SP4	SP5	SP6	SP8	SP8
	Chiave	WH25L	WH30L	WH30L	WH40L	WH50L	WH50L

Codice sistema A260 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

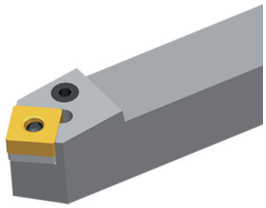
SN** Portautensile (esterno)

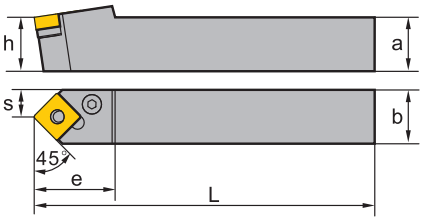
Inserto					
Finitura	**Media Lavor.**	**Sgrossatura**	**Lavorazione Al.**	**Lavor.- ghisa grigia**	**PCBN/PCD**
A94	A94	A99	A109	A106	A193

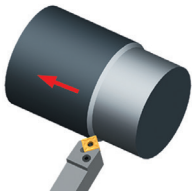
Codice sistema A260 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

SN** Portautensile (esterno) P-Bloccaggio

PSDNN Kr: 45°







Articolo	✻	Stock	Dimensioni [mm]						Inserto
			a	b	L	h	s	e	
PSDNN1212F09		○	12	12	80	12	6	21	SN**0903**
PSDNN1616H09		●	16	16	100	16	8	23	SN**0903**
PSDNN2020K12		●	20	20	125	20	10	30	SN**1204**
PSDNN2525M12		●	20	20	150	20	12,5	30	SN**1204**
PSDNN3232P12		●	32	32	170	32	16	40	SN**1204**
PSDNN2525M15		●	25	25	150	25	12,5	40	SN**1506**
PSDNN3232P15		●	32	32	170	32	16	40	SN**1506**
PSDNN3232P19		●	32	32	170	32	16	40	SN**1906**
PSDNN4040S19		●	40	40	250	40	20	40	SN**1906**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**SN**0903****	**SN**0903****	**SN**1204****	**SN**1506****	**SN**1906****
	h	**12**	**16**	**20-32**	**25-32**	**32-40**
	Leva di fissaggio	L3B	L3	L4	L5	L6
	Vite	LEM5×12B (4,0 Nm)				
	Vite			LEM8×21 (10,2 Nm)	LEM8×25 (10,2 Nm)	LEM10×27 (16,6 Nm)
	Vite		LEM6×13,4A (7,0 Nm)			
	Sottoplacchetta		S09AP	S12AP	S15AP	S19AP
	Perno dist (sottoplacchetta)		SP10	SP4	SP5	SP6
	Chiave		WH25L	WH30L	WH30L	WH40L
	Chiave	WT09IP				

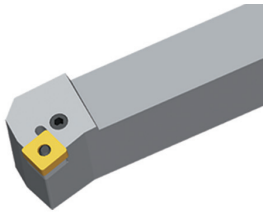
Inserto

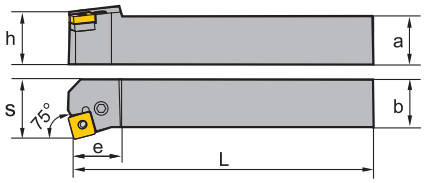
Finitura	Media Lavor.	Sgrossatura	Lavorazione Al.	Lavor.- ghisa grigia	PCBN/PCD
A94	A94	A99	A109	A106	A193

Codice sistema A260 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

SN** Portautensile (esterno) P-Bloccaggio

PSKNR/L Kr: 75°





Versione destra

Articolo	✻	Stock R	Stock L	Dimensioni [mm] a	b	L	h	s	e	Inserto
PSKNR/L1616H09			○	16	16	100	16	20	17	SN**0903**
PSKNR/L2020K09			○	20	20	125	20	25	20	SN**0903**
PSKNR/L2020K12		●	●	20	20	125	20	25	26	SN**1204**
PSKNR/L2525M12		●	●	25	25	150	25	32	26	SN**1204**
PSKNR/L3232P12		●	●	32	32	170	32	40	26	SN**1204**
PSKNR/L2525M15		●	○	25	25	150	25	32	32	SN**1506**
PSKNR/L3232P15		●	●	32	32	170	32	40	32	SN**1506**
PSKNR/L3232P19		●	●	32	32	170	32	40	36	SN**1906**
PSKNR/L4040P19		○		40	40	170	40	50	36	SN**1906**
PSKNR/L4040S19		○	○	40	40	250	40	50	40	SN**1906**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**SN**0903****	**SN**1204****	**SN**1506****	**SN**1906****
	h	**16-20**	**20-32**	**25-32**	**32-40**
	Leva di fissaggio	L3	L4	L5	L6
	Vite		LEM8×21 (10,2 Nm)	LEM8×25 (10,2 Nm)	LEM10×27 (16,6 Nm)
	Vite	LEM6×13,4A (7,0 Nm)			
	Sottoplacchetta	S09AP	S12AP	S15AP	S19AP
	Perno dist (sottoplacchetta)	SP10	SP4	SP5	SP6
	Chiave	WH25L	WH30L	WH30L	WH40L

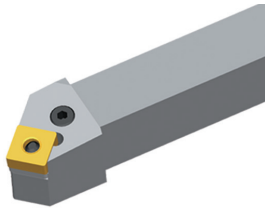
Inserto

Finitura	Media Lavor.	Sgrossatura	Lavorazione Al.	Lavor.- ghisa grigia	PCBN/PCD
A94	A94	A99	A109	A106	A193

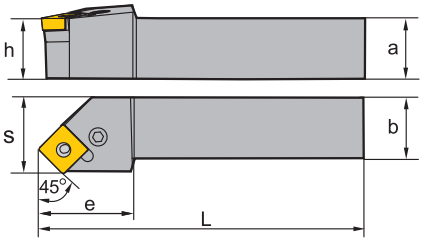
Codice sistema A260 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

SN** Portautensile (esterno) P-Bloccaggio

PSSNR/L Kr: 45°



Versione destra



Articolo	✻	Stock R	Stock L	Dimensioni [mm] a	b	L	h	s	e	Inserto
PSSNR/L1616H09		●	●	16	16	100	16	20	25	SN**0903**
PSSNR/L2020K12		●	●	20	20	125	20	25	30	SN**1204**
PSSNR/L2525M12		●	●	25	25	150	25	32	30	SN**1204**
PSSNR/L3232P12		●	●	32	32	170	32	40	40	SN**1204**
PSSNR/L2525M15		●	●	25	25	150	25	32	30	SN**1506**
PSSNR/L3232P15		●	●	32	32	170	32	40	40	SN**1506**
PSSNR/L3232P19		●	●	32	32	170	32	40	40	SN**1906**
PSSNR/L4040S19		●	●	40	40	250	40	50	50	SN**1906**
PSSNR/L4040S2507		●	●	40	40	250	40	50	50	SN**2507**
PSSNR/L4040S2509		●	●	40	40	250	40	50	50	SN**2509**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	SN**0903**	SN**1204**	SN**1506**	SN**1906**	SN**2507**	SN**2509**
	h	16	20-32	25-32	32-40	40	40
	Leva di fissaggio	L3	L4	L5	L6	L8	L8
	Vite		LEM8×21 (10,2 Nm)	LEM8×25 (10,2 Nm)	LEM10×27 (16,6 Nm)		
	Vite	LEM6×13,4A (7,0 Nm)				LEM12×36A (25,2 Nm)	LEM12×36A (25,2 Nm)
	Sottoplacchetta	S09AP	S12AP	S15AP	S19AP	S25AP	
	Sottoplacchetta						S25AP-09
	Perno dist (sottoplacchetta)	SP10	SP4	SP5	SP6	SP8	SP8
	Chiave	WH25L	WH30L	WH30L	WH40L	WH50L	WH50L

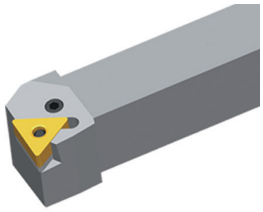
Inserto

Finitura	Media Lavor.	Sgrossatura	Lavorazione Al.	Lavor.- ghisa grigia	PCBN/PCD
A94	A94	A99	A109	A106	A193

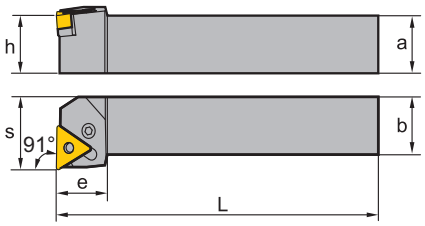
Codice sistema A260 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

TN** Portautensile (esterno) P-Bloccaggio

PTFNR/L Kr: 91°



Versione destra



Articolo	✻	Stock		Dimensioni [mm]						Inserto
		R	L	a	b	L	h	s	e	
PTFNR/L1616H16		●	●	16	16	100	16	20	20	TN**1604**
PTFNR/L2020K16		●	●	20	20	125	20	25	20	TN**1604**
PTFNR/L2525M16		●	●	25	25	150	25	32	20	TN**1604**
PTFNR/L2525M22		●	●	25	25	150	25	32	25	TN**2204**
PTFNR/L3232P22		●	●	32	32	170	32	40	25	TN**2204**
PTFNR/L3232P27		●		32	32	170	32	40	34	TN**2706**
PTFNR/L4040S27		○		40	40	250	40	50	34	TN**2706**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**TN**1604****	**TN**2204****	**TN**2706****
	h	**16-25**	**25-32**	**32-40**
	Leva di fissaggio	L3	L4	L5
	Vite		LEM8×21 (10,2 Nm)	LEM8×25 (10,2 Nm)
	Vite	LEM6×13,4A (7,0 Nm)		
	Sottoplacchetta	T16AP	T22AP	T27AP
	Perno dist (sottoplacchetta)	SP3	SP4	SP5
	Chiave	WH25L	WH30L	WH30L

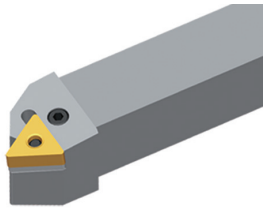
Inserto

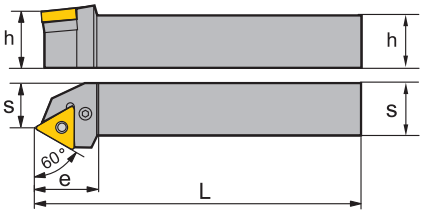
Raschiante	**Finitura**	**Media Lavor.**	**Sgrossatura**	**Alta asp.**	**Lavor.- ghisa grigia**	**PCBN/PCD**
A110	A112	A113	A115	A119	A121	A194

Codice sistema A260 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

TN** Portautensile (esterno) P-Bloccaggio

PTTNR/L Kr: 60°





Versione destra

Articolo	✻	Stock R	Stock L	Dimensioni [mm] a	b	L	h	s	e	Inserto
PTTNR/L1616H16		●		16	16	100	16	13	25	TN**1604**
PTTNR/L2020K16		●	○	20	20	125	20	17	25	TN**1604**
PTTNR/L2525M22		●	●	25	25	150	20	22	32	TN**2204**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**TN**1604****	**TN**2204****
	h	**16-25**	**20**
	Leva di fissaggio	L3	L4
	Vite		LEM8×21 (10,2 Nm)
	Vite	LEM6×13,4A (7,0 Nm)	
	Sottoplacchetta	T16AP	T22AP
	Perno dist (sottoplacchetta)	SP3	SP4
	Chiave	WH25L	WH30L

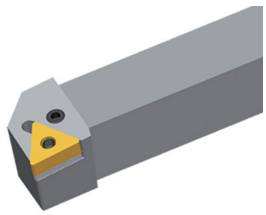
Inserto

Raschiante	**Finitura**	**Media Lavor.**	**Sgrossatura**	**Alta asp.**	**Lavor.- ghisa grigia**	**PCBN/PCD**
A110	A112	A113	A115	A119	A121	A194

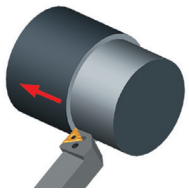
Codice sistema A260 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

TN** Portautensile (esterno) P-Bloccaggio

PTGNR/L Kr: 90°



Versione destra



Articolo	✻	Stock		Dimensioni [mm]						Inserto
		R	L	a	b	L	h	s	e	
PTGNR/L1212F11		●	●	12	12	80	12	16	14	TN**1103**
PTGNR/L1616H11		●		16	16	100	16	20	18	TN**1103**
PTGNR/L2020K11		●	○	20	20	125	20	25	19	TN**1103**
PTGNR/L2525M11		○	○	25	25	150	25	32	20	TN**1103**
PTGNR/L1616H16		●	●	16	16	100	16	20	20	TN**1604**
PTGNR/L2020K16		●	●	20	20	125	20	25	20	TN**1604**
PTGNR/L2525M16		●	●	25	25	150	25	32	20	TN**1604**
PTGNR/L3232P16		●	○	32	32	170	32	40	20	TN**1604**
PTGNR/L2525M22		●	●	25	25	150	25	32	28	TN**2204**
PTGNR/L3232P22		●	●	32	32	170	32	40	28	TN**2204**
PTGNR/L3232P27		●	○	32	32	170	32	40	33	TN**2706**
PTGNR/L4040S27		○		40	40	250	40	50	33	TN**2706**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**TN**1103****	**TN**1604****	**TN**2204****	**TN**2706****
	h	**10-25**	**16-32**	**25-32**	**32-40**
	Leva di fissaggio	L2	L3	L4	L5
	Vite	LEM5×9B (4,0 Nm)			
	Vite			LEM8×21 (10,2 Nm)	LEM8×25 (10,2 Nm)
	Vite		LEM6×13,4A (7,0 Nm)		
	Sottoplacchetta		T16AP	T22AP	T27AP
	Perno dist (sottoplacchetta)		SP3	SP4	SP5
	Chiave		WH25L	WH30L	WH30L
	Chiave	WT09IP			

Codice sistema A260 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

TN** Portautensile (esterno)

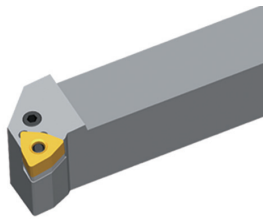
Inserto

Raschiante	**Finitura**	**Media Lavor.**	**Sgrossatura**	**Alta asp.**	**Lavor.- ghisa grigia**	**PCBN/PCD**
A110	A112	A113	A115	A119	A121	A194

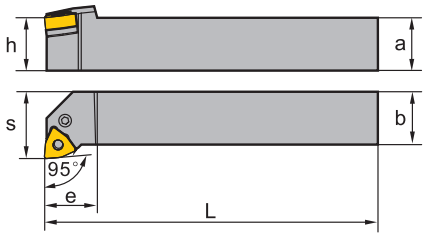
Codice sistema A260 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

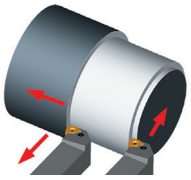
WN** Portautensile (esterno) P-Bloccaggio

PWLNR/L Kr: 95°



Versione destra





Articolo	✻	Stock		Dimensioni [mm]						Inserto
		R	L	a	b	L	h	s	e	
PWLNR/L1616H06		●	●	16	16	100	16	20	20	WN**0604**
PWLNR/L2020K06		●	●	20	20	125	20	25	20	WN**0604**
PWLNR/L2525M06		●	●	25	25	150	25	32	20	WN**0604**
PWLNR/L2020K08		●	●	20	20	125	20	25	26	WN**0804**
PWLNR/L2525M08		●	●	25	25	150	25	32	26	WN**0804**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**WN**0604****	**WN**0804****
	h	**16-25**	**20-25**
	Leva di fissaggio	L3	L4
	Vite		LEM8×21 (10,2 Nm)
	Vite	LEM6×13,4A (7,0 Nm)	
	Sottoplacchetta	W06AP	W08AP
	Perno dist (sottoplacchetta)	SP3	SP4
	Chiave	WH25L	WH30L

Inserto

Raschiante	**Finitura**	**Media Lavor.**	**Sgrossatura**	**Lavorazione Al.**	**Lavor.- ghisa grigia**	**PCBN/PCD**
A128	A129	A129	A131	A134	A133	A196

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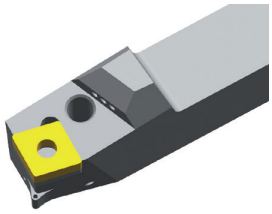
CN** Portautensile (esterno) P-Bloccaggio

PCBNR/LC Kr: 75°



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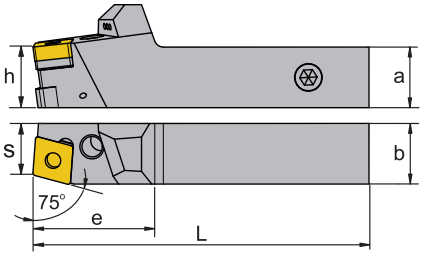

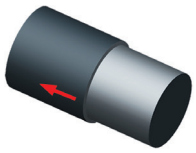

Articolo	✻	Stock		Dimensioni [mm]							Inserto
		R	L	a	b	L	h	s	e	M	
PCBNR/L2020X12C	✻	●	●	20	20	112	20	17	42	G1/8	CN**1204**
PCBNR/L2525X12C	✻	●	●	25	25	127	25	22	42	G1/8	CN**1204**
PCBNR/L2525X16C	✻	●	●	25	25	132	25	22	47	G1/8	CN**1606**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**CN**1204****	**CN**1606****
	h	**16-32**	**16-40**
	Leva di fissaggio	L4	L5
	Vite	LEM8×21 (10,2 Nm)	LEM8×25 (10,2 Nm)
	Sottoplacchetta	C12AP	C16AP
	Perno dist (sottoplacchetta)	SP4	SP5
	Chiave	WH30L	WH30L

Inserto

Raschiante	**Finitura**	**Media Lavor.**	**Sgrossatura**	**Lavorazione Al.**	**Lavor.- ghisa grigia**	**PCBN/PCD**
A55	A57	A59	A65	A74	A73	A210

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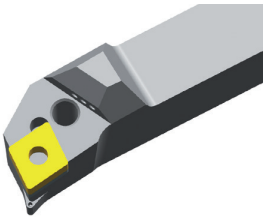
CN** Portautensile (esterno) P-Bloccaggio

PCLNR/LC Kr: 95°



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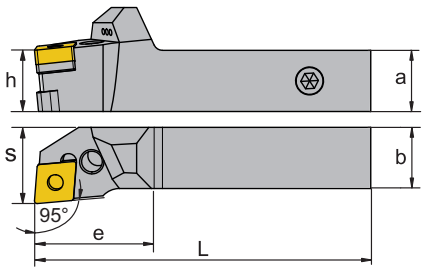

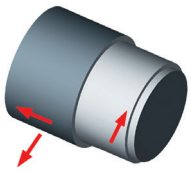

Articolo	✻	Stock		Dimensioni [mm]							Inserto
		R	L	a	b	L	h	s	e	M	
PCLNR/L2020X12C	✻	●	●	20	20	112	20	27	42	G1/8	CN**1204**
PCLNR/L2525K12C	✻	○		25	25	125	25	32	40	G1/8	CN**1204**
PCLNR/L2525X16C	✻	●	●	25	25	131	25	32	46	G1/8	CN**1606**
PCLNR/L3232X16C	✻		●	32	32	146	32	40	46	G1/8	CN**1606**
PCLNR/L3232X19C	✻	●	●	32	32	153	32	40	53	G1/8	CN**1906**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**CN**1204****	**CN**1606****	**CN**1906****
	h	**16-32**	**16-40**	**25-40**
	Leva di fissaggio	L4	L5	L6
	Vite	LEM8×21 (10,2 Nm)	LEM8×25 (10,2 Nm)	LEM10×27 (16,6 Nm)
	Sottoplacchetta	C12AP	C16AP	C19AP
	Perno dist (sottoplacchetta)	SP4	SP5	SP6
	Chiave	WH30L	WH30L	WH40L

Inserto

Raschiante	**Finitura**	**Media Lavor.**	**Sgrossatura**	**Lavorazione Al.**	**Lavor.- ghisa grigia**	**PCBN/PCD**
A55	A57	A59	A65	A74	A73	A210

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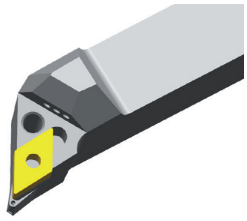
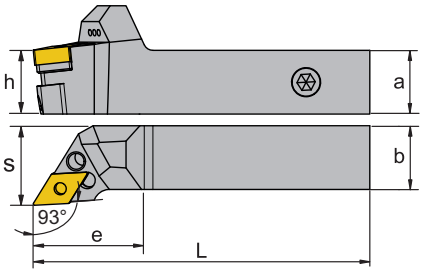
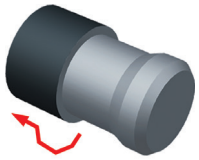
DN** Portautensile (esterno) P-Bloccaggio

PDJNR/LC Kr: 93°



Versione destra





Articolo	✻	Stock R	Stock L	Dimensioni [mm] a	b	L	h	s	e	M	Inserto
PDJNR/L2020X11C	✻	●	●	20	20	106	20	27	36	G1/8	DN**1104**
PDJNR/L2525X11C	✻	●	●	25	25	121	25	32	36	G1/8	DN**1104**
PDJNR/L2020X15C	✻	●	●	20	20	115	20	27	45	G1/8	DN**1506**
PDJNR/L2525X15C	✻	●	●	25	25	128	25	32	43	G1/8	DN**1506**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**DN**1104****	**DN**1506****
	h	**16-32**	**20-40**
	Leva di fissaggio	L3	L4B
	Vite		LEM8×21 (10,2 Nm)
	Vite	LEM6×13,4A (7,0 Nm)	
	Sottoplacchetta	D11AP	D15AP
	Perno dist (sottoplacchetta)	SP3	SP4
	Chiave	WH25L	WH30L

Inserto

Raschiante	**Finitura**	**Media Lavor.**	**Sgrossatura**	**Lavor.- ghisa grigia**	**PCBN/PCD**
A75	A77	A77	A87	A88	A211

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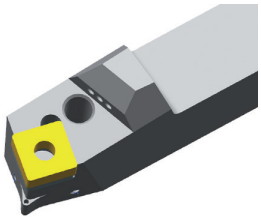
SN** Portautensile (esterno) P-Bloccaggio

PSBNR/LC Kr: 75°



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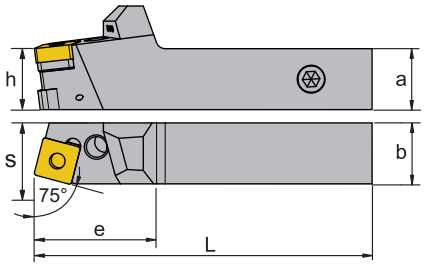

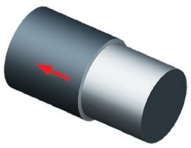

Articolo	✻	Stock		Dimensioni [mm]							Inserto
		R	L	a	b	L	h	s	e	M	
PSBNR/L2020G12C	✻	○		20	20	90	20	17	38		SN**1204**
PSBNR/L2020X12C	✻	●	●	20	20	112	20	17	42	G1/8	SN**1204**
PSBNR/L2525X12C	✻	●	●	25	25	127	25	22	42	G1/8	SN**1204**
PSBNR/L3232X19C	✻	●	●	32	32	155	32	27	55	G1/8	SN**1906**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**SN**1204****	**SN**1204****	**SN**1906****
	h	**20-40**	**20-32**	**25-40**
	Leva di fissaggio	L4	L4	L6
	Vite	LEM8×21 (10,2 Nm)	LEM8×21 (10,2 Nm)	LEM10×27 (16,6 Nm)
	Sottoplacchetta	S12AP	S12AP	S19AP
	Perno dist (sottoplacchetta)	SP4	SP4	SP6
	Chiave	WH30L	WH30L	WH40L

Inserto

Finitura	**Media Lavor.**	**Sgrossatura**	**Lavorazione Al.**	**Lavor.- ghisa grigia**	**PCBN/PCD**
A94	A94	A99	A109	A106	A193

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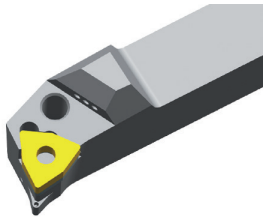
SN** Portautensile (esterno) P-Bloccaggio

PWLNR/LC Kr: 95°



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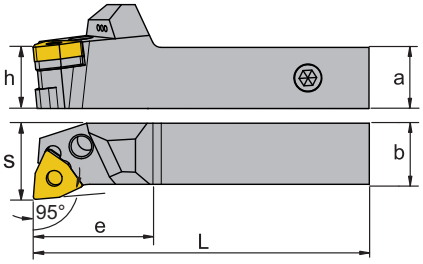

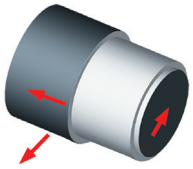

Articolo	✻	Stock R	Stock L	Dimensioni [mm] a	b	L	h	s	e	M	Inserto
PWLNR/L2020G06C	✻	○		20	20	90	20	25	38		WN**0604**
PWLNR/L2020X08C	✻	●	●	20	20	112	20	25	42	G1/8	WN**0804**
PWLNR/L2525X08C	✻	●	●	25	25	127	25	31	42	G1/8	WN**0804**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**WN**0604****	**WN**0804****
	h	**16-32**	**20-32**
	Leva di fissaggio	L3	L4
	Vite		LEM8×21 (10,2 Nm)
	Vite	LEM6×13,4A (7,0 Nm)	
	Sottoplacchetta	W06AP	W08AP
	Perno dist (sottoplacchetta)	SP3	SP4
	Chiave	WH25L	WH30L

Inserto

Raschiante	**Finitura**	**Media Lavor.**	**Sgrossatura**	**Lavorazione Al.**	**Lavor.- ghisa grigia**	**PCBN/PCD**
A128	A129	A129	A131	A134	A133	A196

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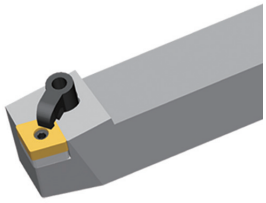
CN** Portautensile (esterno) M-Bloccaggio

MCBNR/L Kr: 75°



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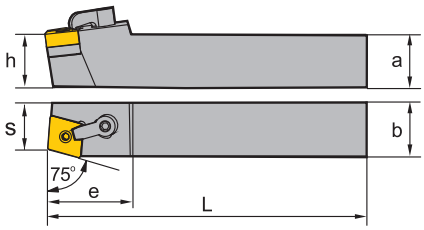

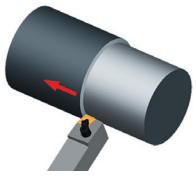

Articolo	✻	Stock R	Stock L	Dimensioni [mm] a	b	L	h	s	e	Inserto
MCBNR/L2020K12		●	○	20	20	125	20	17	32	CN**1204**
MCBNR/L2525M12		●	●	25	25	150	20	22	32	CN**1204**
MCBNR/L3225P12		●	●	32	25	170	32	22	32	CN**1204**
MCBNR/L2525M16		○	○	25	25	150	25	22	40	CN**1606**
MCBNR/L3232P16		●	●	32	32	170	32	27	40	CN**1606**
MCBNR/L3232P19		○	○	32	32	170	32	27	45	CN**1906**
MCBNR/L4040R19		○	●	40	40	200	40	35	45	CN**1906**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**CN**1204****	**CN**1204****	**CN**1606****	**CN**1906****
	h	**20**	**25-32**	**25-32**	**32-40**
	Staffa	C1RD	C1RD	C2RD	C5RD
	Perno passante	TM6×17	TM6×17	TM8×21	TM10×21
	Vite (staffa)	DM6×25 (7,0 Nm)	DM6×30 (7,0 Nm)	DM6×30 (7,0 Nm)	
	Vite (staffa)				DM8×30X (10,2 Nm)
	Sottoplacchetta	C12BM	C12BM	C16BM	C19BM
	Chiave (perno passante)	WH30L	WH30L	WH30L	WH40L
	Chiave (staffa)	WH30L	WH30L	WH30L	WH40L

Inserto

Raschiante	**Finitura**	**Media Lavor.**	**Sgrossatura**	**Lavorazione Al.**	**Lavor.- ghisa grigia**	**PCBN/PCD**
A55	A57	A59	A65	A74	A73	A210

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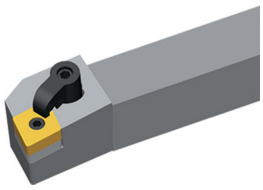
CN** Portautensile (esterno) M-Bloccaggio

MCLNR/L Kr: 95°



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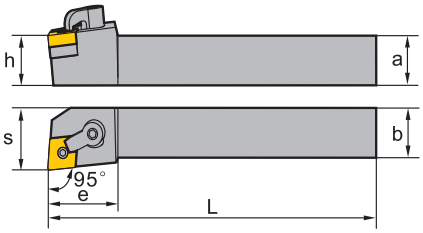

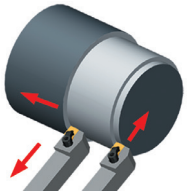

Articolo	✻	Stock R	Stock L	Dimensioni [mm] a	b	L	h	s	e	Inserto
MCLNR/L2020K12		●	●	20	20	125	20	25	32	CN**1204**
MCLNR/L2525M12		●	●	25	25	150	25	32	32	CN**1204**
MCLNR/L3225P12		●	●	32	25	170	32	32	32	CN**1204**
MCLNR/L3232P12		○		32	32	170	32	40	32	CN**1204**
MCLNR/L2525M16		●	●	25	25	150	25	32	38	CN**1606**
MCLNR/L3232P16		●	●	32	32	170	32	40	38	CN**1606**
MCLNR/L3232P19		●	●	32	32	170	32	40	45	CN**1906**
MCLNR/L4040R19		●	○	40	40	200	40	50	45	CN**1906**
MCLNR/L4040S19		○	○	40	40	250	40	50	45	CN**1906**
MCLNR/L4040S25		○	○	40	40	250	40	50	38	CN**2509**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	CN**1204**	CN**1204**	CN**1606**	CN**1906**	CN**2509**
	h	20	25-32	25-32	32-40	40
	Staffa	C1RD	C1RD	C2RD	C5RD	C6RD
	Perno passante	TM6×17	TM6×17	TM8×21	TM10×21	TM12×29 (25,2 Nm)
	Vite (staffa)	DM6×25 (7,0 Nm)	DM6×30 (7,0 Nm)	DM6×30 (7,0 Nm)		
	Vite (staffa)				DM8×30X (10,2 Nm)	DM10×35X (16,6 Nm)
	Sottoplacchetta	C12BM	C12BM	C16BM	C19BM	
	Sottoplacchetta					C25BM-09
	Chiave (staffa)	WH30L	WH30L	WH30L	WH40L	WH50L
	Chiave (perno passante)	WH30L	WH30L	WH30L	WH40L	WH40L

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CN** Portautensile (esterno)

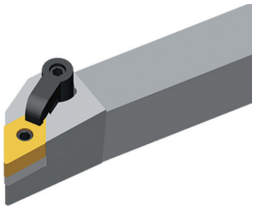
Inserto						
Raschiante	**Finitura**	**Media Lavor.**	**Sgrossatura**	**Lavorazione Al.**	**Lavor.- ghisa grigia**	**PCBN/PCD**
A55	A57	A59	A65	A74	A73	A210

A Tornitura
B Fresatura
C Foratura
D Informazioni tecniche
E Indice

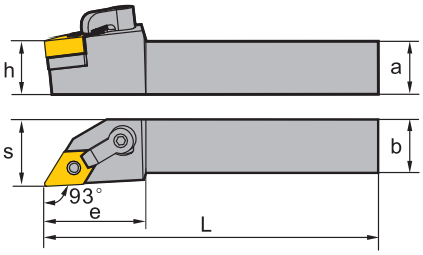
Codice sistema A260 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

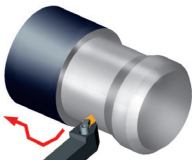
DN** Portautensile (esterno) M-Bloccaggio

MDJNR/L Kr: 93°



Versione destra





Articolo	✻	Stock R	Stock L	Dimensioni [mm] a	b	L	h	s	e	Inserto
MDJNR/L2020K11		●	●	20	20	125	20	25	32	DN**1104**
MDJNR/L2525M11		●	●	25	25	150	25	32	32	DN**1104**
MDJNR/L3225P11		●	○	32	25	170	32	32	32	DN**1104**
MDJNR/L2020K15		●	●	20	20	125	20	25	38	DN**1506**
MDJNR/L2525M15		●	●	25	25	150	25	32	38	DN**1506**
MDJNR/L3225P15		●	●	32	25	170	32	32	38	DN**1506**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	DN**1104**	DN**1104**	DN**1506**	DN**1506**
	h	20	25-32	20	25-32
	Staffa	C1RD	C1RD	C2RD	C2RD
	Perno passante	TM5×13	TM5×13	TM6×19	TM6×19
	Vite (staffa)	DM6×25 (7,0 Nm)	DM6×30 (7,0 Nm)	DM6×25 (7,0 Nm)	DM6×30 (7,0 Nm)
	Sottoplacchetta	D11BM	D11BM	D15BM	D15BM
	Chiave (staffa)	WH30L	WH30L	WH30L	WH30L
	Chiave (perno passante)	WH20L	WH20L	WH30L	WH30L

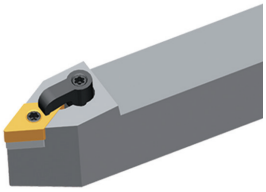
Inserto

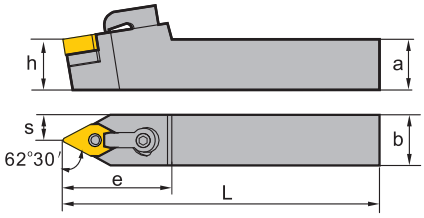
Raschiante	Finitura	Media Lavor.	Sgrossatura	Lavor.- ghisa grigia	PCBN/PCD
A75	A77	A77	A87	A88	A211

Codice sistema A260 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

DN** Portautensile (esterno) M-Bloccaggio

MDPNN Kr: 62°30'





Articolo	✻	Stock	Dimensioni [mm]						Inserto
			a	b	L	h	s	e	
MDPNN2020K11		●	20	20	125	20	10	35	DN**1104**
MDPNN2525M11		●	25	25	150	25	12,5	35	DN**1104**
MDPNN2020K15		●	20	20	125	20	10	40	DN**1506**
MDPNN2525M15		●	25	25	150	25	12,5	40	DN**1506**
MDPNN3225P15		●	32	25	170	32	12,5	40	DN**1506**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**DN**1104****	**DN**1104****	**DN**1506****	**DN**1506****
	h	**20**	**25-32**	**20**	**25-32**
	Staffa	C1RD	C1RD	C2RD	C2RD
	Perno passante	TM5×13	TM5×13	TM6×19	TM6×19
	Vite (staffa)	DM6×25 (7,0 Nm)	DM6×30 (7,0 Nm)	DM6×25 (7,0 Nm)	DM6×30 (7,0 Nm)
	Sottoplacchetta	D11BM	D11BM	D15BM	D15BM
	Chiave (staffa)	WH30L	WH30L	WH30L	WH30L
	Chiave (perno passante)	WH20L	WH20L	WH30L	WH30L

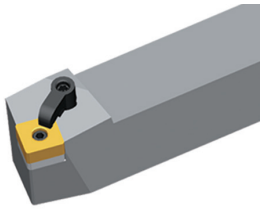
Inserto

Raschiante	**Finitura**	**Media Lavor.**	**Sgrossatura**	**Lavor.- ghisa grigia**	**PCBN/PCD**
A75	A77	A77	A87	A88	A211

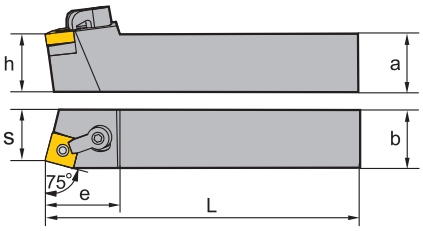
Codice sistema A260 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

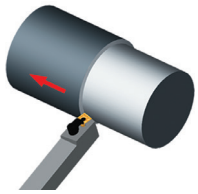
SN** Portautensile (esterno) M-Bloccaggio

MSBNR/L Kr: 75°



Versione destra





Articolo	✻	Stock R	Stock L	Dimensioni [mm] a	b	L	h	s	e	Inserto
MSBNR/L2020K12		●	●	20	20	125	20	17	32	SN**1204**
MSBNR/L2525M12		●	○	25	25	150	25	22	32	SN**1204**
MSBNR/L3225P12			●	32	25	170	32	22	32	SN**1204**
MSBNR/L2525M15		●	○	25	25	150	25	22	38	SN**1506**
MSBNR/L3232P15			●	32	32	170	32	29	38	SN**1506**
MSBNR/L4032R15		○		40	32	200	40	27	38	SN**1506**
MSBNR/L3232P19		●	●	32	32	170	32	27	45	SN**1906**
MSBNR/L4040R19		○		40	40	200	40	35	45	SN**1906**
MSBNR/L4040R25			○	40	40	200	40	35	50	SN**2507**
MSBNR/L4040S2509		○	○	40	40	250	40	35	50	SN**2509**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	SN**1204**	SN**1204**	SN**1506**	SN**1906**	SN**2507**	SN**2509**
	h	20	25-32	25-40	32-40	40	40
	Staffa	C1RD	C1RD	C2RD	C5RD	C6RD	C6RD
	Perno passante	TM6×17	TM6×17	TM8×21	TM10×21	TM12×29	TM12×29
	Vite (staffa)	DM6×25 (7,0 Nm)	DM6×30 (7,0 Nm)	DM6×30 (7,0 Nm)			
	Vite (staffa)				DM8×30X (10,2 Nm)	DM10×35X (16,6 Nm)	DM10×35X (16,6 Nm)
	Sottoplacchetta	S12BM	S12BM	S15BM	S19BM	S25BM	S25BM
	Chiave (staffa)	WH30L	WH30L	WH30L	WH40L	WH40L	WH40L
	Chiave (perno passante)	WH31L	WH31L	WH30L	WH40L	WH50L	WH50L

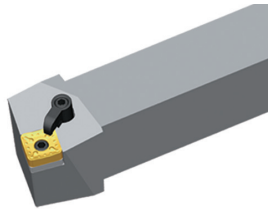
Inserto

Finitura	Media Lavor.	Sgrossatura	Lavorazione Al.	Lavor.- ghisa grigia	PCBN/PCD
A94	A94	A99	A109	A106	A193

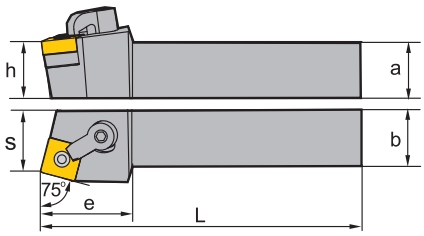
Codice sistema A260 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

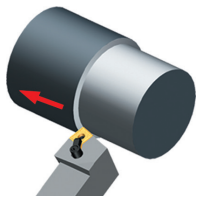
SN** Portautensile (esterno) M-Bloccaggio

MSRNR/L Kr: 75°



Versione destra





Articolo	✻	Stock R	Stock L	Dimensioni [mm] a	b	L	h	s	e	Inserto
MSRNR/L2020K12		●		20	20	125	20	22	36	SN**1204**
MSRNR/L2525M12		●		25	25	150	25	27	36	SN**1204**
MSRNR/L3225P12			○	32	25	170	32	27	36	SN**1204**
MSRNR/L2525M15		●	○	25	25	150	25	27	40	SN**1506**
MSRNR/L3232P15		●		32	32	170	32	35	40	SN**1506**
MSRNR/L4032R15		○		40	32	200	40	35	40	SN**1506**
MSRNR/L3232P19		○	○	32	32	170	32	35	45	SN**1906**
MSRNR/L4040R19		○		40	40	200	40	43	45	SN**1906**
MSRNR/L4040R2509		○	○	40	40	200	40	43	50	SN**2509**
MSRNR/L4040S2509		○		40	40	250	40	43	50	SN**2509**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**SN**1204****	**SN**1204****	**SN**1506****	**SN**1906****	**SN**2509****
	h	**20**	**25-32**	**25-40**	**32-40**	**40**
	Staffa	C1RD	C1RD	C2RD	C5RD	C6RD
	Perno passante	TM6×17	TM6×17	TM8×21	TM10×21	TM12×29
	Vite (staffa)	DM6×25 (7,0 Nm)	DM6×30 (7,0 Nm)	DM6×30 (7,0 Nm)		
	Vite (staffa)				DM8×30X (10,2 Nm)	DM10×35X (16,6 Nm)
	Sottoplacchetta	S12BM	S12BM	S15BM	S19BM	S25BM
	Chiave (staffa)	WH30L	WH30L	WH30L	WH40L	WH40L
	Chiave (perno passante)	WH31L	WH31L	WH30L	WH40L	WH50L

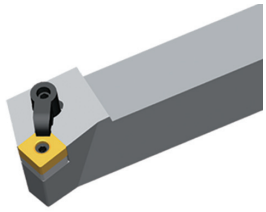
Inserto

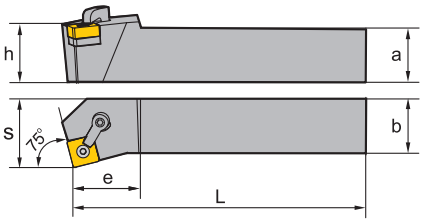
Finitura	**Media Lavor.**	**Sgrossatura**	**Lavorazione Al.**	**Lavor.- ghisa grigia**	**PCBN/PCD**
A94	A94	A99	A109	A106	A193

Codice sistema A260 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

SN** Portautensile (esterno) M-Bloccaggio

MSKNR/L Kr: 75°





Versione destra

Articolo	✻	Stock R	Stock L	Dimensioni [mm] a	b	L	h	s	e	Inserto
MSKNR/L2020K12		●	●	20	20	125	20	25	32	SN**1204**
MSKNR/L2525M12		●	●	25	25	150	25	32	32	SN**1204**
MSKNR/L3225P12		●	○	32	25	170	32	32	32	SN**1204**
MSKNR/L2525M15		●	○	25	25	150	25	32	28	SN**1506**
MSKNR/L3232P15			○	32	32	170	32	40	38	SN**1506**
MSKNR/L4032R15			○	40	32	200	40	40	38	SN**1506**
MSKNR/L3232P19		●	●	32	32	170	32	40	45	SN**1906**
MSKNR/L4040R19		○	○	40	40	200	40	50	45	SN**1906**
MSKNR/L4040S19		●		40	40	250	40	50	45	SN**1906**
MSKNR/L4040S2509		○	●	40	40	250	40	50	50	SN**2509**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	SN**1204**	SN**1204**	SN**1506**	SN**1906**	SN**2509**
	h	20	25-32	25-40	32-40	40
	Staffa	C1RD	C1RD	C2RD	C5RD	C6RD
	Perno passante	TM6×17	TM6×17	TM8×21	TM10×21	TM12×29
	Vite (staffa)	DM6×25 (7,0 Nm)	DM6×30 (7,0 Nm)	DM6×30 (7,0 Nm)		
	Vite (staffa)				DM8×30X (10,2 Nm)	DM10×35X (16,6 Nm)
	Sottoplacchetta	S12BM	S12BM	S15BM	S19BM	S25BM
	Chiave (staffa)	WH30L	WH30L	WH30L	WH40L	WH40L
	Chiave (perno passante)	WH30L	WH30L	WH30L	WH40L	WH50L

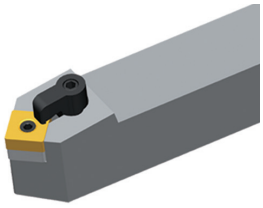
Inserto

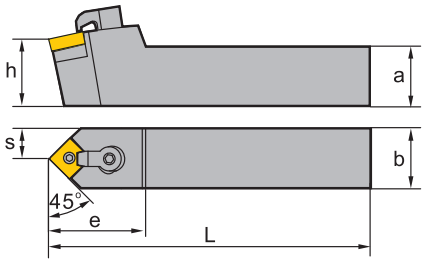
Finitura	Media Lavor.	Sgrossatura	Lavorazione Al.	Lavor.- ghisa grigia	PCBN/PCD
A94	A94	A99	A109	A106	A193

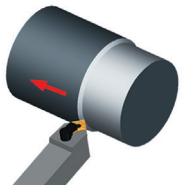
Codice sistema A260 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

SN** Portautensile (esterno) M-Bloccaggio

MSDNN Kr: 45°







Articolo	✻	Stock	Dimensioni [mm]						Inserto
			a	b	L	h	s	e	
MSDNN2020K12		●	20	20	125	20	10	35	SN**1204**
MSDNN2525M12		●	25	25	150	25	12,5	35	SN**1204**
MSDNN3225P12		●	32	25	170	32	12,5	35	SN**1204**
MSDNN2525M15		●	25	25	150	25	12,5	42	SN**1506**
MSDNN3232P15		○	32	32	170	32	16	42	SN**1506**
MSDNN4032R15		○	40	32	200	40	16	42	SN**1506**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**SN**1204****	**SN**1204****	**SN**1506****
	h	**20**	**25-32**	**25-40**
	Staffa	C1RD	C1RD	C2RD
	Perno passante	TM6×17	TM6×17	TM8×21
	Vite (staffa)	DM6×25 (7,0 Nm)	DM6×30 (7,0 Nm)	DM6×30 (7,0 Nm)
	Sottoplacchetta	S12BM	S12BM	S15BM
	Chiave (staffa)	WH30L	WH30L	WH30L
	Chiave (perno passante)	WH30L	WH30L	WH30L

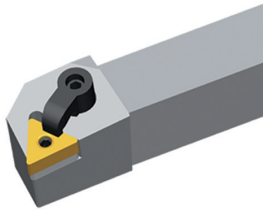
Inserto

Finitura	**Media Lavor.**	**Sgrossatura**	**Lavorazione Al.**	**Lavor.- ghisa grigia**	**PCBN/PCD**
A94	A94	A99	A109	A106	A193

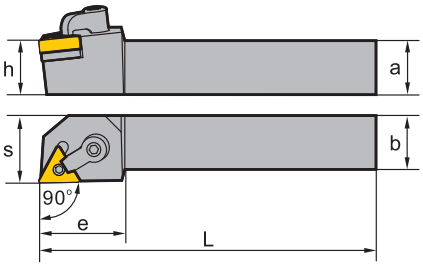
Codice sistema A260 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

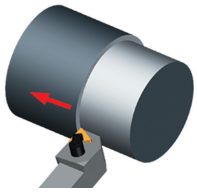
TN** Portautensile (esterno) M-Bloccaggio

MTGNR/L Kr: 90°



Versione destra





Articolo	✻	Stock R	Stock L	Dimensioni [mm] a	b	L	h	s	e	Inserto
MTGNR/L2020K16		●	○	20	20	125	20	25	33	TN**1604**
MTGNR/L2525M16		●	●	25	25	150	25	32	33	TN**1604**
MTGNR/L3225P16		●	○	32	25	170	32	32	33	TN**1604**
MTGNR/L2525M22		●	○	25	25	150	25	32	35	TN**2204**
MTGNR/L3225P22		○	○	32	25	170	32	32	35	TN**2204**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**TN**1604****	**TN**1604****	**TN**2204****
	h	**20**	**25-32**	**25-32**
	Staffa	C1RD	C1RD	C2RD
	Perno passante	TM5×13	TM5×13	TM6×17
	Vite (staffa)	DM6×25 (7,0 Nm)	DM6×30 (7,0 Nm)	DM6×30 (7,0 Nm)
	Sottoplacchetta	T16BM	T16BM	T22BM
	Chiave (staffa)	WH30L	WH30L	WH30L
	Chiave (perno passante)	WH20L	WH20L	WH30L

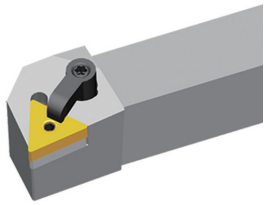
Inserto

Raschiante	Finitura	Media Lavor.	Sgrossatura	Alta asp.	Lavor.- ghisa grigia	PCBN/PCD
A110	A112	A113	A115	A119	A121	A194

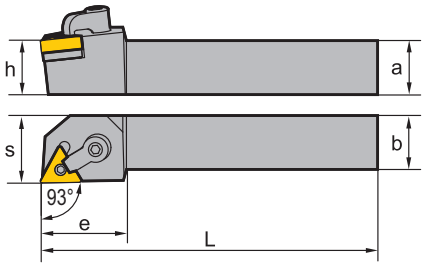
Codice sistema A260 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

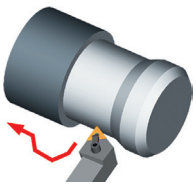
TN** Portautensile (esterno) M-Bloccaggio

MTJNR/L Kr: 93°



Versione destra





Articolo	✻	Stock		Dimensioni [mm]						Inserto
		R	L	a	b	L	h	s	e	
MTJNR/L2020K16		●		20	20	125	20	25	32	TN**1604**
MTJNR/L2525M16		○	○	25	25	150	25	32	32	TN**1604**
MTJNR/L3225P16		○		32	25	170	32	32	32	TN**1604**
MTJNR/L2525M22		○		25	25	150	25	32	36	TN**2204**
MTJNR/L3225P22		○	●	32	25	170	32	32	36	TN**2204**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**TN**1604****	**TN**1604****	**TN**2204****
	h	**20**	**25-32**	**25-32**
	Staffa	C1RD	C1RD	C2RD
	Perno passante	TM5×13	TM5×13	TM6×17
	Vite (staffa)	DM6×25 (7,0 Nm)	DM6×30 (7,0 Nm)	DM6×30 (7,0 Nm)
	Sottoplacchetta	T16BM	T16BM	T22BM
	Chiave (staffa)	WH30L	WH30L	WH30L
	Chiave (perno passante)	WH20L	WH20L	WH30L

Inserto

Raschiante	**Finitura**	**Media Lavor.**	**Sgrossatura**	**Alta asp.**	**Lavor.- ghisa grigia**	**PCBN/PCD**
A110	A112	A113	A115	A119	A121	A194

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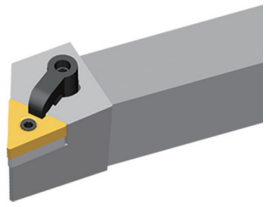
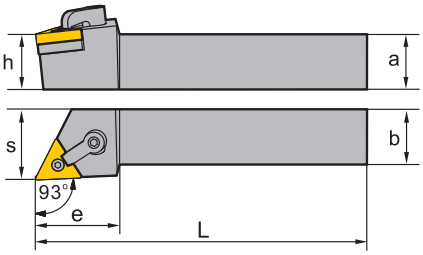
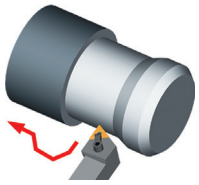
TN** Portautensile (esterno) M-Bloccaggio

MTJNR/L-Z Kr: 93°



Versione destra





Articolo	✻	Stock R	Stock L	Dimensioni [mm] a	b	L	h	s	e	Inserto
MTJNR/L2020K16-Z		●	●	20	20	125	20	25	32	TN**1604**
MTJNR/L2525K16-Z		○	●	25	25	125	25	32	32	TN**1604**
MTJNR/L2525M16-Z		●	●	25	25	150	25	32	32	TN**1604**
MTJNR/L3225P16-Z		●	○	32	25	170	32	32	32	TN**1604**
MTJNR/L2525M22-Z		●	●	25	25	150	25	32	36	TN**2204**
MTJNR/L3225P22-Z		●	○	32	25	170	32	32	36	TN**2204**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	TN**1604**	TN**1604**	TN**2204**
	h	20	25-32	25-32
	Staffa	C1RD	C1RD	C2RD
	Perno passante	TM5×13	TM5×13	TM6×17
	Vite (staffa)	DM6×25 (7,0 Nm)	DM6×30 (7,0 Nm)	DM6×30 (7,0 Nm)
	Sottoplacchetta	T16BM	T16BM	T22BM
	Chiave (staffa)	WH30L	WH30L	WH30L
	Chiave (perno passante)	WH20L	WH20L	WH30L

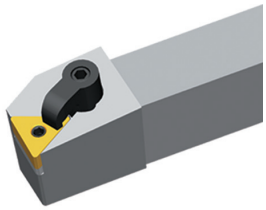
Inserto

Raschiante	Finitura	Media Lavor.	Sgrossatura	Alta asp.	Lavor.- ghisa grigia	PCBN/PCD
A110	A112	A113	A115	A119	A121	A194

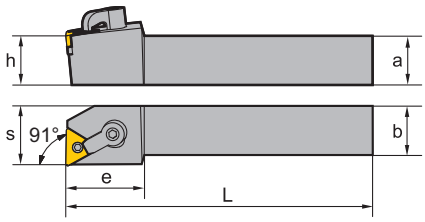
Codice sistema A260 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

TN** Portautensile (esterno) M-Bloccaggio

MTFNR/L Kr: 91°



Versione destra



Articolo	✻	Stock		Dimensioni [mm]						Inserto
		R	L	a	b	L	h	s	e	
MTFNR/L2020K16		●		20	20	125	20	25	32	TN**1604**
MTFNR/L2525M16		●		25	25	150	25	32	32	TN**1604**
MTFNR/L2525M22		●	○	25	25	150	25	32	36	TN**2204**
MTFNR/L3225P22		●	○	32	25	170	32	32	36	TN**2204**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**TN**1604****	**TN**1604****	**TN**2204****
	h	**20**	**25-32**	**25-32**
	Staffa	C1RD	C1RD	C2RD
	Perno passante	TM5×13	TM5×13	TM6×17
	Vite (staffa)	DM6×25 (7,0 Nm)	DM6×30 (7,0 Nm)	DM6×30 (7,0 Nm)
	Sottoplacchetta	T16BM	T16BM	T22BM
	Chiave (staffa)	WH30L	WH30L	WH30L
	Chiave (perno passante)	WH20L	WH20L	WH30L

Inserto

Raschiante	Finitura	Media Lavor.	Sgrossatura	Alta asp.	Lavor.- ghisa grigia	PCBN/PCD
A110	A112	A113	A115	A119	A121	A194

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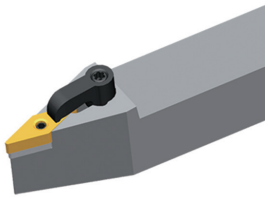
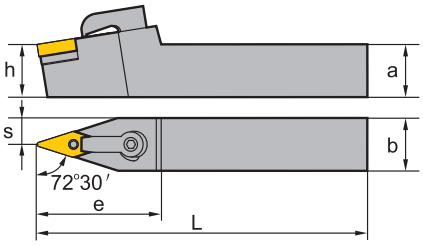
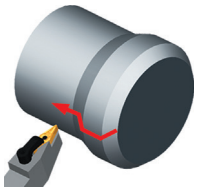
VN** Portautensile (esterno) M-Bloccaggio

MVVNN Kr: 72°30'







Articolo	✻	Stock	Dimensioni [mm]						Inserto
			a	b	L	h	s	e	
MVVNN2020K16		●	20	20	125	20	10	45	VN**1604**
MVVNN2525M16		●	25	25	150	25	12,5	45	VN**1604**
MVVNN3232P16		●	32	32	170	32	16	45	VN**1604**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**VN**1604****	**VN**1604****
	h	**20**	**25-32**
	Staffa	C3RD	C3RD
	Perno passante	TM5×13	TM5×13
	Vite (staffa)	DM6×25 (7,0 Nm)	DM6×30 (7,0 Nm)
	Sottoplacchetta	V16BM	V16BM
	Chiave (staffa)	WH30L	WH30L
	Chiave (perno passante)	WH20L	WH20L

Inserto

Finitura	**Media Lavor.**	**Sgrossatura**	**Lavor.- ghisa grigia**	**PCBN/PCD**
A124	A124	A126	A126	A212

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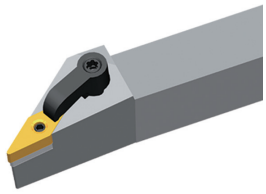
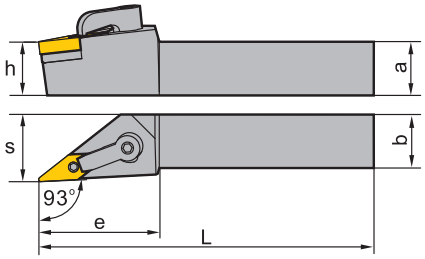
VN** Portautensile (esterno) M-Bloccaggio

MVJNR/L Kr: 93°



Versione destra



Articolo	✻	Stock		Dimensioni [mm]						Inserto
		R	L	a	b	L	h	s	e	
MVJNR/L2020K16		●	●	20	20	125	20	25	45	VN**1604**
MVJNR/L2525M16		●	●	25	25	150	25	32	45	VN**1604**
MVJNR/L3225P16		●	●	32	25	170	32	32	45	VN**1604**
MVJNR/L3232P16		●	●	32	32	170	32	40	45	VN**1604**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**VN**1604****	**VN**1604****
	h	**20**	**25-32**
	Staffa	C3RD	C3RD
	Perno passante	TM5×13	TM5×13
	Vite (staffa)	DM6×25 (7,0 Nm)	DM6×30 (7,0 Nm)
	Sottoplacchetta	V16BM	V16BM
	Chiave (staffa)	WH30L	WH30L
	Chiave (perno passante)	WH20L	WH20L

Inserto

Finitura	**Media Lavor.**	**Sgrossatura**	**Lavor.- ghisa grigia**	**PCBN/PCD**
A124	A124	A126	A126	A212

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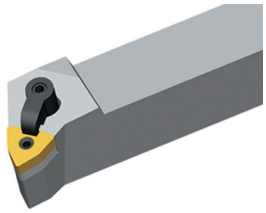
WN** Portautensile (esterno) M-Bloccaggio

MWLNR/L Kr: 95°



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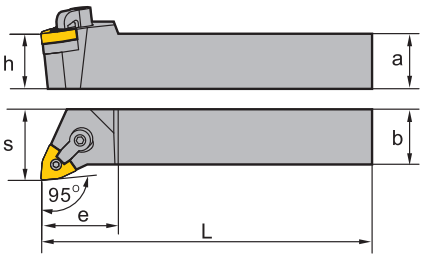

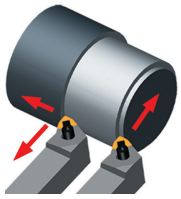

Articolo	✻	Stock R	Stock L	Dimensioni [mm] a	b	L	h	s	e	Inserto
MWLNR/L2020K06		●	●	20	20	125	20	25	30	WN**0604**
MWLNR/L2525M06		●	●	25	25	150	25	32	30	WN**0604**
MWLNR/L2020K08		●	●	20	20	125	20	25	30	WN**0804**
MWLNR/L2525M08		●	●	25	25	150	25	32	35	WN**0804**
		○		25	25	170	25	32	35	WN**0804**
MWLNR/L3232P08		●	●	32	32	170	32	40	35	WN**0804**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**WN**0604****	**WN**0604****	**WN**0804****	**WN**0804****
	h	**20**	**25**	**20**	**25-32**
	Staffa	C1RD	C1RD	C1RD	C1RD
	Perno passante	TM5×13	TM5×13	TM6×17	TM6×17
	Vite (staffa)	DM6×25 (7,0 Nm)	DM6×30 (7,0 Nm)	DM6×25 (7,0 Nm)	DM6×30 (7,0 Nm)
	Sottoplacchetta	W06BM	W06BM	W08BM	W08BM
	Chiave (staffa)	WH30L	WH30L	WH30L	WH30L
	Chiave (perno passante)	WH20L	WH20L	WH30L	WH30L

Inserto

Raschiante	**Finitura**	**Media Lavor.**	**Sgrossatura**	**Lavorazione Al.**	**Lavor.- ghisa grigia**	**PCBN/PCD**
A128	A129	A129	A131	A134	A133	A196

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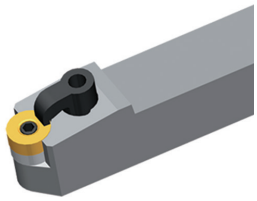
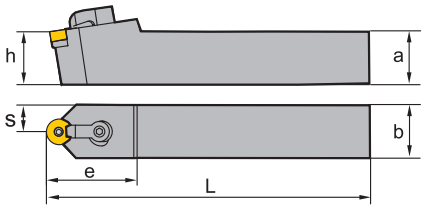
RN** Portautensile (esterno) M-Bloccaggio

MRDNN





Versione destra

Articolo	✻	Stock	Dimensioni [mm]						Inserto
			a	b	L	h	s	e	
MRDNN2020K12		○	20	20	125	20	10	35	RN**1204**
MRDNN2525M12		○	25	25	150	25	12,5	35	RN**1204**
MRDNN3225P12		○	32	25	170	32	12,5	35	RN**1204**
MRDNN3232P12		○	32	32	170	32	16	35	RN**1204**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**RN**1204****	**RN**1204****
	h	**20**	**25-32**
	Staffa	C1RD	C1RD
	Perno passante	TM6×17	TM6×17
	Vite (staffa)	DM6×25 (7,0 Nm)	DM6×30 (7,0 Nm)
	Sottoplacchetta	R12BM	R12BM
	Chiave (staffa)	WH30L	WH30L
	Chiave (perno passante)	WH30L	WH30L

Inserto

Lavor.- ghisa grigia

A135

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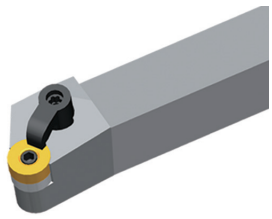
RN** Portautensile (esterno) M-Bloccaggio

MRGNR/L



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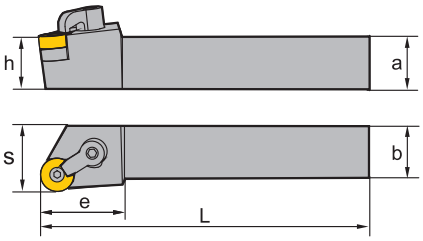
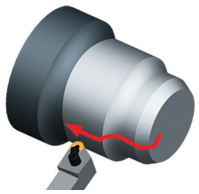




Articolo	✻	Stock R	Stock L	Dimensioni [mm] a	b	L	h	s	e	Inserto
MRGNR/L2020K12		○	○	20	20	125	20	25	32	RN**1204**
MRGNR/L2525M12		○	●	25	25	150	25	32	32	RN**1204**
MRGNR/L3225P12		○	○	32	25	170	32	32	32	RN**1204**
MRGNR/L3232P12		○		32	32	170	32	40	32	RN**1204**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**RN**1204****	**RN**1204****
	h	**20**	**25-32**
	Staffa	C1RD	C1RD
	Perno passante	TM6×17	TM6×17
	Vite (staffa)	DM6×25 (7,0 Nm)	DM6×30 (7,0 Nm)
	Sottoplacchetta	R12BM	R12BM
	Chiave (staffa)	WH30L	WH30L
	Chiave (perno passante)	WH30L	WH30L

Inserto

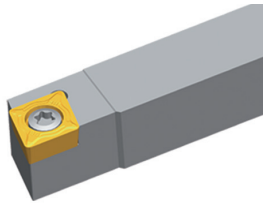
Lavor.- ghisa grigia

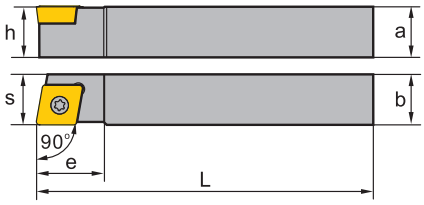
A135

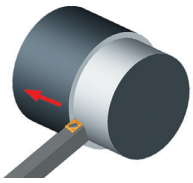
Codice sistema A260 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

CC** Portautensile (esterno) S-Bloccaggio

SCACR/L Kr: 90°







Versione destra

Articolo	✻	Stock R	Stock L	Dimensioni [mm] a	b	L	h	s	e	Inserto
SCACR/L1010E06		●	●	10	10	70	10	10,5	10	CC**0602**
SCACR/L1212F09		●	●	12	12	80	12	12,7	16	CC**09T3**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**CC**0602****	**CC**09T3****
	h	**10**	**12**
	Vite	I60M2,5×6,5 (1,0 Nm)	I60M3,5×8 (2,7 Nm)
	Chiave (vite)	WT07IP	WT15IP

Inserto

Finitura	**Media Lavor.**	**Sgrossatura**	**Lavorazione Al.**	**Lavor.- ghisa grigia**	**PCBN/PCD**
A142	A146	A148	A149	A148	A213

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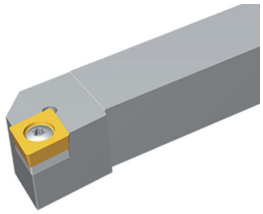
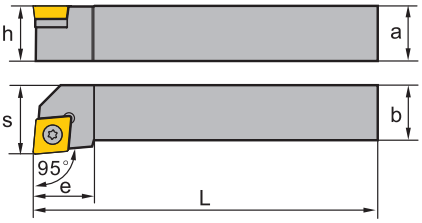
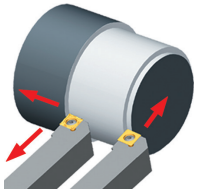
CC** Portautensile (esterno) S-Bloccaggio

SCLCR/L Kr: 95°



Versione destra





Articolo	✻	Stock R	Stock L	Dimensioni [mm] a	b	L	h	s	L_2	e	Inserto
SCLCR/L0808D06		●	●	8	8	60	8	10	10	10	CC**0602**
SCLCR/L1010E06		●	●	10	10	70	10	12	10	10	CC**0602**
SCLCR/L1212F09		●	●	12	12	80	12	16	16	16	CC**09T3**
SCLCR/L1616H09		●	●	16	16	100	16	20	16	16	CC**09T3**
SCLCR/L2020K09		●	●	20	20	125	20	25	25	25	CC**09T3**
SCLCR/L1616H12		●	●	16	16	100	16	20	18	18	CC**1204**
SCLCR/L2020K12		●	●	20	20	125	20	25	25	25	CC**1204**
SCLCR/L2525M12		●	●	25	25	150	25	32	26	26	CC**1204**
SCLCR/L3225P12		○	○	32	25	170	32	32	26	26	CC**1204**
SCLCR/L3232P12		●	●	32	32	170	32	40	28	28	CC**1204**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	CC**0602**	CC**09T3**	CC**1204**
	h	8-10	12-20	16-32
	Vite	I60M2,5×6,5 (1,0 Nm)	I60M3,5×8 (2,7 Nm)	
	Vite			I60M4×11X (3,4 Nm)
	Vite (sottoplacchetta)			SM6×10XA
	Sottoplacchetta			C12BS
	Chiave (vite)	WT07IP	WT15IP	WT15IP
	Chiave (sottoplacchetta)			WH40L

Inserto

Finitura	Media Lavor.	Sgrossatura	Lavorazione Al.	Lavor.- ghisa grigia	PCBN/PCD
A142	A146	A148	A149	A148	A213

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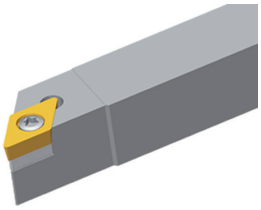
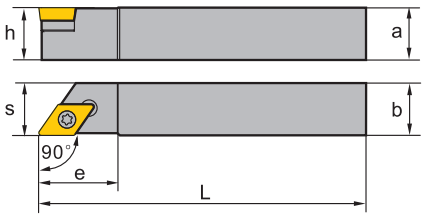
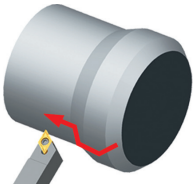
DC** Portautensile (esterno) S-Bloccaggio

SDACR/L Kr: 90°



Versione destra





Articolo	✻	Stock R	Stock L	Dimensioni [mm] a	b	L	h	s	e	Inserto
SDACR/L1010E07		●	●	10	10	70	10	10,5	15	DC**0702**
SDACR/L1212F11		●	●	12	12	80	12	12,5	15	DC**11T3**
SDACR/L1616H11		●	●	16	16	100	16	16,7	24	DC**11T3**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	DC**0702**	DC**11T3**	DC**11T3**
	h	10	12	16
	Vite	I60M2,5×6,5 (1,0 Nm)	I60M3,5×8 (2,7 Nm)	I60M3,5×12 (2,7 Nm)
	Vite (sottoplacchetta)			SM5×8.65XA
	Sottoplacchetta			D11BS
	Chiave (vite)	WT07IP	WT15IP	WT15IP
	Chiave (sottoplacchetta)			WH35L

Inserto

Finitura	Media Lavor.	Sgrossatura	Lavorazione Al.	Lavor.- ghisa grigia	PCBN/PCD
A155	A156	A158	A158	A158	A217

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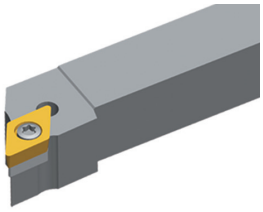
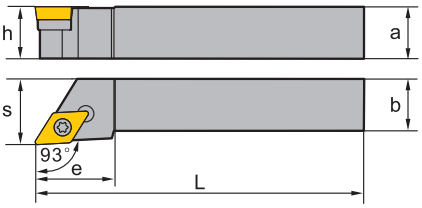
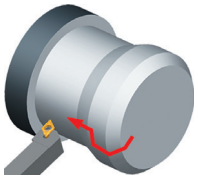
DC** Portautensile (esterno) S-Bloccaggio

SDJCR/L Kr: 93°







Versione destra

Articolo	✻	Stock R	Stock L	Dimensioni [mm] a	b	L	h	s	e	Inserto
SDJCR/L1010E07		●	●	10	10	70	10	12	15	DC**0702**
SDJCR/L1212F07		●	●	12	12	80	12	16	15	DC**0702**
SDJCR/L1212H07		○		12	12	100	12	12	15	DC**0702**
SDJCR/L1616H07		●	●	16	16	100	16	20	18	DC**0702**
SDJCR/L1616H11		●	●	16	16	100	16	20	24	DC**11T3**
SDJCR/L2020K11		●	●	20	20	125	20	25	24	DC**11T3**
SDJCR/L2525M11		●	●	25	25	150	25	32	29	DC**11T3**
SDJCR/L3225P11		●	●	32	25	170	32	32	29	DC**11T3**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto h	DC**0702** 10-16	DC**11T3** 16-32
	Vite	I60M2,5×6,5 (1,0 Nm)	I60M3,5×12 (2,7 Nm)
	Vite (sottoplacchetta)		SM5×8.65XA
	Sottoplacchetta		D11BS
	Chiave (vite)	WT07IP	WT15IP
	Chiave (sottoplacchetta)		WH35L
	Chiave	WT07IP	

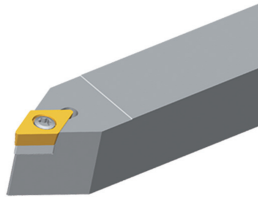
Inserto

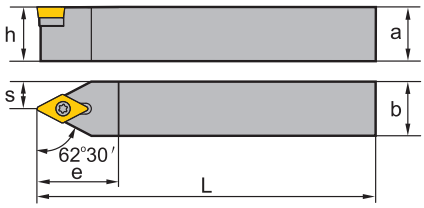
Finitura	Media Lavor.	Sgrossatura	Lavorazione Al.	Lavor.- ghisa grigia	PCBN/PCD
A155	A156	A158	A158	A158	A217

Codice sistema A260 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

DC** Portautensile (esterno) S-Bloccaggio

SDNCN Kr: 62°30'





Articolo	✻	Stock	Dimensioni [mm]						Inserto
			a	b	L	h	s	e	
SDNCN1010E07		●	10	10	70	10	5	20	DC**0702**
SDNCN1212F07		●	12	12	80	12	6	20	DC**0702**
SDNCN1212H11		●	12	12	100	12	6	30	DC**11T3**
SDNCN1616H11		●	16	16	100	16	8	30	DC**11T3**
SDNCN2020K11		●	20	20	125	20	10	30	DC**11T3**
SDNCN2525M11		●	25	25	150	25	12,5	30	DC**11T3**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**DC**0702****	**DC**11T3****	**DC**11T3****
	h	**10-12**	**12**	**16-25**
	Vite	I60M2,5×6,5 (1,0 Nm)	I60M3,5×8 (2,7 Nm)	I60M3,5×12 (2,7 Nm)
	Vite (sottoplacchetta)			SM5×8.65XA
	Sottoplacchetta			D11BS
	Chiave (vite)	WT07IP	WT15IP	WT15IP
	Chiave (sotto-placchetta)			WH35L

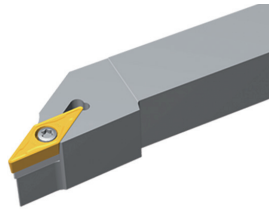
Inserto

Finitura	**Media Lavor.**	**Sgrossatura**	**Lavorazione Al.**	**Lavor.- ghisa grigia**	**PCBN/PCD**
A155	A156	A158	A158	A158	A217

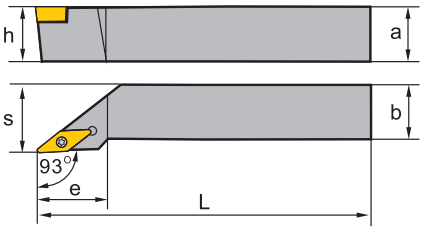
Codice sistema A260 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

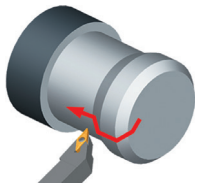
VB** Portautensile (esterno) S-Bloccaggio

SVJBR/L Kr: 93°



Versione destra





Articolo	✻	Stock R	Stock L	Dimensioni [mm] a	b	L	h	s	e	Inserto
SVJBR/L1212F1102		●	●	12	12	80	12	16	27	VB**1102**
SVJBR/L1616H1102		●		16	16	100	16	20	27	VB**1102**
SVJBR/L2020K1102		●	●	20	20	125	20	25	27	VB**1102**
SVJBR/L2525M1102		●	●	25	25	150	25	32	27	VB**1102**
SVJBR/L1212F11			●	12	12	80	12	16	27	VB**1103**
SVJBR/L1616H11		●	●	16	16	100	16	20	27	VB**1103**
SVJBR/L2525M11		●	●	25	25	150	25	32	27	VB**1103**
SVJBR/L1616H16		●	●	16	16	100	16	20	36	VB**1604**
SVJBR/L2020K16		●	●	20	20	125	20	25	41	VB**1604**
SVJBR/L2525M16		●	●	25	25	150	25	32	41	VB**1604**
SVJBR/L3225P16		●	●	32	25	170	32	32	41	VB**1604**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	VB**1102**	VB**1103**	VB**1604**
	h	10-32	12-25	16-32
	Vite	I60M2,5×6,5 (1,0 Nm)	I60M2,5×6,5 (1,0 Nm)	I60M3,5×12 (2,7 Nm)
	Vite (sottoplacchetta)			SM5×8.65XA
	Sottoplacchetta			V16BS
	Chiave (vite)	WT07IP	WT07IP	WT15IP
	Chiave (sottoplacchetta)			WH35L

Inserto

Finitura	Media Lavor.	Sgrossatura	PCBN/PCD
A177	A180	A181	A224

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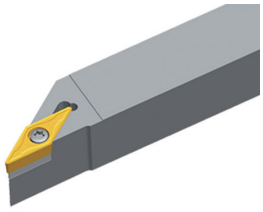
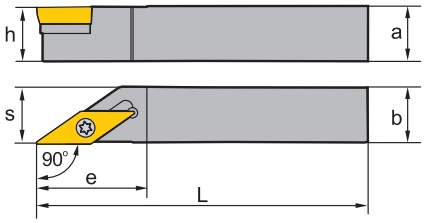
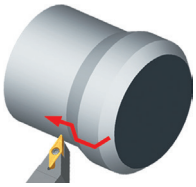
VB** Portautensile (esterno) S-Bloccaggio

SVABR/L Kr: 90°



Versione destra





Articolo	✻	Stock		Dimensioni [mm]						Inserto
		R	L	a	b	L	h	s	e	
SVABR/L2020K1102		●		20	20	125	20	20,5	32	VB**1102**
SVABR/L1010F11		●	●	10	10	80	10	10,5	28	VB**1103**
SVABR/L1616H16		●	○	16	16	100	16	16,5	28	VB**1604**
SVABR/L2020K16		●	○	20	20	125	20	20,5	28	VB**1604**
SVABR/L2525M16		●	●	25	25	150	25	25,5	28	VB**1604**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**VB**1102****	**VB**1103****	**VB**1604****
	h	**10-32**	**10**	**16-32**
	Vite	I60M2,5×6,5 (1,0 Nm)	I60M2,5×6,5 (1,0 Nm)	I60M3,5×12 (2,7 Nm)
	Vite (sottoplacchetta)			SM5×8.65XA
	Sottoplacchetta			V16BS
	Chiave (vite)	WT07IP	WT07IP	WT15IP
	Chiave (sottoplacchetta)			WH35L

Inserto

Finitura	**Media Lavor.**	**Sgrossatura**	**PCBN/PCD**
A177	A180	A181	A224

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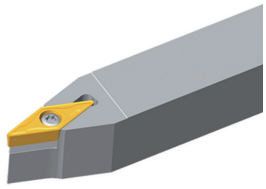
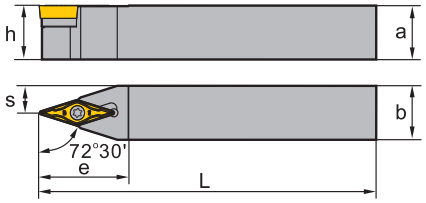
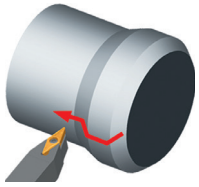
VB** Portautensile (esterno) S-Bloccaggio

SVVBN Kr: 72°30'







Articolo	✻	Stock	Dimensioni [mm]						Inserto
			a	b	L	h	s	e	
SVVBN1212F1102		●	12	12	80	12	6	27	VB**1102**
SVVBN2020K1102		●	20	20	125	20	10	30	VB**1102**
SVVBN1616H11		●	16	16	100	16	8	27	VB**1103**
SVVBN2020K11		●	20	20	125	20	10	30	VB**1103**
SVVBN1616H16		●	16	16	100	16	8	33	VB**1604**
SVVBN2020K16		●	20	20	125	20	10	33	VB**1604**
SVVBN2525M16		●	25	25	150	25	12,5	38	VB**1604**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**VB**1102****	**VB**1103****	**VB**1604****
	h	**10-32**	**12-25**	**16-32**
	Vite	I60M2,5×6,5 (1,0 Nm)	I60M2,5×6,5 (1,0 Nm)	I60M3,5×12 (2,7 Nm)
	Vite (sottoplacchetta)			SM5×8.65XA
	Sottoplacchetta			V16BS
	Chiave (vite)	WT07IP	WT07IP	WT15IP
	Chiave (sottoplacchetta)			WH35L

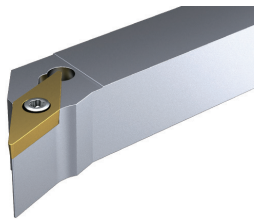
Inserto

Finitura	**Media Lavor.**	**Sgrossatura**	**PCBN/PCD**
A177	A180	A181	A224

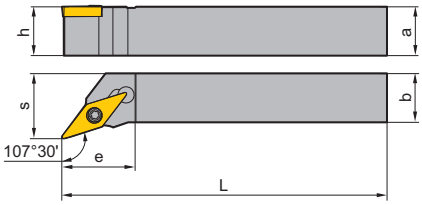
Codice sistema A260 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

VB** Portautensile (esterno)

SVHBR/L Kr: 107°30'



Versione destra



Articolo	✻	Stock		Dimensioni [mm]						Inserto
		R	L	a	b	L	h	s	e	
SVHBR/L1212F1102		○	○	12	12	80	12	16	18	VB**1102**
SVHBR/L1616H1102			○	16	16	100	16	20	20	VB**1102**
SVHBR/L2020K1102		○	○	20	20	125	20	25	25	VB**1102**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**VB**1102****
	h	**10-32**
	Vite	I60M2,5×6,5 (1,0 Nm)
	Chiave (vite)	WT07IP

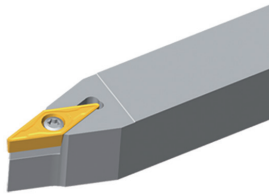
Inserto

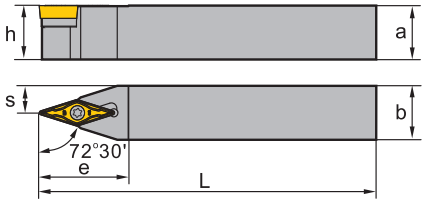
Finitura	**PCBN/PCD**
A177	A203

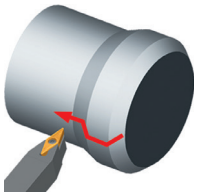
Codice sistema A260 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

VC** Portautensile (esterno) S-Bloccaggio

SVVCN Kr: 72°30'







Articolo	✻	Stock	Dimensioni [mm]						Inserto
			a	b	L	h	s	e	
SVVCN1212F11		●	12	12	80	12	6	27	VC**1103**
SVVCN1616H11		●	16	16	100	16	8	27	VC**1103**
SVVCN2020K11		●	20	20	125	20	10	30	VC**1103**
SVVCN1212M11		●	12	12	150	12	6	27	VC**1103**
SVVCN2525M11		●	25	25	150	25	12,5	38	VC**1103**
SVVCN1616H16		●	16	16	100	16	8	33	VC**1604**
SVVCN2020K16		●	20	20	125	20	10	33	VC**1604**
SVVCN2525M16		●	25	25	150	25	12,5	38	VC**1604**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**VC**1103****	**VC**1604****
	h	**12-25**	**16-32**
	Vite	I60M2,5×6,5 (1,0 Nm)	I60M3,5×12 (2,7 Nm)
	Vite (sottoplacchetta)		SM5×8.65XA
	Sottoplacchetta		V16BSC
	Chiave (vite)	WT07IP	WT15IP
	Chiave (sottoplacchetta)		WH35L

Inserto

Finitura	**Media Lavor.**	**Lavorazione Al.**	**PCBN/PCD**
A186	A187	A184	A226

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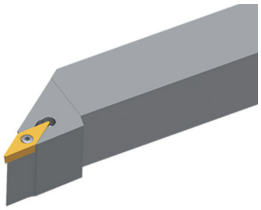
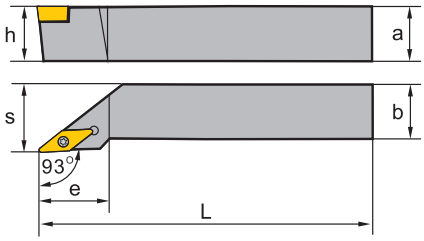
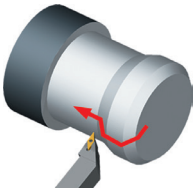
VC** Portautensile (esterno) S-Bloccaggio

SVJCR/L Kr: 93°



Versione destra





Articolo	✻	Stock		Dimensioni [mm]						Inserto
		R	L	a	b	L	h	s	e	
SVJCR/L2020M11		●	●	20	20	150	20	25	27	VC**1103**
SVJCR/L1010E11		●		10	10	70	10	12	22	VC**1103**
SVJCR/L1212F11		●	●	12	12	80	12	16	27	VC**1103**
SVJCR/L1616H11		●	●	16	16	100	16	20	27	VC**1103**
SVJCR/L2020K11		●	●	20	20	125	20	25	27	VC**1103**
SVJCR/L1010M11			●	10	10	150	10	12	22	VC**1103**
SVJCR/L1212M11		●		12	12	150	12	16	27	VC**1103**
SVJCR/L2525M11		●	●	25	25	150	25	32	27	VC**1103**
SVJCR/L1616H16		●	●	16	16	100	16	20	36	VC**1604**
SVJCR/L2020K16		●	●	20	20	125	20	25	41	VC**1604**
SVJCR/L1616M16		●	●	16	16	150	16	20	36	VC**1604**
SVJCR/L2020M16		●	●	20	20	150	20	25	41	VC**1604**
SVJCR/L2525M16		●	●	25	25	150	20	32	41	VC**1604**
SVJCR/L3225P16		○	○	32	25	170	32	32	41	VC**1604**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**VC**1103****	**VC**1604****
	h	**10-25**	**16-32**
	Vite	I60M2,5×6,5 (1,0 Nm)	I60M3,5×12 (2,7 Nm)
	Vite (sottoplacchetta)		SM5×8.65XA
	Sottoplacchetta		V16BSC
	Chiave (vite)	WT07IP	WT15IP
	Chiave (sottoplacchetta)		WH35L

Inserto

Finitura	**Media Lavor.**	**Lavorazione Al.**	**PCBN/PCD**
A186	A187	A184	A226

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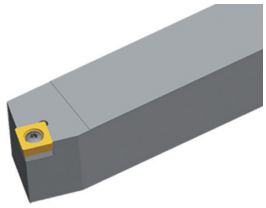
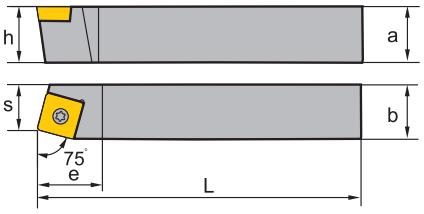
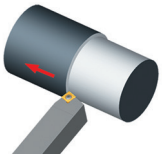
SC** Barre alesatrici in acciaio S-Bloccaggio

SSBCR/L Kr: 75°







Versione destra

Articolo	✻	Stock R	Stock L	Dimensioni [mm] a	b	L	h	s	e	Inserto
SSBCR/L1212F09		●	●	12	12	80	12	11	16	SC**09T3**
SSBCR/L1616H09		●	●	16	16	100	16	13	16	SC**09T3**
SSBCR/L2020K12		●	●	20	20	125	20	17	25	SC**1204**
SSBCR/L2525M12			●	25	25	150	25	22	25	SC**1204**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**SC**09T3****	**SC**09T3****	**SC**1204****
	h	**12**	**16**	**20-25**
	Vite	I60M3,5×8 (2,7 Nm)	I60M3,5×8 (2,7 Nm)	
	Vite			I60M4×11X (3,4 Nm)
	Vite (sottoplacchetta)		SM5×8.65XA	
	Vite (sottoplacchetta)			SM6×10XA
	Sottoplacchetta		S09BS	S12BS
	Chiave (vite)	WT15IP	WT15IP	WT15IP
	Chiave (sottoplacchetta)		WH35L	WH40L

Inserto

Finitura	**Media Lavor.**	**Sgrossatura**	**Lavorazione Al.**
A163	A164	A165	A165

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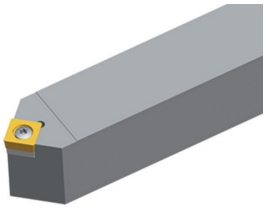
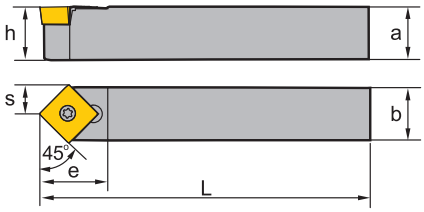
SC** Barre alesatrici in acciaio S-Bloccaggio

SSDCN Kr: 45°





Versione destra

Articolo	✻	Stock	Dimensioni [mm]						Inserto
			a	b	L	h	s	e	
SSDCN1212F09		●	12	12	80	12	6	15,5	SC**09T3**
SSDCN1616H09		●	16	16	100	16	8	15,5	SC**09T3**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**SC**09T3****	**SC**09T3****
	h	**12**	**16**
	Vite	I60M3,5×8 (2,7 Nm)	I60M3,5×8 (2,7 Nm)
	Vite (sottoplacchetta)		SM5×8.65XA
	Sottoplacchetta		S09BS
	Chiave (vite)	WT15IP	WT15IP
	Chiave (sotto-placchetta)		WH35L

Inserto

Finitura	**Media Lavor.**	**Sgrossatura**	**Lavorazione Al.**
A163	A164	A165	A165

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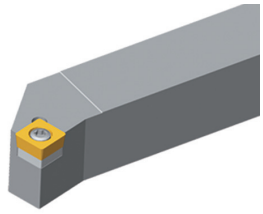
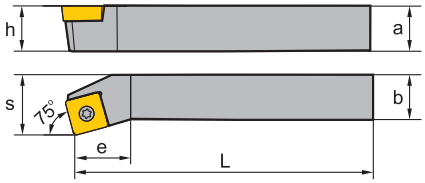
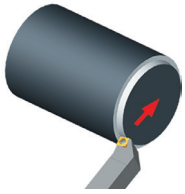
SC** Barre alesatrici in acciaio S-Bloccaggio

SSKCR/L Kr: 75°







Versione destra

Articolo	✻	Stock R	Stock L	Dimensioni [mm] a	b	L	h	s	e	Inserto
SSKCR/L1616H09		●	●	16	16	100	16	20	13	SC**09T3**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	SC**09T3**
	h	16
	Vite	I60M3,5×8 (2,7 Nm)
	Vite (sottoplacchetta)	SM5×8.65XA
	Sottoplacchetta	S09BS
	Chiave (vite)	WT15IP
	Chiave (sottoplacchetta)	WH35L

Inserto

Finitura	**Media Lavor.**	**Sgrossatura**	**Lavorazione Al.**
A163	A164	A165	A165

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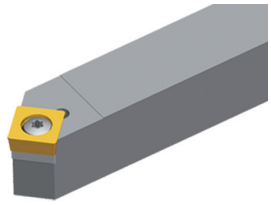
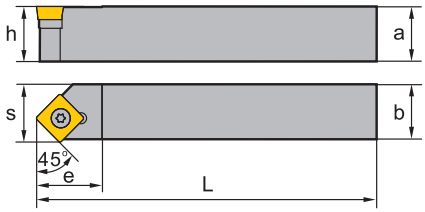
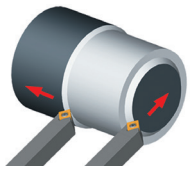
SC** Barre alesatrici in acciaio S-Bloccaggio

SSSCR/L Kr: 45°







Versione destra

Articolo	✻	Stock		Dimensioni [mm]						Inserto
		R	L	a	b	L	h	s	e	
SSSCR/L1616H09		●	●	16	16	100	16	17	17	SC**09T3**
SSSCR/L2020K12		●	●	20	20	125	20	21	21	SC**1204**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**SC**09T3****	**SC**1204****
	h	**16**	**20**
	Vite	I60M3,5×12 (2,7 Nm)	
	Vite		I60M4×11X (3,4 Nm)
	Vite (sottoplac-chetta)		SM6×10XA
	Sottoplacchetta		S12BS
	Chiave (vite)	WT15IP	WT15IP
	Chiave (sotto-placchetta)		WH40L

Inserto

Finitura	**Media Lavor.**	**Sgrossatura**	**Lavorazione Al.**
A163	A164	A165	A165

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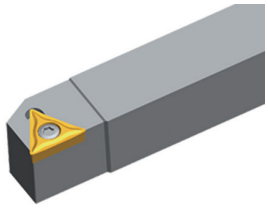
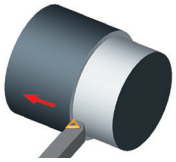
TC** Portautensile (esterno) S-Bloccaggio

STACR/L Kr: 90°





Versione destra

Articolo	✻	Stock		Dimensioni [mm]						Inserto
		R	L	a	b	L	h	s	e	
STACR/L1212F11		●	●	12	12	80	12	12,5	14	TC**1102**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**TC**1102****
	h	**12**
	Vite	I60M2,5×6,5 (1,0 Nm)
	Chiave (vite)	WT07IP

Inserto

Finitura	**Media Lavor.**	**Sgrossatura**	**Lavorazione Al.**	**PCBN/PCD**
A170	A171	A172	A174	A220

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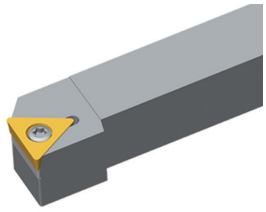
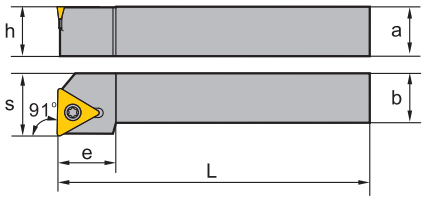
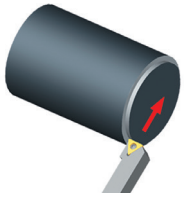
TC** Portautensile (esterno) S-Bloccaggio

STFCR/L Kr: 91°







Versione destra

Articolo	✻	Stock R	Stock L	Dimensioni [mm] a	b	L	h	s	e	Inserto
STFCR/L1212F11		●	○	12	12	80	12	16	14	TC**1102**
STFCR/L1616H11		●	○	16	16	100	16	20	14	TC**1102**
STFCR/L1616H16		●	○	16	16	100	16	20	19	TC**16T3**
STFCR/L2020K16		●	●	20	20	125	20	25	19	TC**16T3**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**TC**1102****	**TC**16T3****
	h	**12-16**	**16-20**
	Vite	I60M2,5×6,5 (1,0 Nm)	I60M3,5×12 (2,7 Nm)
	Vite (sottoplacchetta)		SM5×8.65XA
	Sottoplacchetta		T16BS
	Chiave (vite)	WT07IP	WT15IP
	Chiave (sottoplacchetta)		WH35L

Inserto

Finitura	**Media Lavor.**	**Sgrossatura**	**Lavorazione Al.**	**Lavor.- ghisa grigia**	**PCBN/PCD**
A170	A171	A172	A174	A172	A220

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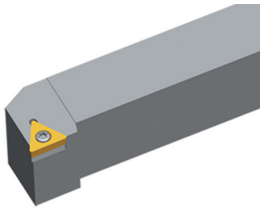
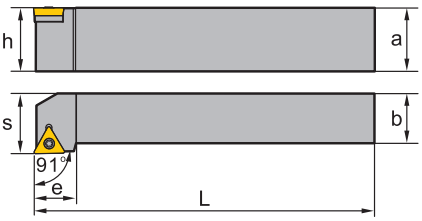
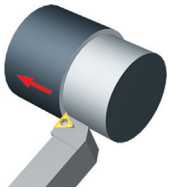
TC** Portautensile (esterno) S-Bloccaggio

STGCR/L Kr: 91°







Versione destra

Articolo	✻	Stock R	Stock L	Dimensioni [mm] a	b	L	h	s	e	Inserto
STGCR/L1010E09			○	10	10	70	10	12	11	TC**0902**
STGCR/L1212F11		●	●	12	12	80	12	16	14	TC**1102**
STGCR/L1616H11		●	●	16	16	100	16	20	16	TC**1102**
STGCR/L2020K16		●	●	20	20	125	20	25	21	TC**16T3**
STGCR/L2525M16		●	●	25	25	150	25	25	21	TC**16T3**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	TC**0902**	TC**1102**	TC**16T3**
	h	8-10	12-16	20-25
	Vite	I60M2,2×5,5 (0,8 Nm)	I60M2,5×6,5 (1,0 Nm)	I60M3,5×12 (2,7 Nm)
	Vite (sottoplacchetta)			SM5×8.65XA
	Sottoplacchetta			T16BS
	Chiave (vite)	WT06IP	WT07IP	WT15IP
	Chiave (sottoplacchetta)			WH35L

Inserto

Finitura	Media Lavor.	Sgrossatura	Lavorazione Al.	Lavor.- ghisa grigia	PCBN/PCD
A170	A171	A172	A174	A172	A220

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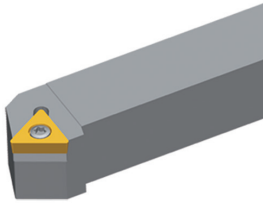
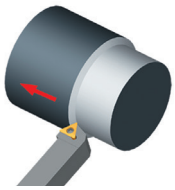
TC** Portautensile (esterno) S-Bloccaggio

STTCR/L Kr: 60°



Versione destra



Articolo	✻	Stock R	Stock L	Dimensioni [mm] a	b	L	h	s	e	Inserto
STTCR/L1616H11		●	○	16	16	100	16	13	14	TC**1102**
STTCR/L1616H16		●		16	16	100	16	13	19	TC**16T3**
STTCR/L2020K16		●	●	20	20	125	20	17	19	TC**16T3**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	TC**1102**	TC**16T3**
	h	**16**	**16-20**
	Vite	I60M2,5×6,5 (1,0 Nm)	I60M3,5×12 (2,7 Nm)
	Vite (sottoplacchetta)		SM5×8.65XA
	Sottoplacchetta		T16BS
	Chiave (vite)	WT07IP	WT15IP
	Chiave (sottoplacchetta)		WH35L

Inserto

Finitura	Media Lavor.	Sgrossatura	Lavorazione Al.	Lavor.- ghisa grigia	PCBN/PCD
A170	A171	A172	A174	A172	A220

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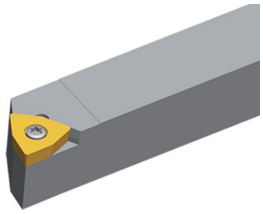
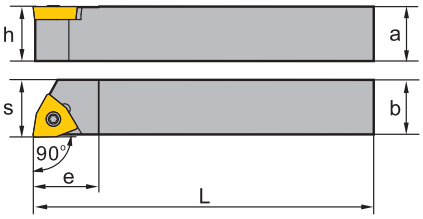
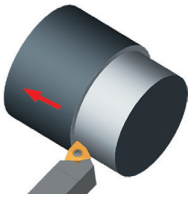
WC** Portautensile (esterno) S-Bloccaggio

SWACR/L Kr: 90°



Versione destra





Articolo	✻	Stock R	Stock L	Dimensioni [mm] a	b	L	h	s	e	Inserto
SWACR/L1010E04		●	○	10	10	70	10	10,5	10	WC**0402**
SWACR/L1212F04		●		12	12	80	12	12	14	WC**0402**
SWACR/L1616H06		●	●	16	16	100	16	16,5	20	WC**06T3**
SWACR/L2020K08		●	●	20	20	125	20	20,5	24	WC**0804**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**WC**0402****	**WC**06T3****	**WC**0804****
	h	**10-12**	**16**	**20**
	Vite	I60M2,5×6,5 (1,0 Nm)	I60M3×7 (1,8 Nm)	I60M3,5×12 (2,7 Nm)
	Chiave (vite)	WT07IP	WT10IP	WT15IP

Inserto

Media Lavor.

C28

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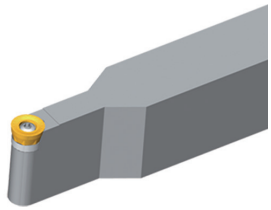
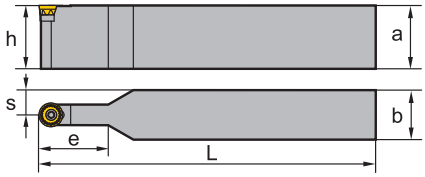
RC** Portautensile (esterno) S-Bloccaggio

SRDCN





Articolo	✻	Stock	Dimensioni [mm]						Inserto	
			a	b	L	h	s	e		
SRDCN1616H08		○	16	16	100	16	8	16	RCGX0803MO	RCMT0803MO
SRDCN2020K08		●	20	20	125	20	10	16	RCGX0803MO	RCMT0803MO
SRDCN2020K12		●	20	20	125	20	10	35	RCGX1204MO	RCMT1204MO
SRDCN2020M12		●	20	20	150	20	10	35	RCGX1204MO	
SRDCN2525M12		●	25	25	150	25	12,5	35	RCGX1204MO	RCMT1204MO
SRDCN3225P12		●	32	25	170	32	12,5	35	RCGX1204MO	RCMT1204MO
SRDCN2020K10		●	20	20	125	20	10	25	RCMT10T3MO	
SRDCN2525M10		●	25	25	150	25	12,5	25	RCMT10T3MO	
SRDCN3225P16		●	32	25	170	32	12,5	35	RCMT1606MO	
SRDCN3232P16		●	32	32	170	32	16	40	RCMT1606MO	
SRDCN4040S16		●	40	40	250	40	20	50	RCMT1606MO	
SRDCN3232P20		●	32	32	170	32	16	40	RCMT2006MO	
SRDCN4040S20		●	40	40	250	40	20	50	RCMT2006MO	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**RCGX0803MO**	**RCGX1204MO**	**RCMT10T3MO**	**RCMT1606MO**	**RCMT2006MO**
	h	**16-20**	**20-32**	**20-25**	**32-40**	**32-40**
	Vite	I60M3×7 (1,8 Nm)	I60M3,5×12 (2,7 Nm)	I60M3,5×10 (2,7 Nm)		I43M6×16 (9,1 Nm)
	Vite				I60M4×15X (3,4 Nm)	
	Vite (sottoplacchetta)		SM5×8.65XA			
	Vite (sottoplacchetta)				SM6×10XA	
	Sottoplacchetta		R12BS		R16BS	
	Chiave (vite)	WT10IP	WT15IP	WT15IP	WT15IP	
	Chiave (vite)					WT25IT
	Chiave (sottoplacchetta)		WH35L		WH40L	

Codice sistema A260 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

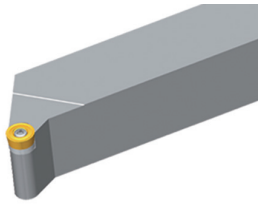
RC** Portautensile (esterno)

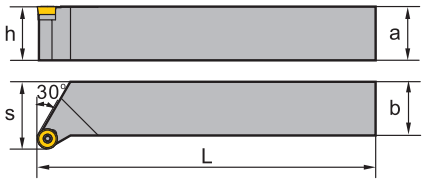
Inserto	
Lavorazione Al.	**Lavor.- ghisa grigia**
A161 B108 B112	A161

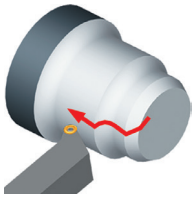
Codice sistema A260 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

RC** Portautensile (esterno) S-Bloccaggio

SRGCR/L







Versione destra

Articolo	✻	Stock R	Stock L	Dimensioni [mm] a	b	L	h	s	Inserto	
SRGCR/L1616H08		●	●	16	16	100	16	20	RCGX0803MO-LH	RCMT0803MO
SRGCR/L2020K12		●	○	20	20	125	20	27	RCGX1204MO	RCMT1204MO
SRGCR/L2525M12		●	○	25	25	150	25	32	RCGX1204MO	RCMT1204MO
SRGCR/L2525M10		●	○	25	25	100	25	32	RCMT10T3MO	
SRGCR/L2020K10		●	○	20	20	125	20	25	RCMT10T3MO	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**RCGX0803MO-LH**	**RCGX1204MO**	**RCMT10T3MO**
	h	**16**	**20-25**	**16-25**
	Vite	I60M3,5×10 (2,7 Nm)	I60M3,5×12 (2,7 Nm)	I60M3,5×10 (2,7 Nm)
	Vite (sottoplacchetta)		SM5×8.65XA	
	Sottoplacchetta		R12BS	
	Chiave (vite)	WT15IP	WT15IP	WT15IP
	Chiave (sottoplacchetta)		WH35L	

Inserto

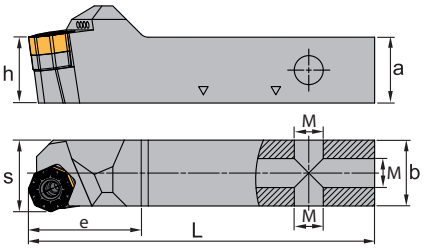
Lavorazione Al.	**Lavor.- ghisa grigia**
A161 B108 B112	A161

Codice sistema A260 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

ON** Portautensile (esterno) S-Bloccaggio

SOXNR/L Kr: 23°

Versione destra



Articolo	✻	Stock R	Stock L	Dimensioni [mm] a	b	L	h	s	e	M	Inserto
SOXNL2020X05C	✻		●	20	20	105	20	21,7	35	G1/8	ONMX0505
SOXNR2020X05C	✻	●		20	20	105	20	21,7	35	G1/8	ONMX0505
SOXNL2525X05C	✻		●	25	25	120	25	26,7	35	G1/8	ONMX0505
SOXNR2525X05C	✻	●		25	25	120	25	26,7	35	G1/8	ONMX0505

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**ONMX0505**	**ONMX0505**
	h	**20**	**25**
	Vita senza testa	PT1/8×7	PT1/8×7
	Vite	I60M4×15 (3,4 Nm)	I60M4×15 (3,4 Nm)
	Sottoplacchetta	O05BM	O05BM
	Chiave (vite)	WT15IP	WT15IP
	Chiave (sotto-placchetta)	WH50L	WH50L

Inserto

Finitura

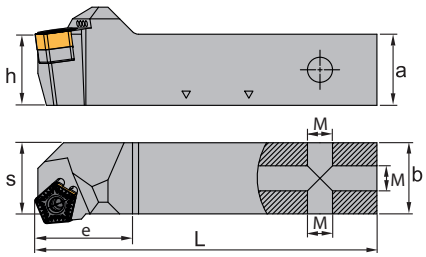
A136

Codice sistema A260 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

PN** Portautensile (esterno) S-Bloccaggio

SPXNR/L Kr: 23°

Versione destra



Articolo	✻	Stock		Dimensioni [mm]							Inserto
		R	L	a	b	L	h	s	e	M	
SPXNL2525X09C	✻		●	25	25	120	25	28,4	35	G1/8	PNMX0905
SPXNR2525X09C	✻	●		25	25	120	25	28,4	35	G1/8	PNMX0905
SPXNL3225X09C	✻		●	32	25	135	32	28,4	35	G1/8	PNMX0905
SPXNR3225X09C	✻	●		32	25	135	32	28,4	35	G1/8	PNMX0905

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**PNMX0905**	**PNMX0905**
	h	**25**	**32**
	Vita senza testa	PT1/8×7	PT1/8×7
	Vite	I60M4×15 (3,4 Nm)	I60M4×15 (3,4 Nm)
	Sottoplacchetta	P09BM	P09BM
	Chiave (vite)	WT15IP	WT15IP
	Chiave (sotto-placchetta)	WH50L	WH50L

Inserto

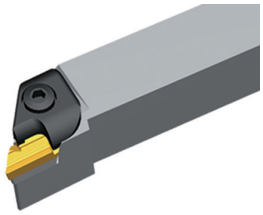
Media Lavor.

A137

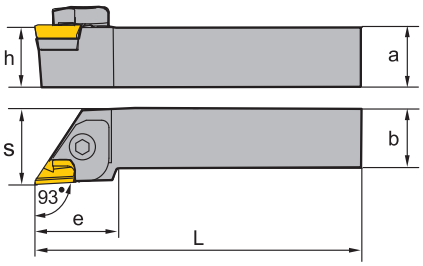
Codice sistema A260 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

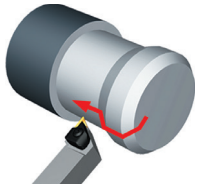
KNUX** Portautensile C-Bloccaggio

CKJNR/L Kr: 93°



Versione destra





Articolo	✻	Stock R	Stock L	Dimensioni [mm] a	b	L	h	s	e	Inserto
CKJNL2525M16			●	25	25	150	25	32	32	KNUX1604**L
CKJNL3232P16			●	32	32	170	32	40	32	KNUX1604**L
CKJNL4040R16			●	40	40	200	40	50	32	KNUX1604**L
CKJNR2525M16		●		25	25	150	25	32	32	KNUX1604**R
CKJNR3232P16		●		32	32	170	32	40	32	KNUX1604**R
CKJNR4040R16		○		40	40	200	40	50	32	KNUX1604**R

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	KNUX1604**L	KNUX1604**R
	h	**25-40**	**25-40**
	Staffa	C6L1T	C6R1T
	Perno passante	P0515	P0515
	Vite (staffa)	CM6×25A (7,0 Nm)	CM6×25A (7,0 Nm)
	Vite (sottoplacchetta)	SM3×10B	SM3×10B
	Sottoplacchetta		K16CC
	Sottoplacchetta	K16CCL	
	Molla (staffa)	SPR1	SPR1
	Perno passante	SPR2	SPR2
	Chiave (staffa)	WH40L	WH40L
	Chiave (sottoplacchetta)	WH20L	WH20L

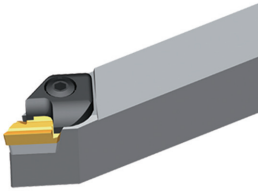
Inserto

Finitura
A140

Codice sistema A260 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

KNUX** Portautensile C-Bloccaggio

CKNNR/L Kr: 63°



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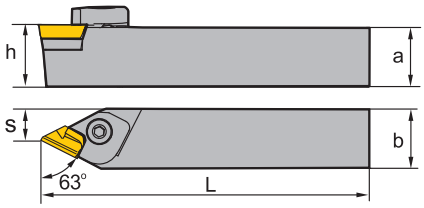
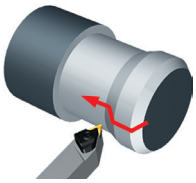




Articolo	✻	Stock		Dimensioni [mm]					Inserto
		R	L	a	b	L	h	s	
CKNNL2525M16			●	25	25	150	25	14,3	KNUX1604**L
CKNNR2525M16		●		25	25	150	25	14,3	KNUX1604**R

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**KNUX1604**L**	**KNUX1604**R**
	h	**25-32**	**25-32**
	Staffa	C6L1T	C6R1T
	Perno passante	P0515	P0515
	Vite (staffa)	CM6×25A (7,0 Nm)	CM6×25A (7,0 Nm)
	Vite (sottoplacchetta)	SM3×10B	SM3×10B
	Sottoplacchetta		K16CC
	Sottoplacchetta	K16CCL	
	Molla (staffa)	SPR1	SPR1
	Perno passante	SPR2	SPR2
	Chiave (staffa)	WH40L	WH40L
	Chiave (sotto-placchetta)	WH20L	WH20L

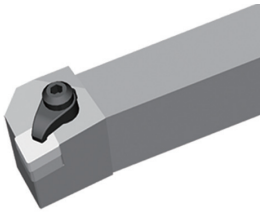
Inserto

Finitura
A140

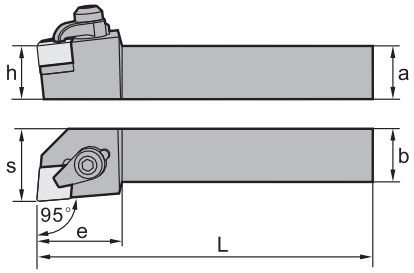
Codice sistema A260 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

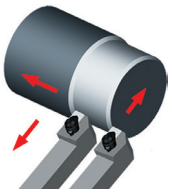
CN** Portautensile (esterno) C-Bloccaggio

CCLNR/L Kr: 95°



Versione destra





Articolo	✻	Stock R	Stock L	Dimensioni [mm] a	b	L	h	s	e	Inserto	
CCLNR/L2020K12		○	○	20	20	125	20	27	32	CNGN1204**	CNGN1207**
CCLNR/L2525M12		○	●	25	20	100	25	27	36	CNGN1204**	CNGN1207**
CCLNR/L2525M16			○	25	25	150	25	32	36	CNGN1604**	CNGN1606**
CCLNR/L3225P16		○	○	32	25	170	32	32	36	CNGN1604**	CNGN1606**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**CNGN1204****	**CNGN1207****	**CNGN1604****	**CNGN1606****
	h	**20-25**	**20-25**	**25-32**	**25-32**
	Staffa	C1RC	C1RC	C2RC	C2RC
	Vite (staffa)	CM6×30B (7,0 Nm)	CM6×30B (7,0 Nm)	CM8×30B (10,2 Nm)	CM8×30B (10,2 Nm)
	Vite (sottoplac-chetta)	SM3×10B	SM3×10B	SM4×12B	SM4×12B
	Sottoplacchetta	C12CC-04	C12CC-07	C16CC-04	C16CC-06
	Molla	SPR1	SPR1	SPR3	SPR3
	Chiave (staffa)	WH40L	WH40L	WH50L	WH50L
	Chiave (sotto-placchetta)	WH20L	WH20L	WH30L	WH30L

Inserto

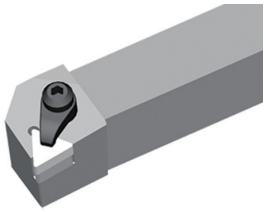
PCBN/PCD

A205

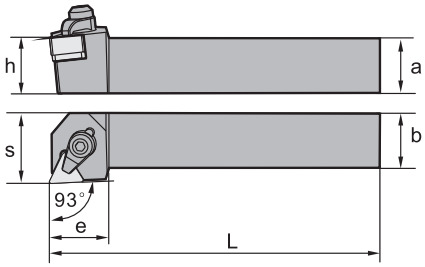
Codice sistema A260 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

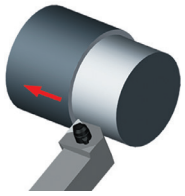
TN** Portautensile (esterno) C-Bloccaggio

CTJNR/L Kr: 93°



Versione destra





Articolo	✻	Stock		Dimensioni [mm]						Inserto	
		R	L	a	b	L	h	s	e		
CTJNR/L2020K16		○	○	20	20	125	20	25	30	TNGN1604**	TNGN1607**
CTJNR/L2525M16		○	○	25	25	150	25	32	30	TNGN1604**	TNGN1607**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**TNGN1604****	**TNGN1607****
	h	**20-25**	**20-25**
	Staffa	C1RC	C1RC
	Vite (staffa)	CM6×30B (7,0 Nm)	CM6×30B (7,0 Nm)
	Vite (sottoplac-chetta)	SM3×10B	SM3×10B
	Sottoplacchetta	T16CC-04	T16CC-07
	Molla	SPR1	SPR1
	Chiave (staffa)	WH40L	WH40L
	Chiave (sotto-placchetta)	WH20L	WH20L

Inserto

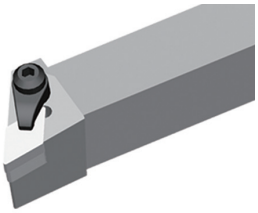
Media Lavor.

A247

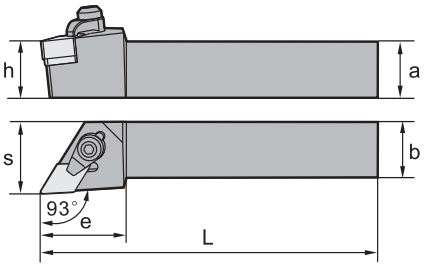
Codice sistema A260 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

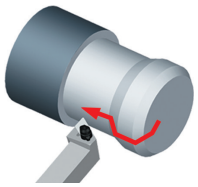
DN** Portautensile (esterno) C-Bloccaggio

CDJNR/L Kr: 93°



Versione destra





Articolo	✻	Stock R	Stock L	Dimensioni [mm] a	b	L	h	s	e	Inserto	
CDJNR/L2525M15		●	●	25	25	150	25	32	32	DNGN1504**	DNGN1507**
CDJNR/L3225P15		○	○	32	25	170	32	32	32	DNGN1504**	DNGN1507**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	DNGN1504**	DNGN1507**
	h	**25-32**	**25-32**
	Staffa	C1RC	C1RC
	Vite (staffa)	CM6×30B (7,0 Nm)	CM6×30B (7,0 Nm)
	Vite (sottoplac-chetta)	SM3×10B	SM3×10B
	Sottoplacchetta	D15CC-04	D15CC-07
	Molla	SPR1	SPR1
	Chiave (staffa)	WH40L	WH40L
	Chiave (sotto-placchetta)	WH20L	WH20L

Inserto

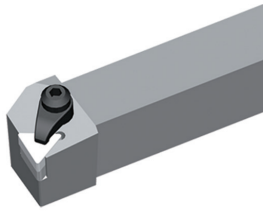
Media Lavor.

A237

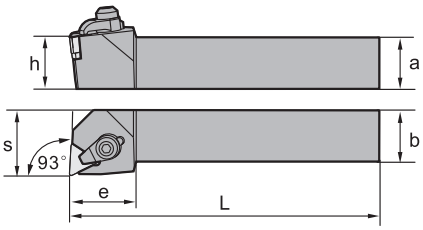
Codice sistema A260 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

TN** Portautensile (esterno) C-Bloccaggio

CTUNR/L Kr: 93°



Versione destra



Articolo	✻	Stock		Dimensioni [mm]						Inserto	
		R	L	a	b	L	h	s	e		
CTUNR/L2525M16		○	○	25	25	150	25	32	27	TNGN1604**	TNGN1607**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**TNGN1604****	**TNGN1607****
	h	**20-25**	**20-25**
	Staffa	C1RC	C1RC
	Vite (staffa)	CM6×30B (7,0 Nm)	CM6×30B (7,0 Nm)
	Vite (sottoplacchetta)	SM3×10B	SM3×10B
	Sottoplacchetta	T16CC-04	T16CC-07
	Molla	SPR1	SPR1
	Chiave (staffa)	WH40L	WH40L
	Chiave (sottoplacchetta)	WH20L	WH20L

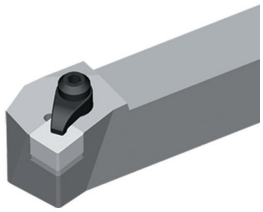
Inserto

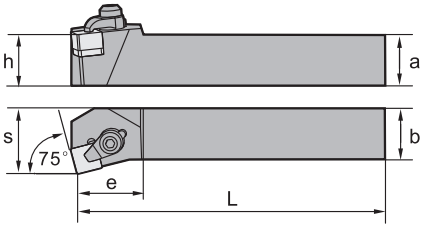
Media Lavor.
A247

Codice sistema A260 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

SN** Portautensile (esterno) C-Bloccaggio

CSKNR/L Kr: 75°





Versione destra

Articolo	✻	Stock R	Stock L	Dimensioni [mm] a	b	L	h	s	e	Inserto	
CSKNR/L2020K12		○	○	20	20	125	20	25	25	SNGN1204**	SNGN1207**
CSKNR/L2525M12		○	○	25	25	170	25	32	25	SNGN1204**	SNGN1207**
CSKNR/L3225P12		○	○	32	25	170	32	32	25	SNGN1204**	SNGN1207**
CSKNR/L3225P15		○	○	32	25	170	32	32	30	SNGN1507**	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**SNGN1204****	**SNGN1207****	**SNGN1507****
	h	**20-32**	**20-32**	**32**
	Staffa	C1RC	C1RC	C2RC
	Vite (staffa)	CM6×30B (7,0 Nm)	CM6×30B (7,0 Nm)	CM8×30B (10,2 Nm)
	Vite (sottoplac-chetta)	SM3×10B	SM3×10B	SM4×12B
	Sottoplacchetta	S12CC-04	S12CC-07	S15CC-07
	Molla	SPR1	SPR1	SPR3
	Chiave (staffa)	WH40L	WH40L	WH50L
	Chiave (sotto-placchetta)	WH20L	WH20L	WH30L

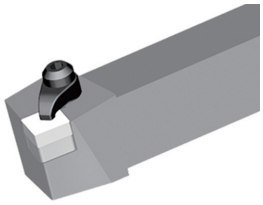
Inserto

Lavor.- ghisa grigia	**PCBN/PCD**
A108	A207

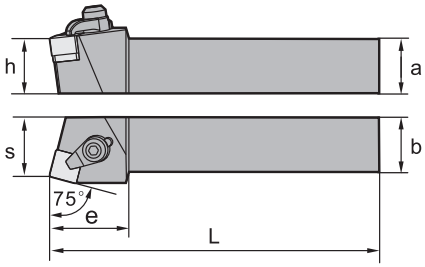
Codice sistema A260 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

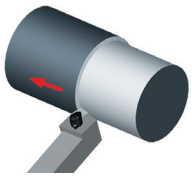
SN** Portautensile (esterno) C-Bloccaggio

CSRNR/L Kr: 75°



Versione destra





Articolo	✻	Stock		Dimensioni [mm]						Inserto	
		R	L	a	b	L	h	s	e		
CSRNR/L2020K12		○	○	20	20	125	20	22	32	SNGN1204**	SNGN1207**
CSRNR/L2525M12		○	○	25	20	100	25	27	32	SNGN1204**	SNGN1207**
CSRNR/L3225P12		○	○	32	25	170	32	27	32	SNGN1204**	SNGN1207**
CSRNR/L3225P15		○		32	25	170	32	32	40	SNGN1507**	
CSRNR/L4040R15		○	○	40	40	200	40	43	40	SNGN1507**	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**SNGN1204****	**SNGN1207****	**SNGN1507****
	h	**20-32**	**20-32**	**32-40**
	Staffa	C1RC	C1RC	C2RC
	Vite (staffa)	CM6×30B (7,0 Nm)	CM6×30B (7,0 Nm)	CM8×30B (10,2 Nm)
	Vite (sottoplac-chetta)	SM3×10B	SM3×10B	SM4×12B
	Sottoplacchetta	S12CC-04	S12CC-07	S15CC-07
	Molla	SPR1	SPR1	SPR3
	Chiave (staffa)	WH40L	WH40L	WH50L
	Chiave (sotto-placchetta)	WH20L	WH20L	WH30L

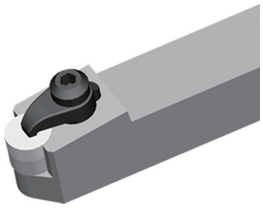
Inserto

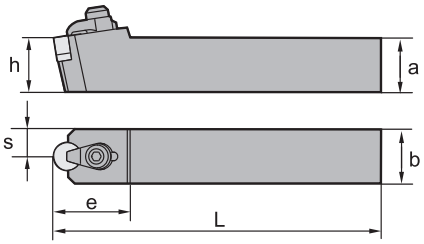
Lavor.- ghisa grigia	**PCBN/PCD**
A108	A207

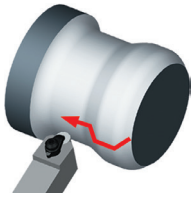
Codice sistema A260 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

RN** Portautensile (esterno) C-Bloccaggio

CRDNN







Articolo	✻	Stock	Dimensioni [mm]						Inserto	
			a	b	L	h	s	e		
CRDNN2020K12		○	20	20	125	20	10	32	RNGN1204**	RNGN1207**
CRDNN2525M12		○	25	25	150	25	12,5	32	RNGN1204**	RNGN1207**
CRDNN3225P12		○	32	25	170	32	12,5	32	RNGN1204**	RNGN1207**
CRDNN3232P15		○	32	32	170	32	17,5	40	RNGN1507**	
CRDNN4040R15		○	40	40	200	40	20	40	RNGN1507**	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**RNGN1204****	**RNGN1207****	**RNGN1507****
	h	**20-32**	**20-32**	**32-40**
	Staffa	C1RC	C1RC	C2RC
	Vite (staffa)	CM6×30B (7,0 Nm)	CM6×30B (7,0 Nm)	CM8×30B (10,2 Nm)
	Vite (sottoplac-chetta)	SM3×10B	SM3×10B	SM4×12B
	Sottoplacchetta	R12CC-04	R12CC-07	R15CC-07
	Molla	SPR1	SPR1	SPR3
	Chiave (staffa)	WH40L	WH40L	WH50L
	Chiave (sotto-placchetta)	WH20L	WH20L	WH30L

Inserto

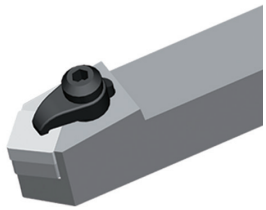
PCBN/PCD

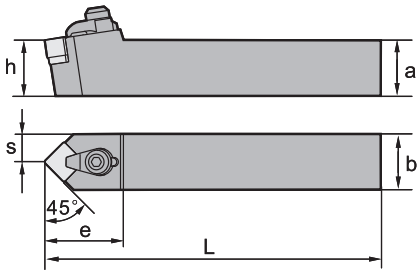
A206

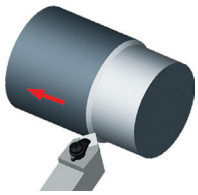
Codice sistema A260 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

SN** Portautensile (esterno) C-Bloccaggio

CSDNN Kr: 45°







Articolo	✻	Stock	Dimensioni [mm]						Inserto	
			a	b	L	h	s	e		
CSDNN2020K12		○	20	20	125	20	10	35	SNGN1204**	SNGN1207**
CSDNN2525M12		●	25	25	150	25	12,5	30	SNGN1204**	SNGN1207**
CSDNN3225P12		○	32	25	170	32	12,5	35	SNGN1204**	SNGN1207**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**SNGN1204****	**SNGN1207****
	h	**20-32**	**20-32**
	Staffa	C1RC	C1RC
	Vite (staffa)	CM6×30B (7,0 Nm)	CM6×30B (7,0 Nm)
	Vite (sottoplac-chetta)	SM3×10B	SM3×10B
	Sottoplacchetta	S12CC-04	S12CC-07
	Molla	SPR1	SPR1
	Chiave (staffa)	WH40L	WH40L
	Chiave (sotto-placchetta)	WH20L	WH20L

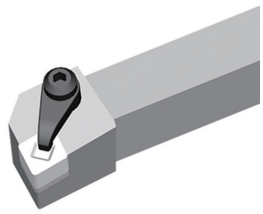
Inserto

Lavor.- ghisa grigia	**PCBN/PCD**
A108	A207

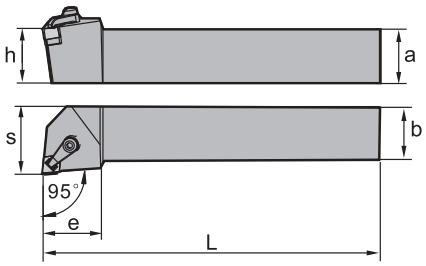
Codice sistema A260 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

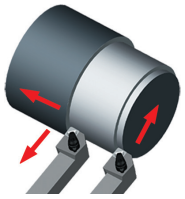
CN** Portautensile (esterno) J-Bloccaggio

JCLNR/L Kr: 95°



Versione destra





Articolo	✻	Stock R	Stock L	Dimensioni [mm] a	b	L	h	s	e	Inserto
JCLNR/L2020K12			○	20	20	125	20	29	32	CNGX1207**
JCLNR/L2525M12		○		25	25	150	25	32	32	CNGX1207**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	CNGX1207**
	h	20-25
	Staffa	C1RJ
	Vite (staffa)	CM6×30B (7,0 Nm)
	Vite (sottoplacchetta)	SM3×10B
	Sottoplacchetta	C12CC-07
	Molla	SPR1
	Chiave (staffa)	WH40L
	Chiave (sottoplacchetta)	WH20L

Inserto

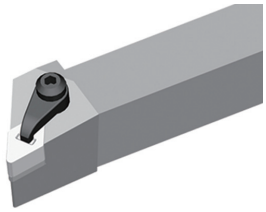
Media Lavor.

A234

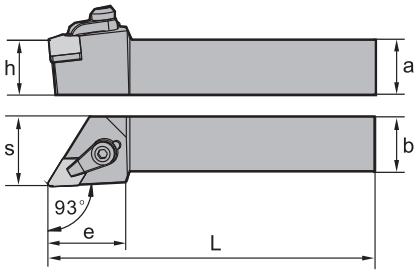
Codice sistema A260 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

DN** Portautensile (esterno) J-Bloccaggio

JDJNR/L Kr: 93°



Versione destra



Articolo	✻	Stock		Dimensioni [mm]						Inserto
		R	L	a	b	L	h	s	e	
JDJNR/L2525M15		●	○	25	25	150	25	32	38	DNGX1507**
JDJNR/L3225P15		○	○	32	25	170	32	32	38	DNGX1507**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**DNGX1507****
	h	**25-32**
	Staffa	C1RJ
	Vite (staffa)	CM6×30B (7,0 Nm)
	Vite (sottoplacchetta)	SM3×10B
	Sottoplacchetta	D15CC-07
	Molla	SPR1
	Chiave (staffa)	WH40L
	Chiave (sottoplacchetta)	WH20L

Inserto

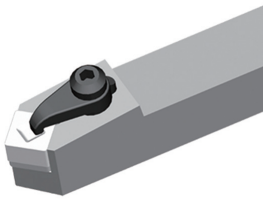
Media Lavor.

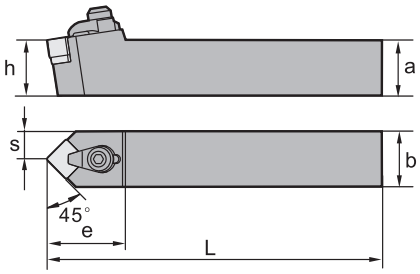
A238

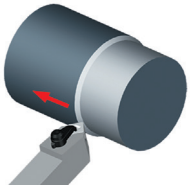
Codice sistema A260 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

SN** Portautensile (esterno) J-Bloccaggio

JSDNN Kr: 45°







Articolo	✻	Stock	Dimensioni [mm]						Inserto
			a	b	L	h	s	e	
JSDNN2525M12		○	25	25	150	25	12,5	40	SNGX1207**
JSDNN3225P12		○	32	25	170	32	12,5	40	SNGX1207**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**SNGX1207****
	h	**20-32**
	Staffa	C1RJ
	Vite (staffa)	CM6×30B (7,0 Nm)
	Vite (sottoplacchetta)	SM3×10B
	Sottoplacchetta	S12CC-07
	Molla	SPR1
	Chiave (staffa)	WH40L
	Chiave (sottoplacchetta)	WH20L

Inserto

Media Lavor.

A245

Codice sistema A260 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

Note

S	C	L	N	L	25	25	M	12	–	S	C
1	2	3	4	5	6	7	8	9		10	11

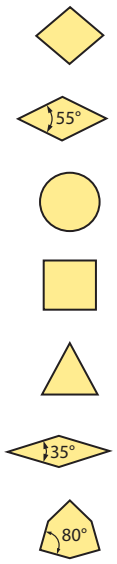
Sistema di bloccaggio

Code	Descrizione
S	Bloccaggio a vite

1

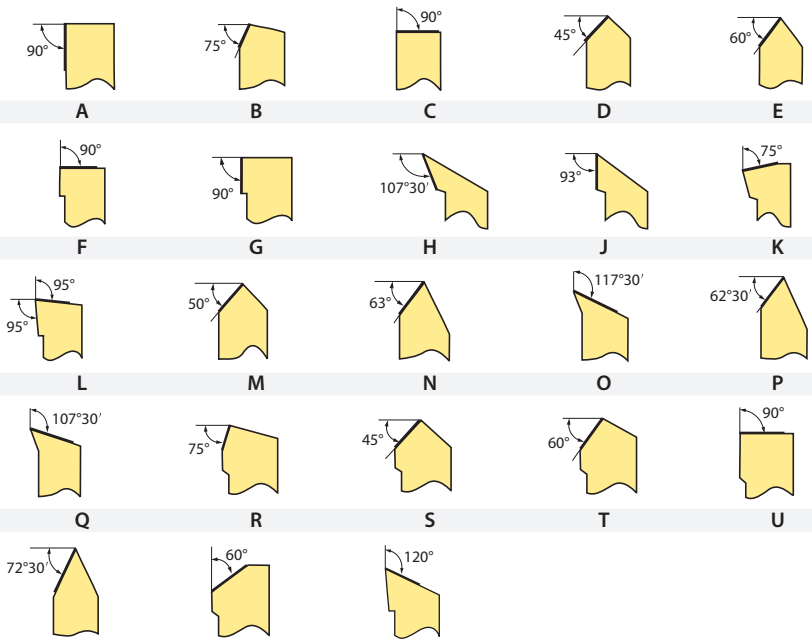
Forma dell'inserto

C
D 55°
R
S
T
V 35°
W 80°



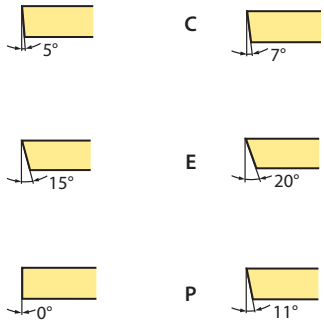
2

Forma portautensile e angolo di regolazione



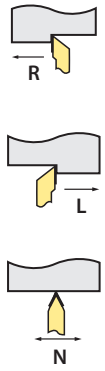
3

Angolo di spoglia inferiore



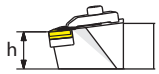
4

Direzione di taglio



5

Altezza stelo h [mm]



Code	h
12	12
16	16
20	20
25	25
32	32
40	40
50	50

6

Larghezza stelo b [mm]

Code	b
12	12
16	16
20	20
25	25
32	32
40	40
50	50

7

Lungh. portautensile L [mm]

Code	L
H	100
K	125
M	150
P	170
Q	180
R	200
S	250
T	300

8

Lunghezza tagliente [mm]

I.C [mm]	Forma dell'inserto						
	C	D	R	S	T	V	W
5,56					**09**		
6,35	**06**	**07**			**11**		
9,525	**09**	**11**	**09**	**09**	**16**	**16**	**06**
12,7	**12**	**15**	**12**	**12**	**22**	**22**	**08**
15,875	**16**	**19**	**15**	**15**	**27**		
19,05	**19**		**19**	**19**	**33**		
25,4	**25**		**25**	**25**	**44**		
32			**32**				

9

Portautensile per tornitura di minuteria (Swissturning)

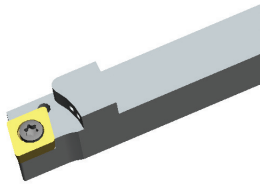
10

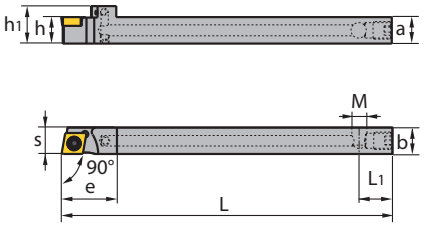
Con raffreddamento interno

11

CC** Portautensile S-Bloccaggio

SCACR/L-SC Kr: 90°





Articolo	✻	Stock R	Stock L	a	b	L	h	h_1	s	L_1	e	M	kg	Inserto
SCACR/L1212M09-SC	✻	●		12	12	150	12	17	12	15	25	M8X1	0,14	CC**09T3**
SCACR/L1616H09-SC	✻	●	●	16	16	100	16	21	16	15	28	M8X1	0,21	CC**09T3**
SCACR/L2020K12-SC	✻	●	○	20	20	125	20	25	20	15	25	M8X1	0,36	CC**1204**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	CC**09T3**	CC**1204**
	h	12-16	20
	Vite	I60M3,5×8 (2,7 Nm)	
	Vite		I60M4×11X (3,4 Nm)
	Vite (sottoplacchetta)		SM6×10XA (7,0 Nm)
	Sottoplacchetta		C12BS
	Chiave (vite)	WT15IP	WT15IP
	Chiave (sottoplacchetta)		WH40L

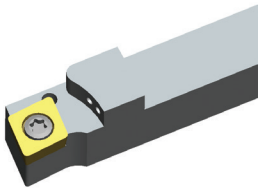
Inserto

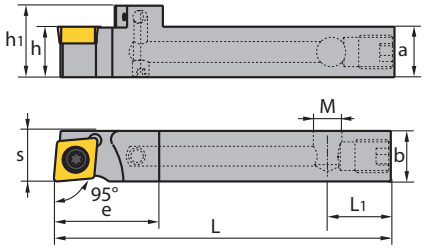
Finitura	Media Lavor.	Sgrossatura	Lavorazione Al.	Lavor.- ghisa grigia	PCBN/PCD
A143	A146	A148	A149	A148	A213

Codice sistema A348 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

CC** Portautensile S-Bloccaggio

SCLCR/L-SC Kr: 95°





Articolo	✻	Stock R	Stock L	a	b	L	h	h_1	s	L_1	e	M	kg	Inserto
SCLCR/L1010F06-S		●	●	10	10	80	10	15	10	15	10	M8X1	0,06	CC**0602**
SCLCR/L1212F09-SC	✻	●	●	12	12	80	12	17	12	15	25	M8X1	0,07	CC**09T3**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**CC**0602****	**CC**09T3****
	h	**10**	**12**
	Vite	I60M2,5×6,5 (1,0 Nm)	I60M3,5×8 (2,7 Nm)
	Chiave	WT07IP	WT15IP

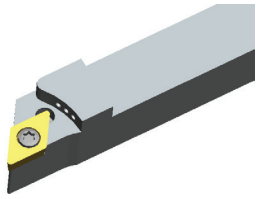
Inserto

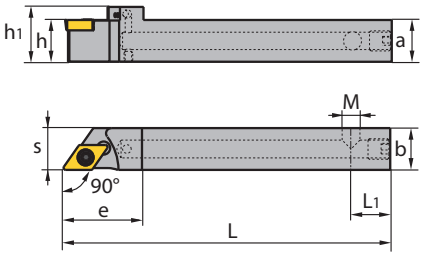
Finitura	**Media Lavor.**	**Sgrossatura**	**Lavorazione Al.**	**Lavor.- ghisa grigia**	**PCBN/PCD**
A142	A146	A148	A149	A148	A213

Codice sistema A348 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

DC** Portautensile S-Bloccaggio

SDACR/L-SC Kr: 90°





Articolo	✻	Stock R	Stock L	a	b	L	h	h_1	s	L_1	e	M	kg	Inserto
SDACR/L1212M07-SC	✻	●	●	12	12	150	12	17	12	15	25	M8X1	0,15	DC**0702**
SDACR/L1212H11-SC	✻	●		12	12	100	12	17	12	15	30	M8X1	0,1	DC**11T3**
SDACR/L1616K11-SC	✻	●	●	16	16	125	16	21	16	15	30	M8X1	0,21	DC**11T3**
SDACR/L1212M11-SC	✻	●		12	12	150	12	17	12	15	30	M8X1	0,14	DC**11T3**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	DC**0702**	DC**11T3**	DC**11T3**
	h	12	12	12-16
	Vite	I60M2,5×6,5 (1,0 Nm)	I60M3,5×8 (2,7 Nm)	I60M3,5×8 (2,7 Nm)
	Chiave	WT07IP	WT15IP	WT15IP

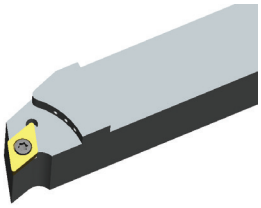
Inserto

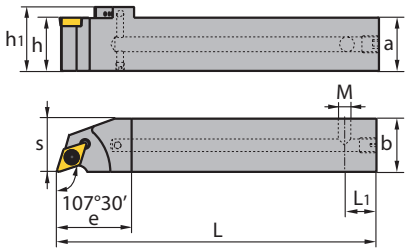
Finitura	Media Lavor.	Sgrossatura	Lavorazione Al.	Lavor.- ghisa grigia	PCBN/PCD
A155	A156	A158	A158	A158	A217

Codice sistema A348 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

DC** Portautensile S-Bloccaggio

SDHCR/L-SC Kr: 107°30'





Articolo	✻	Stock		Dimensioni [mm]									Inserto
		R	L	a	b	L	h	h_1	s	L_1	e	M	
SDHCR/L2020K11-SC	✻	●	●	20	20	125	20	25	20	15	30	M8X1	DC**11T3**
SDHCR/L2525M11-SC	✻	●	●	25	25	150	25	30	25	15	35	M8X1	DC**11T3**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**DC**11T3****
	h	**20-25**
	Vite	I60M3,5×8 (2,7 Nm)
	Chiave (vite)	WT15IP

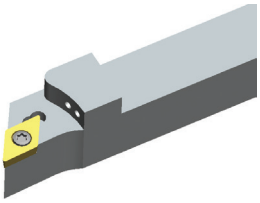
Inserto

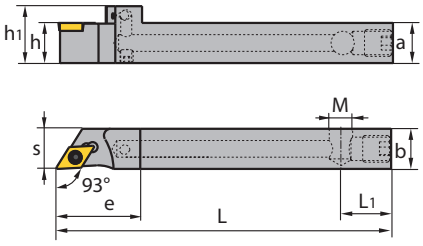
Finitura	**Media Lavor.**	**Sgrossatura**	**Lavorazione Al.**	**Lavor.- ghisa grigia**	**PCBN/PCD**
A155	A156	A158	A158	A158	A217

Codice sistema A348 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

DC** Portautensile S-Bloccaggio

SDJCR/L-SC Kr: 93°





Articolo	✻	Stock R	Stock L	a	b	L	h	h_1	s	L_1	e	M	kg	Inserto
SDJCR/L1212H07-SC	✻	●	●	12	12	100	12	17	12	15	25	M8X1	0,1	DC**0702**
SDJCR/L1212H11-SC	✻	●	●	12	12	100	12	17	12	15	30	M8X1	0,1	DC**11T3**
SDJCR/L1616K11-SC	✻	●	●	16	16	125	16	21	16	15	30	M8X1	0,21	DC**11T3**
SDJCR/L2020K11-SC	✻	●		20	20	125	20	25	20	15	30	M8X1	0,36	DC**11T3**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	DC**0702**	DC**11T3**
	h	12	12-20
	Vite	I60M2,5×6,5 (1,0 Nm)	I60M3,5×8 (2,7 Nm)
	Chiave (vite)	WT07IP	WT15IP

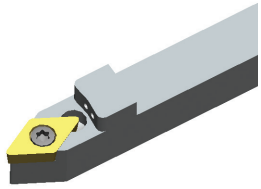
Inserto

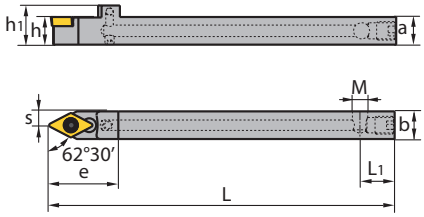
Finitura	Media Lavor.	Sgrossatura	Lavorazione Al.	Lavor.- ghisa grigia	PCBN/PCD
A155	A156	A158	A158	A158	A217

Codice sistema A348 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

DC** Portautensile S-Bloccaggio

SDNCN-SC Kr: 62°30'





Articolo	✻	Stock	Dimensioni [mm]									kg	Inserto
			a	b	L	h	h_1	s	L_1	e	M		
SDNCN1212H11-SC	✻	●	12	12	100	12	17	6	15	30	M8X1	0,09	DC**11T3**
SDNCN1212M11-SC	✻	●	12	12	150	12	17	6	15	30	M8X1	0,1	DC**11T3**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**DC**11T3****
	h	**12**
	Vite	I60M3,5×8 (2,7 Nm)
	Chiave	WT15IP

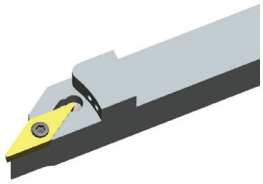
Inserto

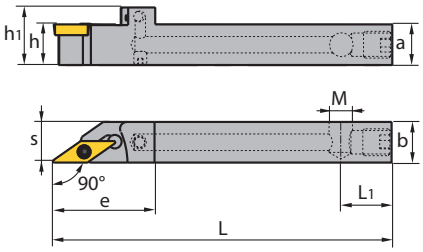
Finitura	Media Lavor.	Sgrossatura	Lavorazione Al.	Lavor.- ghisa grigia	PCBN/PCD
A155	A156	A158	A158	A158	A217

Codice sistema A348 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

VC** Portautensile S-Bloccaggio

SVACR/L-SC Kr: 90°





Articolo	✻	Stock		Dimensioni [mm]									kg	Inserto
		R	L	a	b	L	h	h_1	s	L_1	e	M		
SVACR/L1212H11-SC	✻	●	●	12	12	100	12	17	12	15	30	M8X1	0,1	VC**1103**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**VC**1103****
	h	**12**
	Vite	I60M2,5×6,5 (1,0 Nm)
	Chiave	WT07IP

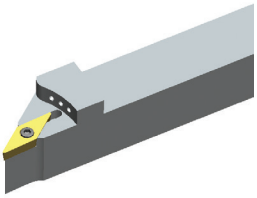
Inserto

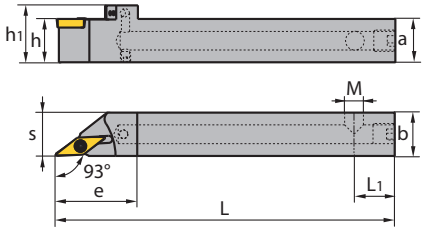
Finitura	**Lavorazione Al.**	**PCBN/PCD**
A186	A184	A226

Codice sistema A348 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

VB** Portautensile (esterno) S-Bloccaggio

SVJBR/L-SC Kr: 93°





Articolo	✻	Stock	Dimensioni [mm]									Inserto
			a	b	L	h	h_1	s	L_1	e	M	
SVJBR/L2020G11-SC	✻	○	20	20	90	20	25	20	15	32	M8X1	VB**1103**
SVJBR/L2020K11-SC	✻	○	20	20	125	20	25	20	15	32	M8X1	VB**1103**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**VB**1103****
	h	**10-32**
	Vite	I60M2,5×6,5 (1,0 Nm)
	Chiave (vite)	WT07IP

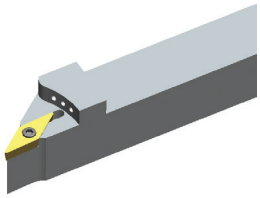
Inserto

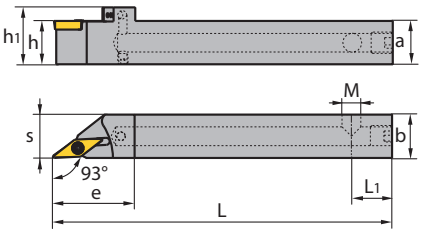
Finitura	**Media Lavor.**	**PCBN/PCD**
A177	A180	A224

Codice sistema A348 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

VC** Portautensile S-Bloccaggio

SVJCR/L-SC Kr: 93°





Articolo	✻	Stock R	Stock L	a	b	L	h	h_1	s	L_1	e	M	kg	Inserto
SVJCR/L0808H11-S		●	●	8	8	100	8	13	8	15	22	M8X1	0,044	VC**1103**
SVJCR/L1212H11-SC	✻	●	●	12	12	100	12	17	12	15	30	M8X1	0,095	VC**1103**
SVJCR/L1616K11-SC	✻	●	●	16	16	125	16	21	16	15	30	M8X1	0,2	VC**1103**
SVJCR/L3225P16-S		●		32	25	170	32	37	25	15	41	M8X1	0,97	VC**1604**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**VC**1103****	**VC**1604****
	h	**8-16**	**16-32**
	Vite	I60M2,5×6,5 (1,0 Nm)	I60M3,5×12 (2,7 Nm)
	Vite (sottoplacchetta)		SM5×8,65XA (4,0 Nm)
	Sottoplacchetta		V16BSC
	Chiave (vite)	WT07IP	WT15IP
	Chiave (sottoplacchetta)		WH35L

Inserto

Finitura	**Media Lavor.**	**Lavorazione Al.**	**PCBN/PCD**
A186	A187	A184	A226

Codice sistema A348 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

Note

Tornitura generale

Codice sistema – portautensili – tecnologia ferroviaria

RW	P	L	F	N	L/R	19
1	2	3	4	5	6	7

1

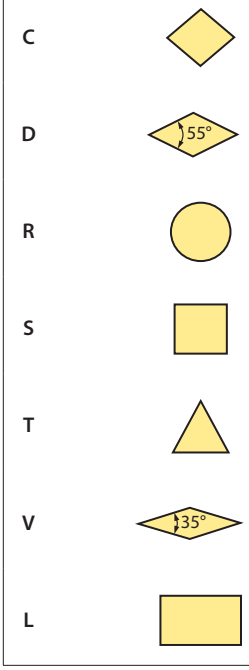
(RW = Rail Way)

Supporto per la tecnologia ferroviaria

2 — Sistema di bloccaggio

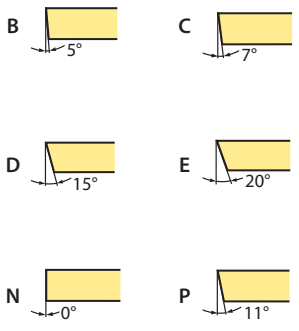
Code	Descrizione
P	Bloccaggio a leva
M	Sistema di bloccaggio a staffa / perno
S	Bloccaggio a vite
C/J	Bloccaggio a staffa
D	Doppio bloccaggio

3 — Forma dell'inserto

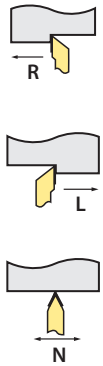


4 — Forma portautensile e angolo di regolazione

5 — Angolo di spoglia inferiore



Direzione di taglio



6

Lunghezza tagliente [mm]

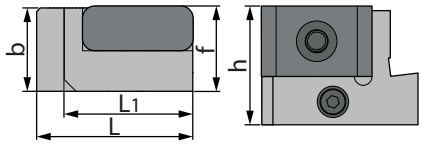
I.C [mm]	Forma dell'inserto						
	C	D	R	S	T	V	W
5,56					**09**		
6,35	**06**	**07**			**11**		
9,525	**09**	**11**	**09**	**09**	**16**	**16**	**06**
12,7	**12**	**15**	**12**	**12**	**22**	**22**	**08**
15,875	**16**	**19**	**15**	**15**	**27**		
19,05	**19**		**19**	**19**	**33**		
25,4	**25**		**25**	**25**	**44**		
32			**32**				

7

LN** Portautensile (esterno) P-Bloccaggio

RW-PLANR/L Kr: 90°

Versione destra



Articolo	✻	Stock		Dimensioni [mm]					Inserto
		R	L	b	L	h	L_1	f	
RW-PLANR/L-19	✻	○	○	22,5	43	32	35	23	LNUX1919**
RW-PLANR/L-30	✻	○	○	22,5	43	32	35	23	LNUX3019**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**LNUX1919****	**LNUX3019****
	h	**25-32**	**25-32**
	Leva di fissag-gio	L5 RWL	L5 RWL
	Vite	LEM8×25 RWL (10,2 Nm)	LEM8×25 RWL (10,2 Nm)
	Chiave	WH30L	WH30L

Inserto

Alta asp.

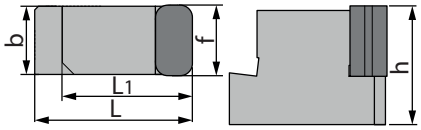
A139

Codice sistema A360 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

LN** Portautensile (esterno) P-Bloccaggio

RW-PLFNR/L Kr: 90°

Versione destra



Articolo	✻	Stock		Dimensioni [mm]					Inserto
		R	L	b	L	h	L_1	f	
RW-PLFNR/L-19	✻	○	○	18,6	43	32	35	19,1	LNUX1919**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**LNUX1919****
	h	**25-32**
	Leva di fissaggio	L5 RWL
	Vite	LEM8×25 RWL (10,2 Nm)
	Chiave	WH30L

Inserto

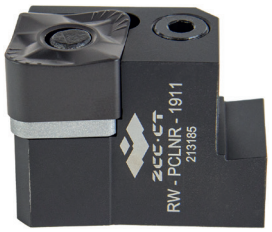
Alta asp.

A139

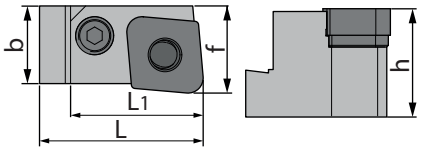
Codice sistema A360 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

CN** Portautensile (esterno) P-Bloccaggio

RW-PCLNR/L Kr: 95°



Versione destra



Articolo	✻	Stock R	Stock L	Dimensioni [mm] b	L	h	L_1	f	Inserto
RW-PCLNR/L-1907	✻	○	○	24,8	43	32	35	19,1	CNMM1907**
RW-PCLNR/L-1911	✻	○	○	24,8	43	32	35	19,1	CNMM1911**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**CNMM1907****	**CNMM1911****
	h	**25-32**	**25-32**
	Leva di fissaggio	L5 RWC	L5 RWC
	Vite	LEM8×25 RWC (10,2 Nm)	LEM8×25 RWC (10,2 Nm)
	Perno dist (sottoplacchetta)	SP5 RWC	SP5 RWC
	Sottoplacchetta	C19 RWC	C19 RWC
	Chiave	WH30L	WH30L

Inserto

Finitura	**Sgrossatura**
A138	A138

Codice sistema A360 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

Note

Barre alesatrici

	Portautensile	Applicazione					Pezzo		Pagina
		Lavorazione longitudinale	Lavorazione planare	Lavorazione sottosquadra	Lavorazione di contorni	Lavorazione di profili	Stabile	Instabile	
P	PDSNR/L 62°30'	●		●	●	●	●		A372
P	PCLNR/L 95°	●	●				●	●	A370
P	PDUNR/L 93°	●			●	●	●	●	A373
P	PSKNR/L 75°	●					●		A375
P	PTFNR/L 91°	●					●		A376
P	PWLNR/L 95°	●	●				●		A378
S	SCFCR/L 90°	●					●	●	A398
S	SCLCR/L 95°	●	●				●		A379
S	SCLPR/L 95°	●	●				●	●	A394
S	SDQCR/L 107°30'	●			●	●	●	●	A381
S	SDQPR/L 107°30'	●			●	●	●	●	A395
S	SDUCR/L 93°	●			●	●	●	●	A382
S	SDUPR/L 93°	●			●		●	●	A396
S	SDZCR/L 95°			●			●		A383

● Raccomandato

Barre alesatrici

Portautensile		Applicazione					Pezzo		Pagina
		Tornitura longitudinale	Lavorazione planare	Lavorazione sottosquadra	Lavorazione di contorni	Lavorazione di profili	Stabile	Instabile	
S	SSKCR/L 75°	●					●		A384
S	STFCR/L 91°	●							A386
S	STUPR/L 93°	●							A397
S	SVQBR/L 107°30'	●			●	●			A391
S	SVXBR/L 93°			●			●		A393
S	SVQCR/L 107°30'	●							A389
S	SVUBR/L 93°	●			●	●			A392
S	SVUCR/L 93°	●			●	●			A390
S	SZLNR/L 95°	●	●				●		A411
Antivibrazione	SCLPR/L 95°	●	●						A400
Antivibrazione	SDQPR/L 107°30'	●			●	●			A402
Antivibrazione	SDUPR/L 93°	●							A404
Antivibrazione	STUPR/L 93°	●							A406
Antivibrazione	SVQCR/L 107°30'	●			●	●			A409
Antivibrazione	SVUCR/L 93°	●			●	●			A410

● Raccomandato

Tornitura generale

Codice ISO – barre alesatrici

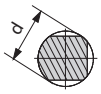
S	16	R	–	S	D	U	C	R	07	–	KR93
1	2	3		4	5	6	7	8	9		10

Versione del codolo

Code	Descrizione
A	Stelo di acciaio (foro per refrigerante)
C	Stelo in metallo duro integrale
E	Stelo in metallo duro integrale (foro per refrigerante)
S	Stelo in acciaio
X	Applicazione speciale

1

Diametro stelo d [mm]



Code	d
16	16
20	20
25	25
32	32
40	40
50	50

2

Lunghezza L [mm]

Code	L
H	100
K	125
M	150
N	160
P	170
Q	180
R	200
S	250
T	300
U	350
V	400
W	450

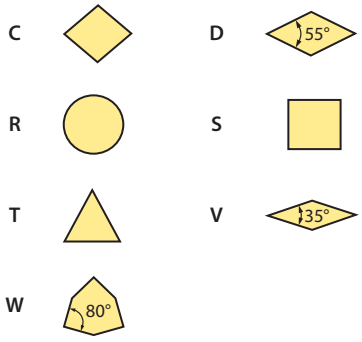
3

Sistema di bloccaggio

Code	Descrizione	
P	Bloccaggio a leva	
S	Bloccaggio a vite	

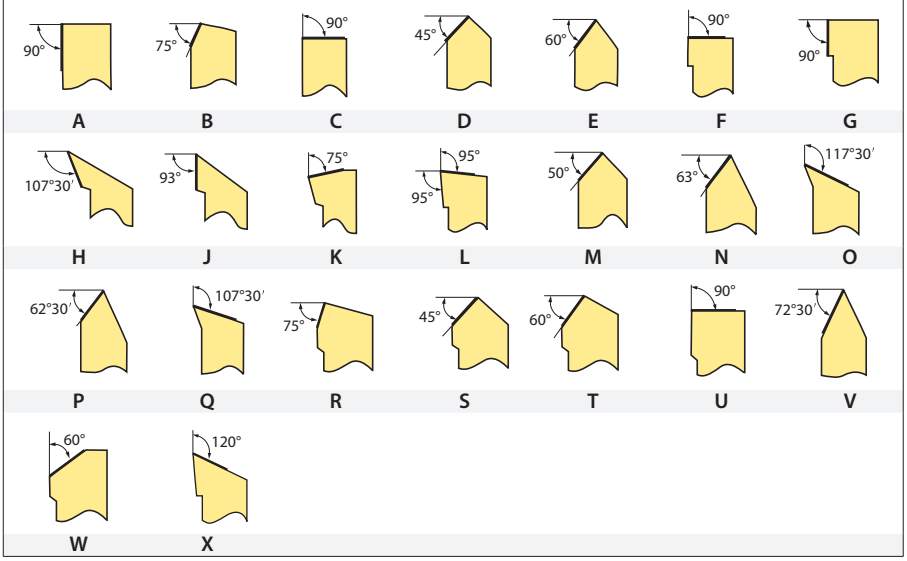
4

Forma dell'inserto



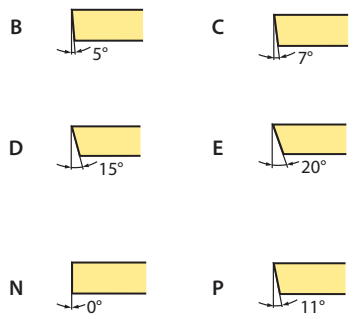
5

Forma portautensile e angolo di regolazione



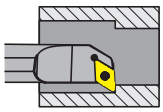
6

Angolo di spoglia inferiore

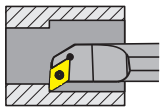


7

Direzione di taglio



L



R

8

Lunghezza tagliente [mm]

I.C [mm]	Forma dell'inserto						
	C	D	R	S	T	V	W
5,56					09		
6,35	06	07			11		
9,525	09	11	09	09	16	16	06
12,7	12	15	12	12	22	22	08
15,875	16	19	15	15	27		
19,05	19		19	19	33		
25,4	25		25	25	44		
32			32				

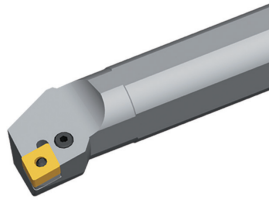
9

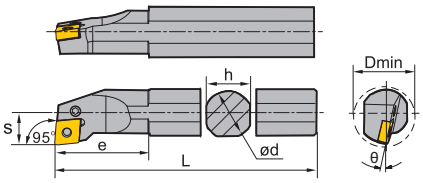
Angolo di regolazione

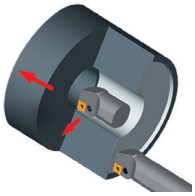
10

CN** Barre alesatrici in acciaio P-Bloccaggio

PCLNR/L Kr: 95°







Versione destra

Articolo	✻	Stock R	Stock L	Dimensioni [mm] ød	L	h	S	e	D_{min}	θ	Inserto
S16M-PCLNR/L09		●	●	16	150	15	11	28	20	-12	CN**0903**
S16R-PCLNR/L09		●	●	16	200	15	11	28	20	-12	CN**0903**
S20Q-PCLNR/L09		●	●	20	180	18	13	31	25	-11	CN**0903**
S20S-PCLNR/L09		●	●	20	250	18	13	31	25	-11	CN**0903**
S25Q-PCLNR/L09		○	○	25	180	23	17	35	32	-10	CN**0903**
S25T-PCLNR/L09		●	○	25	300	23	17	35	32	-10	CN**0903**
A16M-PCLNR/L09	✻	○		16	150	14	11		20	-12	CN**0903**
S25Q-PCLNR/L12		○	○	25	180	23	17	40	32	-12	CN**1204**
S25T-PCLNR/L12		●	●	25	300	23	17	40	32	-12	CN**1204**
S32R-PCLNR/L12		●	●	32	200	30	22	50	44	-10	CN**1204**
S32U-PCLNR/L12		●	●	32	350	30	22	50	44	-10	CN**1204**
S40S-PCLNR/L12		○	●	40	250	37	27	55	54	-10	CN**1204**
S40V-PCLNR/L12		●	●	40	400	37	27	55	54	-10	CN**1204**
S50S-PCLNR/L12		○	○	50	250	47	35	56	63	-10	CN**1204**
S50W-PCLNR/L12		●	●	50	450	47	35	56	63	-10	CN**1204**
A25R-PCLNR/L12	✻	●	●	25	200	24	17	40	32	-12	CN**1204**
A32U-PCLNR/L12	✻	○	○	32	350	30	22	50	44	-10	CN**1204**
A32S-PCLNR/L12	✻	●	●	32	250	31	22	50	44	-10	CN**1204**
A40V-PCLNR/L12	✻	○	○	40	400	37	27	55	54	-10	CN**1204**
A50W-PCLNR/L12	✻	●	○	50	450	47	35	56	63	-10	CN**1204**
S50S-PCLNR/L19		○	○	50	250	47	35	63	63	-10	CN**1906**
S50W-PCLNR/L19		●	○	50	450	47	35	63	63	-10	CN**1906**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Codice sistema A368 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

CN** Barre alesatrici in acciaio

Parti di ricambio

	Inserto	CN**0903**	CN**1204**	CN**1204**	CN**1906**
	ød	**16-25**	**25**	**32-50**	**50**
	Leva di fissag-gio	L3C	L4A	L4A	L6
	Vite	LEM5×9B (4,0 Nm)			
	Vite			LEM8×21 (10,2 Nm)	LEM10×27 (16,6 Nm)
	Vite		LEM6×13,4A (7,0 Nm)		
	Perno dist (sot-toplacchetta)			SP4	SP6
	Sottoplacchetta				C19AP
	Sottoplacchetta			C12APB	
	Chiave		WH25L	WH25L	WH40L
	Chiave	WT09IP			

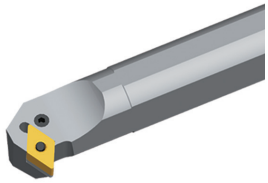
Inserto

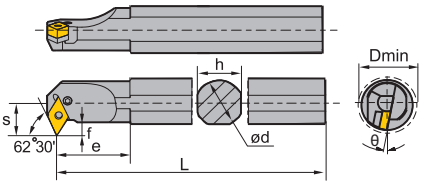
Raschiante	**Finitura**	**Media Lavor.**	**Sgrossatura**	**Lavorazione Al.**	**Lavor.- ghisa grigia**	**PCBN/PCD**
A55	A57	A59	A65	A74	A73	A210

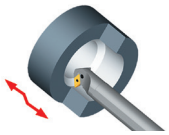
Codice sistema A368 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

DN** Barre alesatrici in acciaio P-Bloccaggio

PDSNR/L Kr: 62°30'







Versione destra

Articolo	✻	Stock R	Stock L	Dimensioni [mm] ød	L	h	s	e	f	D_{min}	θ	Inserto
S32R-PDSNR/L15-3		○	○	32	200	30	22	45	8,5	40	-11	DN**1504**
S40V-PDSNR/L15-3		●		40	400	37	27	43	9,4	50	-11	DN**1504**
A32S-PDSNR/L15-3	✻	○	○	32	250	31	22	45	8,5	40	-11	DN**1504**
S32R-PDSNR/L15		●	●	32	200	30	22	45	8,5	40	-11	DN**1506**
S32U-PDSNR/L15		●	●	32	350	30	22	45	8,5	40	-11	DN**1506**
S40S-PDSNR/L15		○	○	40	250	37	27	43	9,4	50	-11	DN**1506**
S40V-PDSNR/L15		○	○	40	400	37	27	43	9,4	50	-11	DN**1506**
A25S-PDSNR/L15	✻	○		25	250	23	22	45	10,5	32	-11	DN**1506**
A32S-PDSNR/L15	✻		●	32	250	31	22	45	8,5	40	-11	DN**1506**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	DN**1504**	DN**1506**	DN**1506**
	ød	32-40	25-50	32-50
	Leva di fissaggio	L4	L4B	L4B
	Vite	LEM8×21 (10,2 Nm)	LEM8×21 (10,2 Nm)	LEM8×21 (10,2 Nm)
	Perno dist (sottoplacchetta)	SP4	SP4	SP4
	Sottoplacchetta	D15AP	D15AP	D15AP
	Chiave	WH30L	WH30L	WH30L

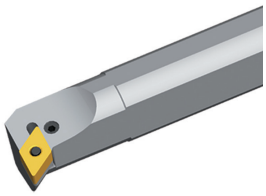
Inserto

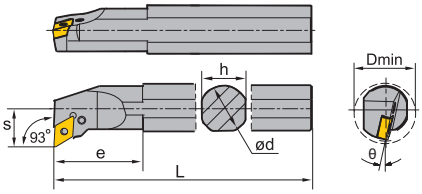
Raschiante	Finitura	Media Lavor.	Sgrossatura	Lavor.- ghisa grigia	PCBN/PCD
A75	A77	A77	A87	A88	A211

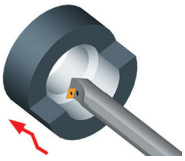
Codice sistema A368 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

DN** Barre alesatrici in acciaio P-Bloccaggio

PDUNR/L Kr: 93°







Versione destra

Articolo	✻	Stock R	Stock L	Dimensioni [mm] ød	L	h	s	e	D_{min}	θ	Inserto
S20Q-PDUNR/L11		●	○	20	180	18	13	30	25	-16	DN**1104**
S20S-PDUNR/L11		●	●	20	250	18	13	30	25	-16	DN**1104**
S25Q-PDUNR/L11		●	●	25	180	23	17	35	32	-13	DN**1104**
S25T-PDUNR/L11		●	●	25	300	23	17	35	32	-13	DN**1104**
S32R-PDUNR/L11		○	○	32	200	30	22	40	40	-16	DN**1104**
S32U-PDUNR/L11		●	●	32	350	30	22	40	40	-16	DN**1104**
A25R-PDUNR/L11	✻	●		25	200	24	17	35	32	-13	DN**1104**
S32R-PDUNR/L15-3		○	○	32	200	30	22	50	40	-16	DN**1504**
S32U-PDUNR/L15-3		●	●	32	350	30	22	50	40	-16	DN**1504**
S40S-PDUNR/L15-3		○	○	40	250	37	27	50	50	-11	DN**1504**
S40V-PDUNR/L15-3		●	●	40	400	37	27	50	50	-11	DN**1504**
A32S-PDUNR/L15-3	✻	●	●	32	250	31	22	50	40	-16	DN**1504**
S32R-PDUNR/L15		○	○	32	200	30	22	50	40	-16	DN**1506**
S32U-PDUNR/L15		●	●	32	350	30	22	50	40	-16	DN**1506**
S40S-PDUNR/L15		○	○	40	250	37	27	50	50	-11	DN**1506**
S40V-PDUNR/L15		●	●	40	400	37	27	50	50	-11	DN**1506**
S50V-PDUNR/L15		○	○	50	400	47	32	50	60	-11	DN**1506**
A32U-PDUNR/L15	✻	○	○	32	350	30	22	50	40	-16	DN**1506**
A32S-PDUNR/L15	✻	●	●	32	250	31	22	50	40	-16	DN**1506**
A40V-PDUNR/L15	✻	○	○	40	400	37	27	50	50	-11	DN**1506**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Codice sistema A368 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

DN** Barre alesatrici in acciaio

Parti di ricambio

	Inserto	DN**1104**	DN**1104**	DN**1504**	DN**1506**	DN**1506**
	ød	20-25	32	32-40	32-40	32-50
	Leva di fissag-gio	L3D	L3	L4	L4B	L4B
	Vite	LEM5×12B (4,0 Nm)	LEM6×17 (7,0 Nm)			
	Vite			LEM8×21 (10,2 Nm)	LEM8×21 (10,2 Nm)	LEM8×21 (10,2 Nm)
	Perno dist (sot-toplacchetta)		SP3	SP4	SP4	SP4
	Sottoplacchetta		D11AP	D15AP	D15AP	D15AP
	Chiave		WH25L	WH30L	WH30L	WH30L
	Chiave	WT09IP				

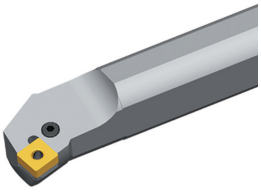
Inserto

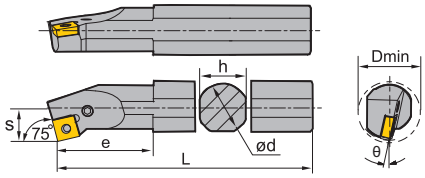
Raschiante	**Finitura**	**Media Lavor.**	**Sgrossatura**	**Lavor.- ghisa grigia**	**PCBN/PCD**
A75	A77	A77	A87	A88	A211

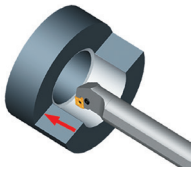
Codice sistema A368 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

SN** Barre alesatrici in acciaio P-Bloccaggio

PSKNR/L Kr: 75°







Versione destra

Articolo	✻	Stock R	Stock L	Dimensioni [mm] ød	L	h	s	e	D_{min}	θ	Inserto
S25Q-PSKNR/L12		○	●	25	180	23	17	42	32	-12	SN**1204**
S25T-PSKNR/L12		●	○	25	300	23	17	42	32	-12	SN**1204**
S32R-PSKNR/L12		○	○	32	200	30	22	45	44	-10	SN**1204**
S32U-PSKNR/L12		●	●	32	350	30	22	45	44	-10	SN**1204**
S40S-PSKNR/L12		○	○	40	250	37	27	50	54	-10	SN**1204**
S40V-PSKNR/L12		●	○	40	400	37	27	50	54	-10	SN**1204**
A25R-PSKNR/L12	✻	●	●	25	200	24	17	42	32	-12	SN**1204**
A32S-PSKNR/L12	✻	●	●	32	250	31	22	50	44	-12	SN**1204**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**SN**1204****	**SN**1204****
	ød	**25**	**32-40**
	Leva di fissaggio	L4A	L4
	Vite		LEM8×21 (10,2 Nm)
	Vite	LEM6×13,4A (7,0 Nm)	
	Perno dist (sottoplacchetta)		SP4
	Sottoplacchetta		S12APB
	Chiave	WH25L	WH30L

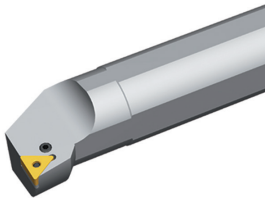
Inserto

Finitura	**Media Lavor.**	**Sgrossatura**	**Lavorazione Al.**	**Lavor.- ghisa grigia**	**PCBN/PCD**
A94	A94	A99	A109	A106	A193

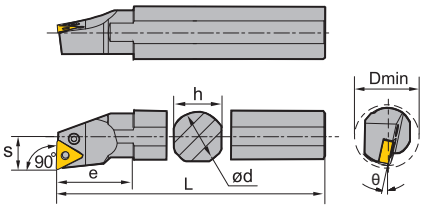
Codice sistema A368 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

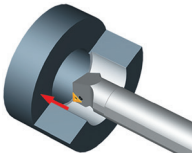
TN** Barre alesatrici in acciaio P-Bloccaggio

PTFNR/L Kr: 90°



Versione destra





Articolo	✻	Stock R	Stock L	Dimensioni [mm] ød	L	h	s	e	D_{min}	θ	Inserto
S16M-PTFNR/L11		○	○	16	150	15	11	28	20	-14	TN**1103**
S16R-PTFNR/L11		●	●	16	200	15	11	28	20	-14	TN**1103**
S20Q-PTFNR/L11		●	●	20	180	18	13	31	25	-12	TN**1103**
S20S-PTFNR/L11		●	●	20	250	18	13	31	25	-12	TN**1103**
S25Q-PTFNR/L11		○	○	25	180	23	17	35	32	-10	TN**1103**
S25T-PTFNR/L11		○		25	300	23	17	35	32	-10	TN**1103**
S25Q-PTFNR/L16		○	○	25	180	23	17	42	32	-12	TN**1604**
S25T-PTFNR/L16		●	●	25	300	23	17	42	32	-12	TN**1604**
S32R-PTFNR/L16		○	○	32	200	30	22	50	44	-10	TN**1604**
S32U-PTFNR/L16		●	●	32	350	30	22	50	44	-10	TN**1604**
S40S-PTFNR/L16		○	○	40	250	37	27	55	54	-10	TN**1604**
S40V-PTFNR/L16		●	●	40	400	37	27	55	54	-10	TN**1604**
A25R-PTFNR/L16	✻	●	○	25	200	24	17	40	32	-12	TN**1604**
A32S-PTFNR/L16	✻	●	●	32	250	31	22	50	44	-10	TN**1604**
S40V-PTFNR/L22		●	○	40	400	37	27	55	54	-10	TN**2204**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	TN**1103**	TN**1604**	TN**1604**	TN**2204**
	ød	16-25	25	32-40	40
	Leva di fissaggio	L2	L3B	L3	L4
	Vite	LEM5×9B (4,0 Nm)	LEM5×12B (4,0 Nm)	LEM6×17 (7,0 Nm)	
	Vite				LEM8×21 (10,2 Nm)
	Perno dist (sottoplacchetta)			SP3	SP4
	Sottoplacchetta				T22AP
	Sottoplacchetta			T16APB	
	Chiave		WH20L	WH25L	WH30L
	Chiave	WT09IP			

Codice sistema A368 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

TN** Barre alesatrici in acciaio

Inserto					
Raschiante	**Finitura**	**Media Lavor.**	**Sgrossatura**	**Lavor.- ghisa grigia**	**PCBN/PCD**
A110	A112	A113	A115	A121	A194

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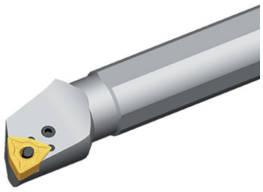
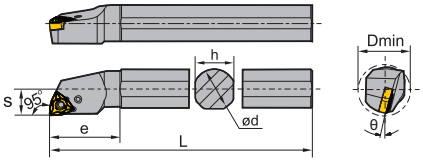
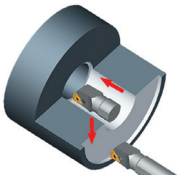
WN** Barre alesatrici in acciaio P-Bloccaggio

PWLNR/L Kr: 95°







Versione destra

Articolo	✻	Stock R	Stock L	Dimensioni [mm] ød	L	h	s	e	D_{min}	θ	Inserto
S16M-PWLNR/L06		●	●	16	150	15	11	25	20	-13	WN**0604**
S16R-PWLNR/L06		○	○	16	200	15	11	25	20	-13	WN**0604**
S20Q-PWLNR/L06		●	●	20	180	18	13	35	25	-13	WN**0604**
S20S-PWLNR/L06		●	○	20	250	18	13	35	25	-13	WN**0604**
S25Q-PWLNR/L06		○	○	25	180	23	17	35	32	-13	WN**0604**
S25R-PWLNR/L06		●		25	200	23	17	35	32	-13	WN**0604**
S25T-PWLNR/L06		○		25	300	23	17	35	32	-13	WN**0604**
A16M-PWLNR/L06	✻	○	○	16	150	15	11	25	20	-13	WN**0604**
A25R-PWLNR/L06	✻	○		25	200	23	17	45	32	-13	WN**0604**
S20Q-PWLNR/L08		●	●	20	180	18	13	32	25	-13	WN**0804**
S20S-PWLNR/L08		●		20	250	18	13	32	25	-13	WN**0804**
S25Q-PWLNR/L08		●	○	25	180	23	17	45	32	-13	WN**0804**
S25R-PWLNR/L08		●	●	25	200	23	17	27	32	-13	WN**0804**
S25T-PWLNR/L08		●	●	25	300	23	17	45	32	-13	WN**0804**
S32R-PWLNR/L08		●	●	32	200	30	22	50	40	-15	WN**0804**
S32U-PWLNR/L08		●	●	32	350	30	22	50	40	-15	WN**0804**
S40U-PWLNR/L08		○	○	40	350	37	27	60	50	-15	WN**0804**
S50U-PWLNR/L08		○		50	350	47	35	50	63	-15	WN**0804**
S50W-PWLNR/L08		○	○	50	450	47	35	50	63	-15	WN**0804**
A25R-PWLNR/L08	✻	○	●	25	200	23	17	45	32	-13	WN**0804**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	WSP	WN**0604**	WN**0804**	WN**0804**
	ød	16-25	20-25	32-50
	Leva di fissaggio	L3B	L4A	L4
	Vite	LEM5×12B (4,0 Nm)	LEM6×13,4A (7,0 Nm)	LEM8×21 (10,2 Nm)
	Perno dist (sottoplacchetta)			SP4
	Sottoplacchetta			W08AP
	Chiave		WH25L	WH30L
	Chiave	WT09IP		

Inserto

Raschiante	Finitura	Media Lavor.	Sgrossatura	Lavorazione Al.	Lavor.- ghisa grigia	PCBN/PCD
A128	A129	A129	A131	A134	A133	A196

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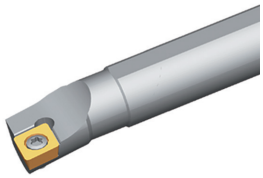
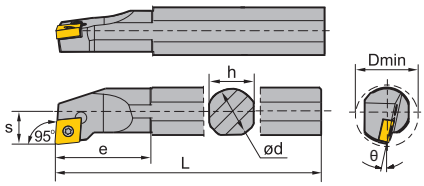
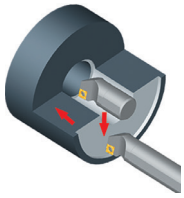
CC** Barre alesatrici in acciaio S-Bloccaggio

SCLCR/L Kr: 95°







Versione destra

Articolo	✻	Stock R	Stock L	Dimensioni [mm] ød	L	h	s	e	D_{min}	θ	Inserto
S06H-SCLCR/L06		○		8	100	7,3	4,5	25	9	-15	CC**0602**
S08H-SCLCR/L06			○	8	100	7	5	14	10	-15	CC**0602**
S08K-SCLCR/L06		●	●	8	125	7	5	14	10	-15	CC**0602**
S10K-SCLCR/L06		●	●	10	125	7	5	14	10	-15	CC**0602**
S10M-SCLCR/L06		●	●	10	150	9	6	14	12	-13	CC**0602**
S12M-SCLCR/L06		●	●	12	150	11	9	25	16	-10	CC**0602**
A08F-SCLCR/L06	✻	●	●	8	80	7,5	5	14	10	-15	CC**0602**
A10H-SCLCR/L06	✻	●	●	10	100	9,5	6	14	12	-13	CC**0602**
A12K-SCLCR/L06	✻	●	●	12	125	11,5	9	25	16	-10	CC**0602**
A16R-SCLCR/L06	✻	○		16	200	15,5	10	26	18	-8	CC**0602**
S12M-SCLCR/L09		●	●	12	150	11	9	25	16	-10	CC**09T3**
S16M-SCLCR/L09		●	○	16	150	15	11	32,5	20	-12	CC**09T3**
S16Q-SCLCR/L09		●	●	16	180	15	11	32,5	20	-12	CC**09T3**
S16R-SCLCR/L09		●	●	16	200	15	11	32,5	20	-12	CC**09T3**
S20Q-SCLCR/L09		●	●	20	180	18	13	38	25	-8	CC**09T3**
S20R-SCLCR/L09		●		20	200	18	13	38	25	-8	CC**09T3**
S20S-SCLCR/L09		●	●	20	250	18	13	38	25	-8	CC**09T3**
S25Q-SCLCR/L09		●	○	25	180	23	17	45	32	-6	CC**09T3**
S25T-SCLCR/L09		●	●	25	300	23	17	45	32	-6	CC**09T3**
A12K-SCLCR/L09	✻	●	●	12	125	11,5	9	25	16	-10	CC**09T3**
A16M-SCLCR/L09	✻	●	●	16	150	15,5	11	32,5	20	-12	CC**09T3**
A20Q-SCLCR/L09	✻	●	●	20	180	19	13	38	25	-8	CC**09T3**
A25R-SCLCR/L09	✻	●	●	25	200	24	17	45	32	-6	CC**09T3**
S25Q-SCLCR/L12		●	○	25	180	23	17	45	32	-6	CC**1204**
S25T-SCLCR/L12		●	●	25	300	23	17	45	32	-6	CC**1204**
S32R-SCLCR/L12		●	●	32	200	30	22	50	40	-10	CC**1204**
S32U-SCLCR/L12		●	●	32	350	30	22	50	40	-10	CC**1204**
S40S-SCLCR/L12		○		40	250	37	27	60	50	-8	CC**1204**
S40V-SCLCR/L12		●	●	40	400	37	27	60	50	-8	CC**1204**
A25R-SCLCR/L12	✻	●	●	25	200	24	17	45	32	-6	CC**1204**
A32T-SCLCR/L12	✻	○		32	300	30	22		40	-10	CC**1204**
A32S-SCLCR/L12	✻	●	●	32	250	31	22	50	40	-10	CC**1204**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

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CC** Barre alesatrici in acciaio

Parti di ricambio

	Inserto	CC**0602**	CC**0602**	CC**09T3**	CC**09T3**	CC**09T3**	CC**1204**	CC**1204**
	ød	8-16	6-16	12-20	16-25	25	25	32-40
	Vite	I60M2,5×5,5 (1,0 Nm)	I60M2,5×5,5 (1,0 Nm)	I60M3,5×8 (2,7 Nm)	I60M3,5×10 (2,7 Nm)	I60M3,5×10 (2,7 Nm)		
	Vite						I60M4×11X (3,4 Nm)	I60M4×11X (3,4 Nm)
	Vite (sottoplac-chetta)							SM6×10XA
	Sottoplacchetta							C12BS
	Chiave (vite)	WT07IP	WT07IP	WT15IP	WT15IP	WT15IP	WT15IP	WT15IP
	Chiave (sotto-placchetta)							WH40L

Inserto

Finitura	**Media Lavor.**	**Sgrossatura**	**Lavorazione Al.**	**Lavor.- ghisa grigia**	**PCBN/PCD**
A142	A146	A148	A149	A148	A213

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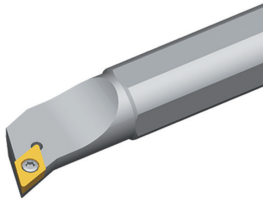
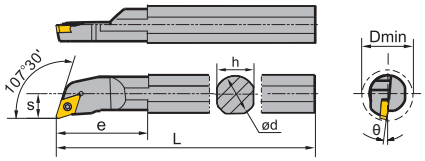
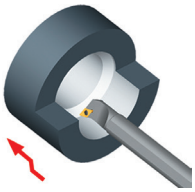
DC** Barre alesatrici in acciaio S-Bloccaggio

SDQCR/L Kr: 107°30'







Versione destra

Articolo	✻	Stock R	Stock L	Dimensioni [mm] ød	L	h	s	e	D_{min}	θ	Inserto
S10K-SDQCR/L07		○	○	10	125	9	7	20	13	-8	DC**0702**
S10M-SDQCR/L07		●	●	10	150	9	7	20	13	-8	DC**0702**
S12M-SDQCR/L07		●	●	12	150	11	9	22	16	-8	DC**0702**
S16M-SDQCR/L07		○	●	16	150	15	11	27	20	-6	DC**0702**
S16Q-SDQCR/L07		●	●	16	180	15	11	27	20	-6	DC**0702**
S16R-SDQCR/L07		●	●	16	200	15	11	27	20	-6	DC**0702**
A10H-SDQCR/L07	✻	●	●	10	100	9,5	7	20	13	-8	DC**0702**
A12K-SDQCR/L07	✻	●	●	12	125	11,5	9	22	16	-8	DC**0702**
A16R-SDQCR/L07	✻	○		16	200	15	11	27	20	-6	DC**0702**
S16Q-SDQCR/L11		●	●	16	180	15	11	27	20	-6	DC**11T3**
S20Q-SDQCR/L11		●	○	20	180	18	13	32	25	-6	DC**11T3**
S20S-SDQCR/L11		●	●	20	250	18	13	32	25	-6	DC**11T3**
S25Q-SDQCR/L11		●	○	25	180	23	17	32	32	-6	DC**11T3**
S25T-SDQCR/L11		●	●	25	300	23	17	32	32	-6	DC**11T3**
S32T-SDQCR/L11			○	32	300	30	22	60	40	-6	DC**11T3**
A16M-SDQCR/L11	✻	●	●	16	150	15,5	11	27	20	-6	DC**11T3**
A20Q-SDQCR/L11	✻	●	●	20	180	19	13	32	25	-6	DC**11T3**
A25R-SDQCR/L11	✻	●	●	25	200	24	17	32	32	-6	DC**11T3**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	DC**0702**	DC**0702**	DC**11T3**	DC**11T3**	DC**11T3**
	ød	10	12-16	16-20	20	25-32
	Vite	I60M2,5×5,5 (1,0 Nm)	I60M2,5×6,5 (1,0 Nm)	I60M3,5×8 (2,7 Nm)	I60M3,5×8 (2,7 Nm)	I60M3,5×10 (2,7 Nm)
	Chiave (vite)	WT07IP	WT07IP	WT15IP	WT15IP	WT15IP

Inserto

Finitura	Media Lavor.	Sgrossatura	Lavorazione Al.	Lavor.- ghisa grigia	PCBN/PCD
A155	A156	A158	A158	A158	A217

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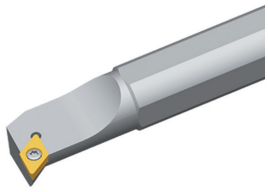
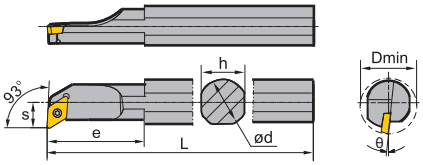
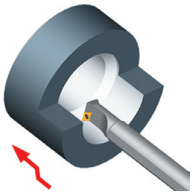
DC** Barre alesatrici in acciaio S-Bloccaggio

SDUCR/L Kr: 93°







Versione destra

Articolo	✻	Stock R	Stock L	ød	L	h	s	e	D_{min}	θ	Inserto
S10K-SDUCR/L07		●	●	10	125	9	7	11,76	13	-6	DC**0702**
S10M-SDUCR/L07		●	●	10	150	9	7	-	13	-8	DC**0702**
S12M-SDUCR/L07		●	●	12	150	11	9	22	16	-8	DC**0702**
S16M-SDUCR/L07		●	●	16	150	15	11	27	20	-6	DC**0702**
S16Q-SDUCR/L07		○	○	16	180	15	11	27,5	20	-6	DC**0702**
S16R-SDUCR/L07		●	●	16	200	15	11	27	20	-6	DC**0702**
S20R-SDUCR/L07		○		20	200	18	9	40	25	-6	DC**0702**
A10H-SDUCR/L07	✻	●	●	10	100	9,5	7	-	13	-8	DC**0702**
A12K-SDUCR/L07	✻	●	●	12	125	11,5	9	22	16	-8	DC**0702**
A16M-SDUCR/L07	✻	●	●	16	150	15,5	11	27	20	-6	DC**0702**
S20Q-SDUCR/L11		●	●	20	180	18	13	40	25	-6	DC**11T3**
S20S-SDUCR/L11		●	●	20	250	18	13	40	25	-6	DC**11T3**
S25Q-SDUCR/L11		●	○	25	180	23	17	46	32	-6	DC**11T3**
S25T-SDUCR/L11		●	●	25	300	23	17	46	32	-6	DC**11T3**
A16R-SDUCR/L11	✻	○		16	200	15	14,5	27	23	-6	DC**11T3**
A20Q-SDUCR/L11	✻	●	●	20	180	19	13	40	25	-6	DC**11T3**
A25R-SDUCR/L11	✻	●	●	25	200	24	17	46	32	-6	DC**11T3**
A32S-SDUCR/L11	✻	○	○	32	250	30	22	50,5	40	-6	DC**11T3**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	DC**0702**	DC**11T3**
	ød	10-20	16-32
	Vite	I60M2,5×5,5 (1,0 Nm)	I60M3,5×8 (2,7 Nm)
	Chiave	WT07IP	WT15IP

Inserto

Finitura	Media Lavor.	Sgrossatura	Lavorazione Al.	Lavor.- ghisa grigia	PCBN/PCD
A155	A156	A158	A158	A158	A217

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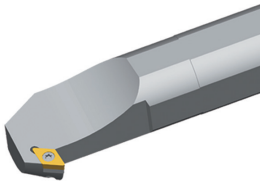
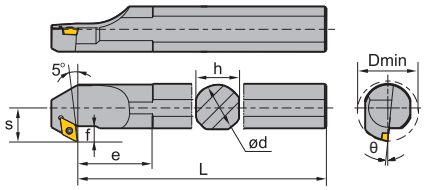
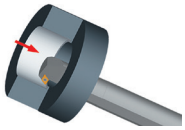
DC** Barre alesatrici in acciaio S-Bloccaggio

SDZCR/L Kr: 85°







Versione destra

Articolo	✻	Stock R	Stock L	Dimensioni [mm] ød	L	h	s	e	f	D_{min}	θ	Inserto
S25Q-SDZCR/L11		●	●	25	180	23	17	30	6,9	32	-6	DC**11T3**
S25T-SDZCR/L11		●	●	25	300	23	17	30	6,9	32	-6	DC**11T3**
S32R-SDZCR/L11		○		32	200	30	22	39	8,4	40	-6	DC**11T3**
S32U-SDZCR/L11		●	●	32	350	30	22	39	8,4	40	-6	DC**11T3**
S40S-SDZCR/L11		○	●	40	250	37	27	47	9,4	50	-4	DC**11T3**
S40V-SDZCR/L11		●	●	40	400	37	27	47	9,4	50	-4	DC**11T3**
A25R-SDZCR/L11	✻	●	●	25	200	24	17	30	4,5	32	-6	DC**11T3**
A32S-SDZCR/L11	✻	●	●	32	250	31	22	39	6	40	-6	DC**11T3**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**DC**11T3****	**DC**11T3****
	ød	**25**	**32-40**
	Vite	I60M3,5×10 (2,7 Nm)	I60M3,5×12 (2,7 Nm)
	Vite (sottoplacchetta)		SM5×8.65XA
	Sottoplacchetta		D11BS
	Chiave (vite)	WT15IP	WT15IP
	Chiave (sottoplacchetta)		WH35L

Inserto

Finitura	**Media Lavor.**	**Sgrossatura**	**Lavorazione Al.**	**Lavor.- ghisa grigia**	**PCBN/PCD**
A155	A156	A158	A158	A158	A217

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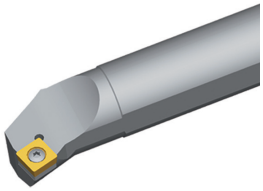
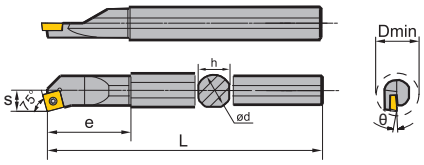
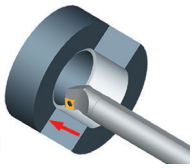
SC** Barre alesatrici in acciaio S-Bloccaggio

SSKCR/L Kr: 75°







Versione destra

Articolo	✻	Stock R	Stock L	Dimensioni [mm] ød	L	h	s	e	D_{min}	θ	Inserto
S12M-SSKCR/L09		●		12	150	11	9	26	16	-10	SC**09T3**
S16M-SSKCR/L09		○	○	16	150	15	11	32,5	20	-11	SC**09T3**
S16R-SSKCR/L09		○	○	16	200	15	11	32,5	20	-11	SC**09T3**
S20Q-SSKCR/L09		○		20	180	18	13	34,5	25	-6	SC**09T3**
S20S-SSKCR/L09		●		20	250	18	13	34,5	25	-6	SC**09T3**
A12K-SSKCR/L09	✻	●	○	12	125	11	9	26	16	-10	SC**09T3**
A16M-SSKCR/L09	✻	●		16	150	15	11	32,5	20	-11	SC**09T3**
A20Q-SSKCR/L09	✻	●	○	20	180	19	13	34,5	25	-6	SC**09T3**
S25Q-SSKCR/L12		○		25	180	23	17	36,3	32	-8	SC**1204**
S25T-SSKCR/L12		●		25	300	23	17	36,3	32	-8	SC**1204**
S32R-SSKCR/L12			○	32	200	30	22	43,5	40	-10	SC**1204**
S32U-SSKCR/L12		●		32	350	30	22	43,5	40	-10	SC**1204**
A25R-SSKCR/L12	✻	●		25	200	24	17	41,3	32	-8	SC**1204**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	SC**09T3**	SC**1204**	SC**1204**
	ød	12-20	25	32
	Vite	I60M3,5×8 (2,7 Nm)		
	Vite		I60M4×11X (3,4 Nm)	I60M4×11X (3,4 Nm)
	Vite (sottoplacchetta)			SM6×10XA
	Sottoplacchetta			S12BS
	Chiave (vite)	WT15IP	WT15IP	WT15IP
	Chiave (sottoplacchetta)			WH40L

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SC** Barre alesatrici in acciaio

Inserto			
Finitura	**Media Lavor.**	**Sgrossatura**	**Lavorazione Al.**
A163	A164	A165	A165

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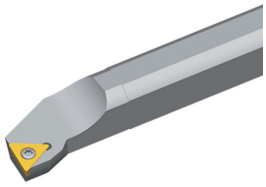
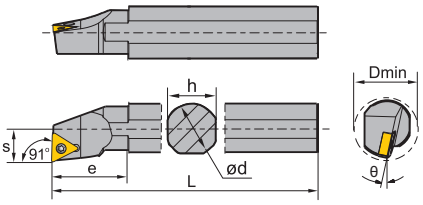
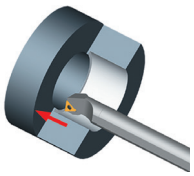
TC** Barre alesatrici in acciaio S-Bloccaggio

STFCR/L Kr: 91°







Versione destra

Articolo	✻	Stock R	Stock L	ød	L	h	s	e	D_{min}	θ	Inserto
S12M-STFCR/L11		●	●	12	150	11	9	30	16	-10	TC**1102**
S16M-STFCR/L11		○	●	16	150	15	11	35	20	-6	TC**1102**
S16R-STFCR/L11		●	●	16	200	15	11	35	20	-6	TC**1102**
S20Q-STFCR/L11		○		20	180	18	13	36	25	-3	TC**1102**
S20S-STFCR/L11		●	●	20	250	18	13	36	25	-3	TC**1102**
A12K-STFCR/L11	✻	●	●	12	125	11,5	9	26	16	-10	TC**1102**
A16M-STFCR/L11	✻	●	●	16	150	15,5	11	30	20	-6	TC**1102**
A20Q-STFCR/L11	✻	●	●	20	180	19	13	36	25	-3	TC**1102**
S25Q-STFCR/L16		●	○	25	180	23	17	49	32	-6	TC**16T3**
S25T-STFCR/L16		●	●	25	300	23	17	49	32	-6	TC**16T3**
S32R-STFCR/L16		●	●	32	200	30	22	50	40	-10	TC**16T3**
S32U-STFCR/L16		●	●	32	350	30	22	50	40	-10	TC**16T3**
S40S-STFCR/L16		○	○	40	250	37	27	60	50	-8	TC**16T3**
S40V-STFCR/L16		●	●	40	400	37	27	60	50	-8	TC**16T3**
A25R-STFCR/L16	✻	●	●	25	200	24	17	45	32	-6	TC**16T3**
A32S-STFCR/L16	✻	●	○	32	250	31	22	49	40	-10	TC**16T3**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	TC**1102**	TC**16T3**	TC**16T3**
	ød	12-20	25	32-40
	Vite	I60M2,5×6,5 (1,0 Nm)	I60M3,5×10 (2,7 Nm)	I60M3,5×12 (2,7 Nm)
	Vite (sottoplacchetta)			SM5×8.65XA
	Sottoplacchetta			T16BS
	Chiave (vite)	WT07IP	WT15IP	WT15IP
	Chiave (sottoplacchetta)			WH35L

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TC** Barre alesatrici in acciaio

Inserto					
Finitura	**Media Lavor.**	**Sgrossatura**	**Lavorazione Al.**	**Lavor.- ghisa grigia**	**PCBN/PCD**
A170	A171	A172	A174	A172	A220

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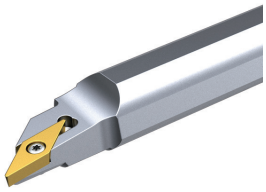
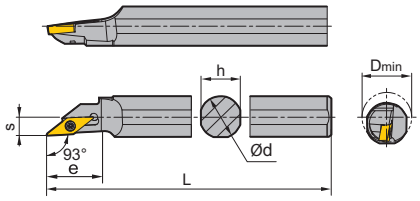
VC** Barre alesatrici in acciaio S-Bloccaggio

SVJCR/L Kr: 93°





Versione destra

Articolo	✻	Stock R	Stock L	Dimensioni [mm] ød	h	s	e	D_{min}	θ	Inserto
S16R-SVJCR/L11		●	●	16	15	14,5	25	19	-4	VC**1103**
S20K-SVJCR/L11		○	○	20	18	20,5	37	25	-3	VC**1103**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**VC**1103****
	ød	**16-20**
	Vite	I60M2,5×6,5 (1,0 Nm)
	Chiave	WT07IP

Inserto

Finitura	**Lavorazione Al.**	**PCBN/PCD**
A186	A184	A227

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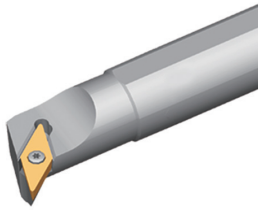
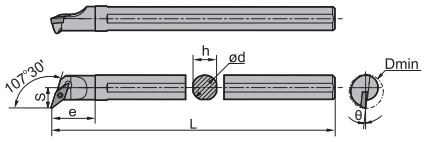
VC** Barre alesatrici in acciaio S-Bloccaggio

SVQCR/L Kr: 107°30'





Versione destra

Articolo	✻	Stock R	Stock L	Dimensioni [mm] ød	L	h	s	e	D_{min}	θ	Inserto
S16Q-SVQCR/L11		●	●	16	180	15	13	28	22	-6	VC**1103**
S20R-SVQCR/L11		●	○	20	200	18	15	32	26	-4	VC**1103**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**VC**1103****
	ød	**16-20**
	Vite	I60M2,5×6,5 (1,0 Nm)
	Chiave (vite)	WT07IP

Inserto

Finitura	**Lavorazione Al.**	**PCBN/PCD**
A186	A184	A226

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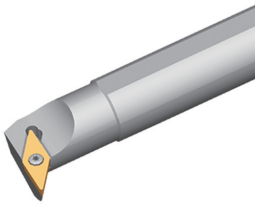
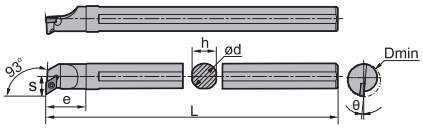
VC** Barre alesatrici in acciaio S-Bloccaggio

SVUCR/L Kr: 93°





Versione destra

Articolo	✻	Stock R	Stock L	Dimensioni [mm] ød	L	h	s	e	D_{min}	θ	Inserto
S16Q-SVUCR/L11		●	○	16	180	15	15	25	24	-6	VC**1103**
S20R-SVUCR/L11		●	●	20	200	18	17	30	28	-4	VC**1103**
S25S-SVUCR/L16		○		25	250	23	19	50	32	-6	VC**1604**
S40U-SVUCR/L16			○	40	350	37	27	56	50	-8	VC**1604**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**VC**1103****	**VC**1604****	**VC**1604****
	ød	**16-20**	**25**	**40**
	Vite	I60M2,5×6,5 (1,0 Nm)	I60M3,5×12 (2,7 Nm)	I60M3,5×12 (2,7 Nm)
	Vite (sottoplacchetta)			SM5×8,65XA (4,0 Nm)
	Sottoplacchetta			V16BSC
	Chiave (vite)	WT07IP	WT15IP	WT15IP
	Chiave (sotto-placchetta)			WH35L

Inserto

Finitura	**Media Lavor.**	**Lavorazione Al.**	**PCBN/PCD**
A186	A187	A184	A226

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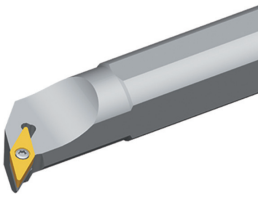
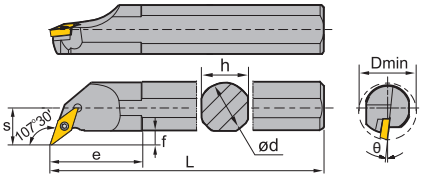
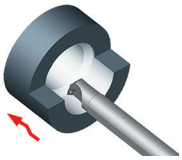
VB** Barre alesatrici in acciaio S-Bloccaggio

SVQBR/L Kr: 107°30'



Versione destra





Articolo	✻	Stock R	Stock L	Dimensioni [mm] ød	L	h	s	e	f	D_{min}	θ	Inserto
S32R-SVQBR/L16		●	●	32	200	30	22	56	8,4	40	-8	VB**1604**
S32U-SVQBR/L16		●	●	32	350	30	22	56	8,4	40	-8	VB**1604**
S40V-SVQBR/L16		●	●	40	400	37	27	64	9,4	50	-8	VB**1604**
A32S-SVQBR/L16	✻	○	○	32	250	31	22	56	8,4	40	-8	VB**1604**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**VB**1604****
	ød	**32-40**
	Vite	I60M3,5×12 (2,7 Nm)
	Vite (sottoplacchetta)	SM5×8.65XA
	Sottoplacchetta	V16BS
	Chiave (vite)	WT15IP
	Chiave (sottoplacchetta)	WH35L

Inserto

Finitura	**Media Lavor.**	**Sgrossatura**	**PCBN/PCD**
A177	A180	A181	A224

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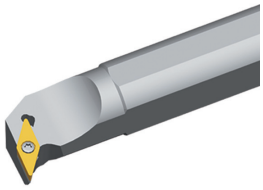
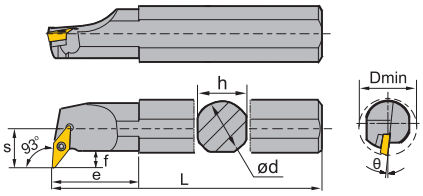
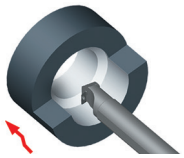
VB** Barre alesatrici in acciaio S-Bloccaggio

SVUBR/L Kr: 93°







Versione destra

Articolo	✻	Stock R	Stock L	Dimensioni [mm] ød	L	h	s	e	f	D_{min}	θ	Inserto
S20R-SVUBR/L1103		○	○	20	200	18	17	30	6	28	-6	VB**1103**
S25T-SVUBR/L16		○	○	25	300	24	18	30	6,5	33	-8	VB**1604**
S32R-SVUBR/L16		●	○	32	200	30	22	49	8,4	40	-8	VB**1604**
S32U-SVUBR/L16		●	●	32	350	30	22	49	8,4	40	-8	VB**1604**
S40S-SVUBR/L16		●	○	40	250	37	27	56,5	9,4	50	-8	VB**1604**
S40V-SVUBR/L16		●	●	40	400	37	27	56,5	9,4	50	-8	VB**1604**
A32S-SVUBR/L16	✻	●	●	32	250	31	22	49	8,4	40	-8	VB**1604**
A40V-SVUBR/L16	✻		●	40	400	37	27	56,5	9,4	50	-8	VB**1604**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**VB**1103****	**VB**1604****
	ød	**16-20**	**20-50**
	Vite	I60M2,5×6,5 (1,0 Nm)	I60M3,5×12 (2,7 Nm)
	Vite (sottoplacchetta)		SM5×8.65XA
	Sottoplacchetta		V16BS
	Chiave (vite)	WT07IP	WT15IP
	Chiave (sottoplacchetta)		WH35L

Inserto

Finitura	**Media Lavor.**	**Sgrossatura**	**PCBN/PCD**
A177	A180	A181	A224

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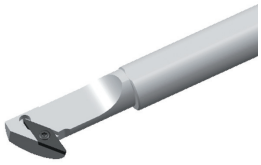
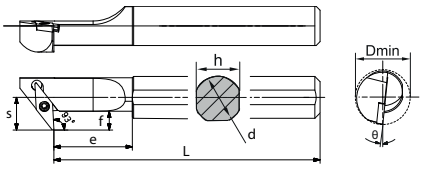
VB** Barre alesatrici in acciaio S-Bloccaggio

SVXBR/L Kr: 93°





Versione destra

Articolo	✻	Stock R	Stock L	ød	L	h	s	e	f	D_{min}	θ	Inserto
S16P-SVXBR/L1102-KR93		○	○	16	170	15	12,5	30	7,2	21	-8	VB**1102**
S16P-SVXBR/L11-KR93		○	○	16	170	15	12,5	30	7,2	21	-8	VB**1103**
S20R-SVXBR/L11-KR93		○	○	20	187	20	13	22	5,7	25	-8	VB**1103**
S25S-SVXBR/L16-KR93		○	○	25	235	25	19	26	10,2	32	-8	VB**1604**
S32T-SVXBR/L16-KR93		○	○	32	280	32	22	80	11,7	40	-8	VB**1604**
S40M-SVXBR/L16-KR93		○	○	40	130	40	27	40	14,3	50	-8	VB**1604**
S40U-SVXBR/L16-KR93			○	40	330	40	27	90	14,3	50	-8	VB**1604**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**VB**1102****	**VB**1103****	**VB**1604****
	ød	**16-20**	**16-20**	**25-40**
	Vite	I60M2,5×6,5 (1,0 Nm)	I60M2,5×6,5 (1,0 Nm)	I60M3,5×12 (2,7 Nm)
	Vite (sottoplacchetta)			SM5×8,65XA (4,0 Nm)
	Sottoplacchetta			V16BS
	Chiave (vite)	WT07IP	WT07IP	WT15IP
	Chiave (sotto-placchetta)			WH35L

Inserto

Finitura	**Media Lavor.**	**Sgrossatura**	**PCBN/PCD**
A177	A180	A181	A224

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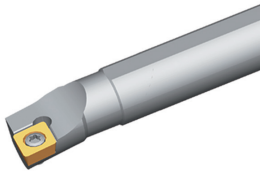
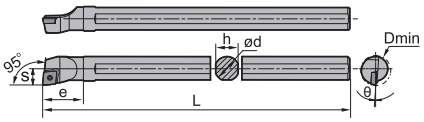
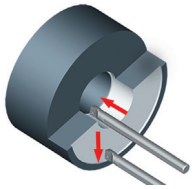
CP** Barre alesatrici in acciaio S-Bloccaggio

SCLPR/L Kr: 95°







Versione destra

Articolo	✻	Stock R	Stock L	Dimensioni [mm] ød	L	h	s	e	D_{min}	θ	Inserto
S10K-SCLPR/L06		●	●	10	125	9	6	17	12	-7	CP**0602**
S12M-SCLPR/L06		●	●	12	150	11	8	20	16	-4	CP**0602**
S16Q-SCLPR/L09		●	●	16	180	15	10	29	20	-4	CP**09T3**
S20R-SCLPR/L09		○		20	200	18	13	35	25	-4	CP**09T3**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**CP**0602****	**CP**09T3****
	ød	**10-12**	**20-25**
	Vite	I60M2,5×5,5 (1,0 Nm)	I60M3,5×8 (2,7 Nm)
	Chiave (vite)	WT07IP	WT15IP

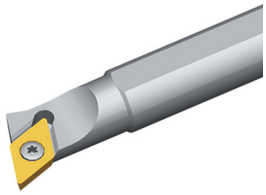
Inserto

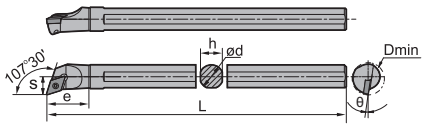
Finitura	**Media Lavor.**	**Lavor.- ghisa grigia**
A151	A151	A151

Codice sistema A368 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

DP** Barre alesatrici in acciaio S-Bloccaggio

SDQPR/L Kr: 107°30'





Versione destra

Articolo	✻	Stock R	Stock L	Dimensioni [mm] ød	L	h	s	e	D_{min}	θ	Inserto
S10K-SDQPR/L07		●	●	10	125	9	7	20	13	-8	DP**0702**
S12M-SDQPR/L07		●	●	12	150	11	9	22	16	-8	DP**0702**
S16Q-SDQPR/L07		●		16	180	15	11	27	20	-6	DP**0702**
S16Q-SDQPR/L11		●	●	16	180	15	11	32	20	-6	DP**11T3**
S20R-SDQPR/L11		○	○	20	200	18	13	33	25	-6	DP**11T3**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**DP**0702****	**DP**0702****	**DP**11T3****
	ød	**10-12**	**16**	**16-20**
	Vite	I60M2,5×5,5 (1,0 Nm)	I60M2,5×6,5 (1,0 Nm)	I60M3,5×8 (2,7 Nm)
	Chiave (vite)	WT07IP	WT07IP	WT15IP

Inserto

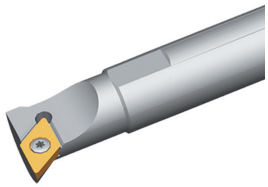
Finitura

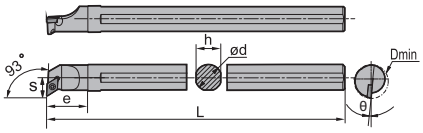
A160

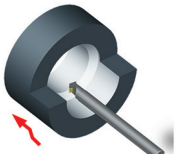
Codice sistema A368 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

DP** Barre alesatrici in acciaio S-Bloccaggio

SDUPR/L Kr: 93°







Versione destra

Articolo	✻	Stock R	Stock L	Dimensioni [mm] ød	L	h	s	e	D_{min}	θ	Inserto
S10K-SDUPR/L07		●	●	10	125	9	9	18	15	-8	DP**0702**
S12M-SDUPR/L07		●	●	12	150	11	9	19	16	-8	DP**0702**
S16Q-SDUPR/L07		●	●	16	180	15	11	25	20	-6	DP**0702**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**DP**0702****	**DP**0702****
	ød	**10-12**	**16**
	Vite	I60M2,5×5,5 (1,0 Nm)	I60M2,5×6,5 (1,0 Nm)
	Chiave (vite)	WT07IP	WT07IP

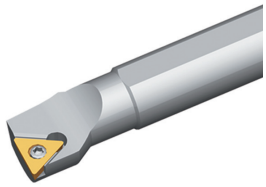
Inserto

Finitura
A160

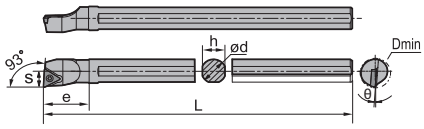
Codice sistema A368 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

TP** Barre alesatrici in acciaio S-Bloccaggio

STUPR/L Kr: 93°



Versione destra



Articolo	✻	Stock		Dimensioni [mm]							Inserto
		R	L	ød	L	h	s	e	D_{min}	θ	
S10K-STUPR/L09		●	●	10	125	9	6	20	12	-6	TP**0902**
S12M-STUPR/L09		●	●	12	150	11	8	22	16	-4	TP**0902**
S12M-STUPR/L11		●	●	12	150	11	8	25	16	-4	TP**1103**
S16Q-STUPR/L11		●	●	16	180	15	10	27	20	-3	TP**1103**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**TP**0902****	**TP**1103****
	ød	**10-12**	**12-16**
	Vite	I60M2,2×5,5 (0,8 Nm)	I60M2,5×6,5 (1,0 Nm)
	Chiave	WT07IP	WT07IP

Inserto

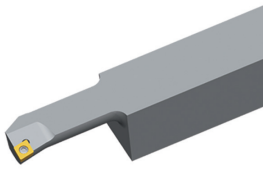
Finitura

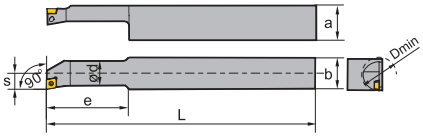
A176

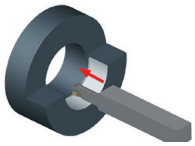
Codice sistema A368 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

CC** Barre alesatrici in acciaio S-Bloccaggio

SCFCR/L Kr: 90°







Articolo	✻	Stock R	Stock L	Dimensioni [mm] ød	a	b	L	s	e	D_{min}	Inserto
S10M-SCFCR/L06S25		●		10	27	25	150	7	30	13	CC**0602**
S12P-SCFCR/L06S25		●		12	27	25	170	9	35	16	CC**0602**
S16Q-SCFCR/L09S25		●	○	16	27	25	180	11	40	20	CC**09T3**
S20R-SCFCR/L09S25		○		20	27	25	200	13	45	25	CC**09T3**
S25R-SCFCR/L12S25		●	●	25	27	25	200	17	50	32	CC**1204**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**CC**0602****	**CC**09T3****	**CC**1204****
	ød	**10-12**	**16-20**	**25**
	Vite	I60M2,5×5,5 (1,0 Nm)	I60M3,5×8 (2,7 Nm)	I60M4×12 (3,4 Nm)
	Chiave	WT07IP	WT15IP	WT20IP

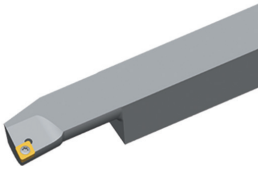
Inserto

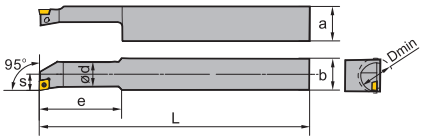
Finitura	**Media Lavor.**	**Sgrossatura**	**Lavorazione Al.**	**Lavor.- ghisa grigia**	**PCBN/PCD**
A142	A146	A148	A149	A148	A213

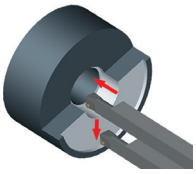
Codice sistema A368 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

CC** Barre alesatrici in acciaio S-Bloccaggio

SCLCR Kr: 95°







Articolo	✻	Stock	Dimensioni [mm]							Inserto
			ød	a	b	L	s	e	D_{min}	
S10M-SCLCR06S20		○	10	22	20	150	7	30	13	CC**0602**
S12P-SCLCR06S20		○	12	22	20	170	9	35	16	CC**0602**
S16Q-SCLCR09S20		●	16	22	20	180	11	40	20	CC**09T3**
S20R-SCLCR09S20		●	20	22	20	200	13	60	25	CC**09T3**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**CC**0602****	**CC**09T3****
	ød	**10-12**	**16-20**
	Vite	I60M2,5×5,5 (1,0 Nm)	I60M3,5×8 (2,7 Nm)
	Chiave	WT07IP	WT15IP

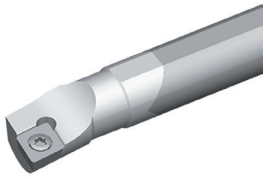
Inserto

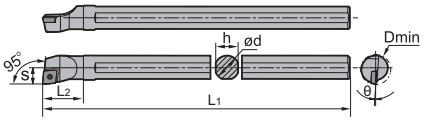
Finitura	**Media Lavor.**	**Sgrossatura**	**Lavorazione Al.**	**Lavor.- ghisa grigia**	**PCBN/PCD**
A142	A146	A148	A149	A148	A213

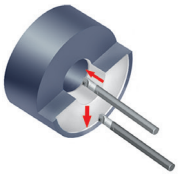
Codice sistema A368 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

CP** Barre alesatrici in metallo duro integrale S-Bloccaggio

SCLPR/L Kr: 95°







Versione destra

Articolo	✻	Stock R	Stock L	Dimensioni [mm] D_{min}	ød	h	s	L_1	L_2	θ	Inserto
C10M-SCLPR/L06		●	●	12	10	9	6	150	17	7	CP**0602**
C12Q-SCLPR/L06		●	○	16	12	11	8	180	20	4	CP**0602**
C16R-SCLPR/L09		●	●	20	16	15	10	200	29	4	CP**09T3**
E16R-SCLPR/L09	✻	○	○	19	16	15,5	10	200	-	-2	CP**09T3**
C20S-SCLPR/L09		●	○	25	20	18	13	250	35	4	CP**09T3**
E20S-SCLPR/L09	✻	○		24	20	19,5	13	250	-	-2	CP**09T3**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**CP**0602****	**CP**09T3****
	ød	**10-12**	**16-20**
	Vite	I60M2,5×5,5 (1,0 Nm)	I60M3,5×10 (2,7 Nm)
	Chiave (vite)	WT07IP	WT15IP

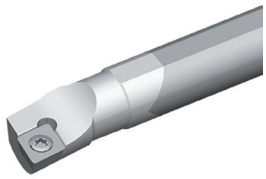
Inserto

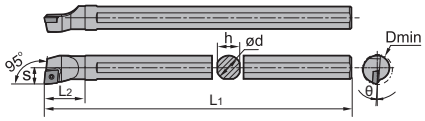
Finitura	**Media Lavor.**	**Lavor.- ghisa grigia**
A151	A151	A151

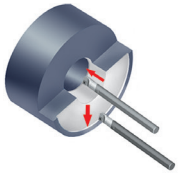
Codice sistema A368 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

CC** Barre alesatrici in metallo duro integrale S-Bloccaggio

SCLCR/L Kr: 95°







Versione destra

Articolo	✻	Stock R	Stock L	D_{min}	ød	h	s	L_1	L_2	θ	Inserto
E08K-SCLCR/L06-09	✻	●	●	9	8	7,5	5	125	-	-12	CC**0602**
E08K-SCLCR/L06-10	✻	●	●	10	8	7,5	6	125	-	-12	CC**0602**
C10M-SCLCR/L06		●	●	12	10	9	6	150	17	-13	CC**0602**
E10M-SCLCR/L06	✻	●	●	12	10	9,5	7	150	-	-10	CC**0602**
C12Q-SCLCR/L06		●		16	12	11	9	180	20	-10	CC**0602**
E12Q-SCLCR/L06	✻	●	●	15	12	11,5	9	180	-	-10	CC**0602**
E16R-SCLCR/L06	✻	●	●	18	16	15,5	10	200	-	-8	CC**0602**
E12Q-SCLCR/L09	✻	●	●	15	12	11,5	9	180	-	-9	CC**09T3**
E16R-SCLCR/L09	✻	●	●	18	16	15,5	10	200	-	-10	CC**09T3**
E20S-SCLCR/L09	✻	●	●	24	20	19,5	13	250	-	-8	CC**09T3**
E25T-SCLCR/L09	✻	●	●	31	25	24	17	300	-	-6	CC**09T3**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**CC**0602****	**CC**0602****	**CC**09T3****	**CC**09T3****
	ød	**8-16**	**6-16**	**12**	**16-25**
	Vite	I60M2,5×5,5 (1,0 Nm)	I60M2,5×5,5 (1,0 Nm)	I60M3,5×8 (2,7 Nm)	I60M3,5×10 (2,7 Nm)
	Chiave (vite)	WT07IP	WT07IP	WT15IP	WT15IP

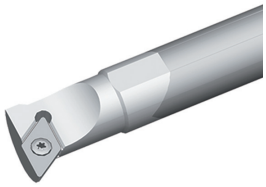
Inserto

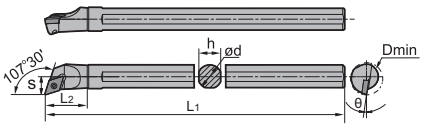
Finitura	**Media Lavor.**	**Sgrossatura**	**Lavorazione Al.**	**Lavor.- ghisa grigia**	**PCBN/PCD**
A142	A146	A148	A149	A148	A213

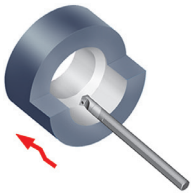
Codice sistema A368 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

DP** Barre alesatrici in metallo duro integrale S-Bloccaggio

SDQPR/L Kr: 107°30'







Versione destra

Articolo	✻	Stock		Dimensioni [mm]							Inserto
		R	L	D_{min}	ød	h	s	L_1	L_2	θ	
C10M-SDQPR/L07		●	●	13	10	9	7	150	20	8	DP**0702
C12Q-SDQPR/L07		○	●	16	12	11	9	180	22	8	DP**0702
C16R-SDQPR/L07		○	○	20	16	15	11	200	27	6	DP**0702
C16R-SDQPR/L11		○	○	20	16	15	11	200	32	6	DP**11T3**
C20S-SDQPR/L11		●	○	25	20	18	13	250	33	6	DP**11T3**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**DP**0702**	**DP**0702**	**DP**11T3****
	ød	**10-12**	**16**	**16-20**
	Vite	I60M2,5×5,5 (1,0 Nm)	I60M2,5×6,5 (1,0 Nm)	I60M3,5×8 (2,7 Nm)
	Chiave (vite)	WT07IP	WT07IP	WT15IP

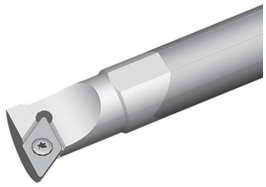
Inserto

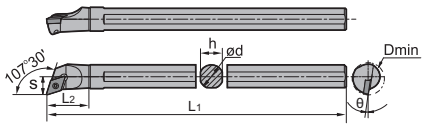
Finitura
A160

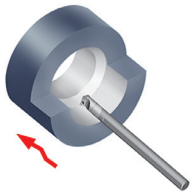
Codice sistema A368 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

DC** Barre alesatrici in metallo duro integrale S-Bloccaggio

SDQCR/L Kr: 107°30'







Versione destra

Articolo	✻	Stock R	Stock L	D_{min}	ød	h	s	L_1	L_2	θ	Inserto
E08K-SDQCR/L07	✻	●	●	11	8	7,5	6,5	125	-	-12	DC**0702**
E10M-SDQCR/L07	✻	●	●	12	10	9,5	7	150	-21,5	-10	DC**0702**
E12Q-SDQCR/L07	✻	●	●	15	12	11,5	9	180	-	-10	DC**0702**
E16R-SDQCR/L07	✻	●	○	18	16	15,5	10	200	-27	-6	DC**0702**
E20S-SDQCR/L07	✻	●	○	24	20	19,5	13	250	33-	-4	DC**0702**
E16R-SDQCR/L11	✻	●	●	18	16	15,5	10	200	-	-8	DC**11T3**
E20S-SDQCR/L11	✻	●	○	24	20	19,5	13	250	-	-8	DC**11T3**
E25T-SDQCR/L11	✻	●	○	31	25	24	17	300	-	-6	DC**11T3**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**DC**0702****	**DC**11T3****
	ød	**8-20**	**16-25**
	Vite	I60M2,5×5,5 (1,0 Nm)	I60M3,5×10 (2,7 Nm)
	Chiave (vite)	WT07IP	WT15IP

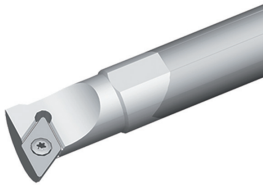
Inserto

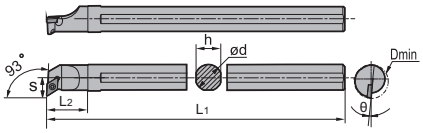
Finitura	**Media Lavor.**	**Sgrossatura**	**Lavorazione Al.**	**Lavor.- ghisa grigia**	**PCBN/PCD**
A155	A156	A158	A158	A158	A217

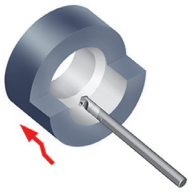
Codice sistema A368 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

DP** Barre alesatrici in metallo duro integrale S-Bloccaggio

SDUPR/L Kr: 93°







Versione destra

Articolo	✻	Stock		Dimensioni [mm]							Inserto
		R	L	D_{min}	ød	h	s	L_1	L_2	θ	
C10M-SDUPR/L07		●	●	15	10	9	9	150	18	8	DP**0702**
C12Q-SDUPR/L07		●	○	16	12	11	9	180	19	8	DP**0702**
C16R-SDUPR/L07		○	○	20	16	15	11	200	25	6	DP**0702**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**DP**0702****
	ød	**15-20**
	Vite	I60M2,5×5,5 (1,0 Nm)
	Chiave	WT07IP

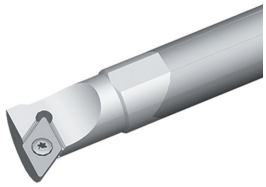
Inserto

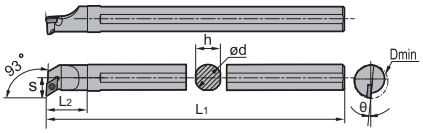
Finitura
A160

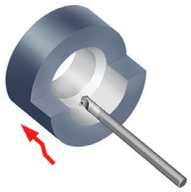
Codice sistema A368 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

DC** Barre alesatrici in metallo duro integrale S-Bloccaggio

SDUCR/L Kr: 93°







Versione destra

Articolo	✻	Stock R	Stock L	Dimensioni [mm] D_{min}	ød	h	s	L_1	L_2	θ	Inserto
E10M-SDUCR/L07	✻	●	○	12	10	9,5	7	150	-	-10	DC**0702**
C12Q-SDUCR/L07		●	●	16	12	11	9	180	22,5	-6	DC**0702**
E12Q-SDUCR/L07	✻	●	●	15	12	11,5	9	180	-	-10	DC**0702**
E16R-SDUCR/L07	✻	●	○	18	16	15,5	10	200	-	-6	DC**0702**
E20S-SDUCR/L07	✻	○	○	24	20	19,5	13	250	-	-4	DC**0702**
E16R-SDUCR/L11	✻	●	○	18	16	15,5	10	200	-	-8	DC**11T3**
E20S-SDUCR/L11	✻	●	●	24	20	19,5	13	250	-	-8	DC**11T3**
E25T-SDUCR/L11	✻	○	○	31	25	24	17	300	-	-6	DC**11T3**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**DC**0702****	**DC**11T3****
	ød	**10-20**	**16-25**
	Vite	I60M2,5×5,5 (1,0 Nm)	I60M3,5×10 (2,7 Nm)
	Chiave (vite)	WT07IP	WT15IP

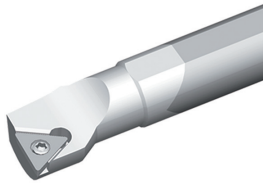
Inserto

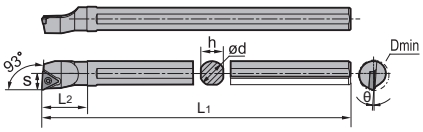
Finitura	**Media Lavor.**	**Sgrossatura**	**Lavorazione Al.**	**Lavor.- ghisa grigia**	**PCBN/PCD**
A155	A156	A158	A158	A158	A217

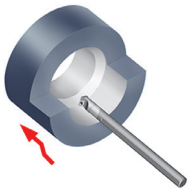
Codice sistema A368 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

TP** Barre alesatrici in metallo duro integrale S-Bloccaggio

STUPR/L Kr: 93°







Versione destra

Articolo	✻	Stock		Dimensioni [mm]							Inserto
		R	L	D_{min}	ød	h	s	L_1	L_2	θ	
C10M-STUPR/L09		○	○	12	10	9	6	150	20	6	TP**0902**
C12Q-STUPR/L09		●		16	12	11	8	180	22	4	TP**0902**
C12Q-STUPR/L11		●		16	12	11	8	180	25	4	TP**1103
C16R-STUPR/L11		○	○	20	16	15	10	200	27	3	TP**1103

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**TP**0902****	**TP**1103**
	ød	**10-12**	**12-16**
	Vite	I60M2,2×5,5 (0,8 Nm)	I60M2,5×6,5 (1,0 Nm)
	Chiave (vite)	WT07IP	WT07IP

Inserto

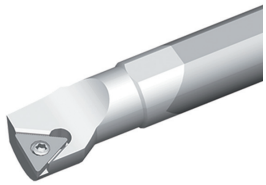
Finitura

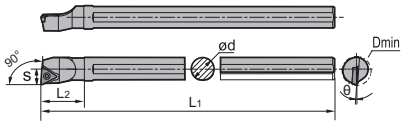
A176

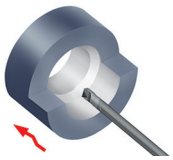
Codice sistema A368 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

TC** Barre alesatrici in metallo duro integrale S-Bloccaggio

STFCR/L Kr: 90°







Versione destra

Articolo	✻	Stock R	Stock L	Dimensioni [mm] D_{min}	ød	h	s	L_1	L_2	θ	Inserto
E08K-STFCR/L09	✻	○	●	11	8	7,5	6	125	-	-12	TC**0902**
E10M-STFCR/L09	✻	○	○	12	10	9,5	7	150	-	-10	TC**0902**
E12Q-STFCR/L11	✻	○	○	15	12	11,5	9	180	-	-10	TC**1102**
E16R-STFCR/L11	✻	○	○	18	16	15,5	10	200	-	-8	TC**1102**
E20S-STFCR/L11	✻	○	○	24	20	19,5	13	250	-	-8	TC**1102**
E20S-STFCR/L16	✻	○	○	24	20	19,5	13	250	-	-8	TC**16T3**
E25T-STFCR/L16	✻	○	○	31	25	24	17	300	-	-6	TC**16T3**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**TC**0902****	**TC**1102****	**TC**16T3****
	ød	**8-10**	**12-20**	**20-25**
	Vite	I60M2,2×5,5 (0,8 Nm)	I60M2,5×5,5 (1,0 Nm)	I60M3,5×10 (2,7 Nm)
	Chiave (vite)	WT07IP	WT07IP	WT15IP

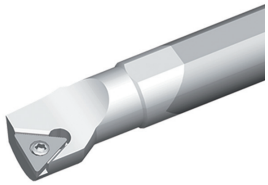
Inserto

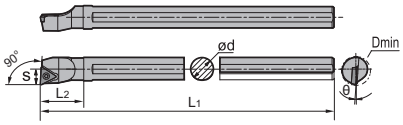
Finitura	**Media Lavor.**	**Sgrossatura**	**Lavorazione Al.**	**Lavor.- ghisa grigia**	**PCBN/PCD**
A170	A171	A172	A174	A172	A220

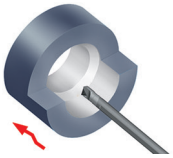
Codice sistema A368 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

TC** Barre alesatrici in metallo duro integrale S-Bloccaggio

STFPR/L Kr: 90°







Versione destra

Articolo	✻	Stock		Dimensioni [mm]							Inserto
		R	L	D_{min}	ød	h	s	L_1	L_2	θ	
E10M-STFPR/L11	✻	○	○	12	10	9,5	6	150	-	-5	TP**1103**
E12Q-STFPR/L11	✻	○	○	15	12	11,5	8	180	-	-4	TP**1103**
E16R-STFPR/L11	✻	○	○	19	16	15,5	10	200	-	-2	TP**1103**
E20S-STFPR/L11	✻	○	○	24	20	19	13	250	-	-2	TP**1103**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**TP**1103****
	ød	**10-20**
	Vite	I60M3,0×7,0 (1,8 Nm)
	Chiave (vite)	WT08IP

Inserto

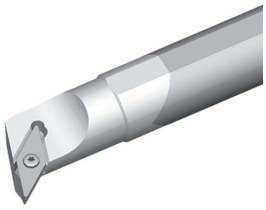
Finitura

A176

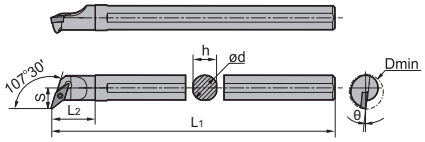
Codice sistema A368 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

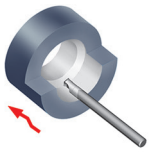
VC** Barre alesatrici in metallo duro integrale S-Bloccaggio

SVQCR/L Kr: 107°30'



Versione destra





Articolo	✻	Stock		Dimensioni [mm]							Inserto
		R	L	D_{min}	ød	h	s	L_1	L_2	θ	
C16R-SVQCR/L11		○	○	22	16	15	13	200	28	-6	VC**1103**
C20S-SVQCR/L11		○	○	26	20	18	15	250	32	-4	VC**1103**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**VC**1103****
	ød	**16-20**
	Vite	I60M2,5×6,5 (1,0 Nm)
	Chiave (vite)	WT07IP

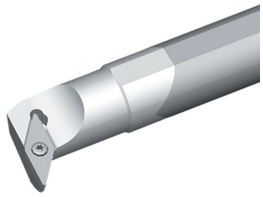
Inserto

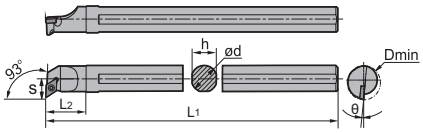
Finitura	**Lavorazione Al.**	**PCBN/PCD**
A186	A184	A226

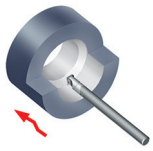
Codice sistema A368 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

VC** Barre alesatrici in metallo duro integrale S-Bloccaggio

SVUCR/L Kr: 93°







Versione destra

Articolo	✻	Stock R	Stock L	Dimensioni [mm] D_{min}	ød	h	s	L_1	L_2	θ	Inserto
C16R-SVUCR/L11			○	24	16	15	15	200	25	6	VC**1103**
E16R-SVUCR/L11	✻	○	○	22	16	15	13	200	-	-6,5	VC**1103**
C20S-SVUCR/L11		●	●	28	20	18	17	250	30	4	VC**1103**
E20S-SVUCR/L11	✻	○	○	27	20	18	13	250	-	-6,5	VC**1103**
E25T-SVUCR/L16	✻	○	○	35	25	23	20,5	300	-	-6,5	VC**1604**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	VC**1103**	VC**1604**
	ød	16-20	25
	Vite	I60M2,5×6,5 (1,0 Nm)	I60M3,5×10 (2,7 Nm)
	Chiave (vite)	WT07IP	WT15IP

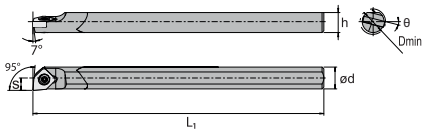
Inserto

Finitura	Media Lavor.	Lavorazione Al.	PCBN/PCD
A186	A187	A184	A226

Codice sistema A368 Scelta gradi A46 Informazioni tecniche A607 Dati di taglio A414

ZN** Barre alesatrici in metallo duro integrale S-Bloccaggio

SZLNR/L Kr: 95°



Versione destra

Articolo	✻	Stock	Dimensioni [mm]						Inserto
			ød	h	s	L_1	D_{min}	θ	
C06X-SZLNR04		○	6	5,5	3,5	80	7	-14	ZNEX0401**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**ZNEX0401****
	ød	**6**
	Vite	I60M2×3,7 (0,5 Nm)
	Chiave (vite)	WT06IP

Inserto

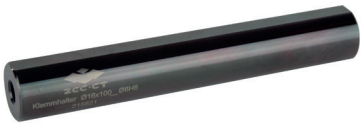
PCBN/PCD

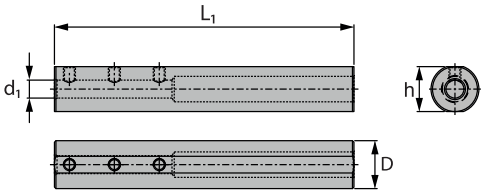
A197

Codice sistema A368 | Scelta gradi A46 | Informazioni tecniche A607 | Dati di taglio A414

Portautensile C06X**

SZLNR Kr: 95°





Articolo	Stock	Dimensioni [mm]			
		D	d_1	L_1	h
SHSZ1600.06.100	●	16	6	100	15

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio		
	Vite	M4x5SH
	Chiave (Vite)	WH20L

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www.zccct-europe.com

Note

Inserti per tornitura, negativi

Gruppo materiali		Composizione/Struttura/Trattamento termico		Durezza HB Brinell	Gruppo di sgrossatura	Velocità di taglio v_c [m/min] HC (CVD) YBC103 Avanzamento [mm] 0,1	0,2	0,6	YB6315 Avanzamento [mm] 0,1	0,2	0,6	YBC152 Avanzamento [mm] 0,1	0,2	0,6
P	Acciaio non legato	ca. 0,15 % C	Temprato	125	1	520	420	280	500	400	270	500	400	270
		ca. 0,45 % C	Temprato	190	2	440	360	250	420	340	230	420	340	230
		ca. 0,45 % C	pre-temprato	250	3	350	300	220	330	280	200	330	280	200
		ca. 0,75 % C	Temprato	270	4	340	290	210	320	270	190	320	270	190
		ca. 0,75 % C	pre-temprato	300	5	300	260	190	280	240	170	280	240	170
	Acciaio al carbonio		Temprato	180	6	420	320	200	400	300	180	400	300	180
			pre-temprato	275	7	300	250	170	280	230	150	280	230	150
			pre-temprato	300	8	280	240	170	260	220	150	260	220	150
			pre-temprato	350	9	250	210	140	230	190	120	230	190	120
	Acciaio alto legato e acciaio alto legato per utensili		ricotto	200	10	380	310	210	360	290	190	360	290	190
			temprato e rinvenuto	325	11	210	180	150	190	160	130	190	160	130
M	Acciaio inossidabile	ferritico/martensitico	ricotto	200	12									
		martensitico	pre-temprato	240	13									
		austenitico	quencing	180	14									
		austenitico-ferritico		230	15									
K	Ghisa grigia	perlitico/ferritico		180	16									
		perlitico (martensitico)		260	17									
	Ghisa sferodale	ferritico		160	18									
		perlitico		250	19									
	Ghisa malleabile	ferritico		130	20									
		perlitico		230	21									
N	Lavorazioni plastiche di leghe di alluminio	non invecchiabile		60	22									
		invecchiabile	indurito	100	23									
	Leghe di alluminio fuso	≤ 12 % Si, non invecchiabile		75	24									
		≤ 12 % Si, invecchiabile	indurito	90	25									
		> 12 % Si, non invecchiabile		130	26									
	Rame e leghe di rame (bronzo/ottone)	Leghe per macchine di tipo multiplo, PB > 1 %		110	27									
		CuZn, CuSnZn		90	28									
		CuSn, rame senza piombo e rame elettrolitico		100	29									
S	Leghe resistenti al calore	Base Fe	ricotto	200	30									
			indurito	280	31									
		Base Ni o Co	ricotto	250	32									
			indurito	350	33									
			fuso	320	34									
	Leghe di titanio	Titanio puro		R_m 400	35									
		Leghe Alpha + Beta	indurito	R_m 1050	36									
H	Acciaio temprato		temprato e rinvenuto	55 HRC	37									
			temprato e rinvenuto	60 HRC	38									
	Ghisa dura		fuso	400	39									
	Ghise temprate		temprato e rinvenuto	55 HRC	40									
X	Materiali non metallici	Termoplastiche			41									
		Termoindurenti			42									
		Vetroresina VTR			43									
		Plastica rinforzata in fibra di carbonio			44									
		Grafite			45									
		Legno			46									

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.
Esempi di materiali per gruppi di taglio sono disponibili a pagina D11.

	Velocità di taglio v_c [m/min]																							
	HC (CVD)																							
	YBC203			YBC252			YBC352			YBM153			YBM253			YBD102			YB7315			YBD152		
	Avanzamento [mm]			Avanzamento [mm]			Avanzamento [mm]			Avanzamento [mm]			Avanzamento [mm]			Avanzamento [mm]			Avanzamento [mm]			Avanzamento [mm]		
	0,1	0,4	0,8	0,1	0,4	0,8	0,2	0,5	1,0	0,2	0,4	0,6	0,2	0,4	0,6	0,1	0,3	0,4	0,1	0,3	0,5	0,1	0,3	0,5
	480	370	230	480	370	230	430	330	220															
	400	310	190	400	310	190	350	270	180															
	310	250	160	310	250	160	260	210	150															
	300	240	150	300	240	150	250	200	140															
	260	210	130	260	210	130	210	170	120															
	380	290	170	380	290	170	320	240	150															
	260	210	140	260	210	140	200	170	120															
	240	200	140	240	200	140	180	160	120															
	220	180	110	220	180	110	150	130	90															
	310	250	170	310	250	170	220	180	130															
	150	130	100	150	130	100	–	–	–															
										380	295	210	350	265	180									
										190	155	120	150	110	65									
										250	200	150	200	140	80									
										200	160	130	160	115	70									
																530	380	220	600	410	220	540	375	210
																240	200	150	330	240	150	280	210	140
																300	210	145	340	250	160	290	215	140
																220	150	105	260	190	120	210	155	100
																330	265	220	370	300	230	320	265	210
																230	155	100	280	200	120	230	165	100

HC metallo duro rivestito
HT metallo duro non rivestito, componente principale (TiC) o (TiN), Cermet
HW metallo duro non rivestito, componente principale (WC)
BL nitruro di boro cubico-cristallino con basso contenuto di nitruro di boro
BH nitruro di boro cubico-cristallino con alto contenuto di nitruro di boro
CN ceramica Si_3N_4
CM ceramica mista
HC_1 cermet rivestito
BC CBN rivestito
CC ceramica rivestito
CR ceramica, componente principale ossido di alluminio (Al_2O_3), rinforzata
DP diamante policristallino

Inserti per tornitura, negativi

Gruppo materiali		Composizione/Struttura/Trattamento termico		Durezza HB Brinell	Gruppo di sgrossatura	Velocità di taglio v_c [m/min]								
						HC (CVD)			HC (PVD)					
						YBD152C			YBG101			YBG102		
						Avanzamento [mm]			Avanzamento [mm]			Avanzamento [mm]		
						0,1	0,3	0,5	0,1	0,3	0,6	0,1	0,3	0,6
P	Acciaio non legato	ca. 0,15 % C	Temprato	125	1									
		ca. 0,45 % C	Temprato	190	2									
		ca. 0,45 % C	pre-temprato	250	3									
		ca. 0,75 % C	Temprato	270	4									
		ca. 0,75 % C	pre-temprato	300	5									
	Acciaio al carbonio		Temprato	180	6									
			pre-temprato	275	7									
			pre-temprato	300	8									
			pre-temprato	350	9									
	Acciaio alto legato e acciaio alto legato per utensili		ricotto	200	10									
			temprato e rinvenuto	325	11									
M	Acciaio inossidabile	ferritico/martensitico	ricotto	200	12							360	290	200
		martensitico	pre-temprato	240	13							180	150	110
		austenitico	quencing	180	14							240	190	140
		austenitico-ferritico		230	15							190	150	110
K	Ghisa grigia	perlitico/ferritico		180	16	570	395	220						
		perlitico (martensitico)		260	17	310	230	150						
	Ghisa sferodale	ferritico		160	18	310	230	150						
		perlitico		250	19	230	170	110						
	Ghisa malleabile	ferritico		130	20	340	280	220						
		perlitico		230	21	250	180	110						
N	Lavorazioni plastiche di leghe di alluminio	non invecchiabile		60	22				2000	1200	–	2000	1200	–
		invecchiabile	indurito	100	23				610	420	–	610	420	–
	Leghe di alluminio fuso	≤ 12 % Si, non invecchiabile		75	24				550	300	–	550	300	–
		≤ 12 % Si, invecchiabile	indurito	90	25				360	190	–	360	190	–
		> 12 % Si, non invecchiabile		130	26				320	170	–	320	170	–
	Rame e leghe di rame (bronzo/ottone)	Leghe per macchine di tipo multiplo, PB > 1 %		110	27				730	350	–	730	350	–
		CuZn, CuSnZn		90	28				370	330	–	370	330	–
		CuSn, rame senza piombo e rame elettrolitico		100	29				270	200	–	270	200	–
S	Leghe resistenti al calore	Base Fe	ricotto	200	30							65	45	–
			indurito	280	31							60	40	–
		Base Ni o Co	ricotto	250	32							60	40	–
			indurito	350	33							55	35	–
			fuso	320	34							55	35	–
	Leghe di titanio	Titanio puro		R_m 400	35							100	60	–
		Leghe Alpha + Beta	indurito	R_m 1050	36							80	40	–
H	Acciaio temprato		temprato e rinvenuto	55 HRC	37									
			temprato e rinvenuto	60 HRC	38									
	Ghisa dura		fuso	400	39									
	Ghise temprate		temprato e rinvenuto	55 HRC	40									
X	Materiali non metallici	Termoplastiche			41									
		Termoindurenti			42									
		Vetroresina VTR			43									
		Plastica rinforzata in fibra di carbonio			44									
		Grafite			45									
		Legno			46									

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.
Esempi di materiali per gruppi di taglio sono disponibili a pagina D11.

	Velocità di taglio v_c [m/min]																							
	HC (PVD)															HC_1			HT					
	YBS103			YBG105			YB9320			YBG205(H)			YPD201			YNG151C			YNG151			YNT251		
	Avanzamento [mm]			Avanzamento [mm]			Avanzamento [mm]			Avanzamento [mm]			Avanzamento [mm]			Avanzamento [mm]			Avanzamento [mm]			Avanzamento [mm]		
	0,1	0,3	0,6	0,1	0,3	0,6	0,1	0,3	0,6	0,1	0,3	0,6	0,1	0,3	0,6	0,1	0,2	0,4	0,1	0,2	0,4	0,1	0,2	0,4
																510	350	–	510	350	–	510	350	–
																430	270	–	430	270	–	430	270	–
																330	220	–	330	220	–	330	220	–
																320	200	–	320	200	–	320	200	–
																280	170	–	280	170	–	280	170	–
																400	240	–	400	240	–	400	240	–
																290	180	–	290	180	–	290	180	–
																240	170	–	240	170	–	240	170	–
																220	150	–	220	150	–	220	150	–
																340	220	–	340	220	–	340	220	–
																180	110	–	180	110	–	180	110	–
	360	290	200	360	290	200	360	290	200	320	250	160	360	290	200									
	180	150	110	180	150	110	190	155	110	170	150	110	190	155	110									
	240	190	140	240	190	140	250	210	150	230	190	140	250	210	150									
	190	150	110	190	150	110	200	165	120	180	150	110	200	165	120									
																430	365	280	430	365	280	430	365	280
																390	340	270	390	340	270	390	340	270
																360	300	220	360	300	220	360	300	220
																340	295	230	340	295	230	340	295	230
																310	260	190	310	260	190	310	260	190
																250	210	150	250	210	150	250	210	150
	80	65	45	65	45	–	55	35	–	55	–	–	–	65	45									
	75	60	40	60	40	–	50	30	–	50	–	–	–	60	40									
	70	60	40	60	40	–	50	30	–	50	–	–	–	60	40									
	65	55	35	55	35	–	45	25	–	45	–	–	–	55	35									
	65	55	35	55	35	–	45	25	–	45	–	–	–	55	35									
	110	100	60	100	60	–	80	60	–	70	–	–	–	100	60									
	90	80	40	80	40	–	60	40	–	50	–	–	–	80	40									

HC metallo duro rivestito
HT metallo duro non rivestito, componente principale (TiC) o (TiN), Cermet
HW metallo duro non rivestito, componente principale (WC)
BL nitruro di boro cubico-cristallino con basso contenuto di nitruro di boro
BH nitruro di boro cubico-cristallino con alto contenuto di nitruro di boro
CN ceramica Si_3N_4
CM ceramica mista
HC_1 cermet rivestito
BC CBN rivestito
CC ceramica rivestito
CR ceramica, componente principale ossido di alluminio (Al_2O_3), rinforzata
DP diamante policristallino

Inserti per tornitura, negativi

Gruppo materiali		Composizione/Struttura/Trattamento termico		Durezza HB Brinell	Gruppo di sgrossatura	Velocità di taglio v_c [m/min]								
						HW						BL		
						YD101			YD201			YCB112		
						Avanzamento [mm]			Avanzamento [mm]			Avanzamento [mm]		
						0,05	0,2	0,35	0,1	0,2	0,3	0,1	0,2	0,3
P	Acciaio non legato	ca. 0,15 % C	Temprato	125	1									
		ca. 0,45 % C	Temprato	190	2									
		ca. 0,45 % C	pre-temprato	250	3									
		ca. 0,75 % C	Temprato	270	4									
		ca. 0,75 % C	pre-temprato	300	5									
	Acciaio al carbonio		Temprato	180	6									
			pre-temprato	275	7									
			pre-temprato	300	8									
			pre-temprato	350	9									
	Acciaio alto legato e acciaio alto legato per utensili		ricotto	200	10									
			temprato e rinvenuto	325	11									
M	Acciaio inossidabile	ferritico/martensitico	ricotto	200	12									
		martensitico	pre-temprato	240	13									
		austenitico	quencing	180	14									
		austenitico-ferritico		230	15									
K	Ghisa grigia	perlitico/ferritico		180	16									
		perlitico (martensitico)		260	17									
	Ghisa sferodale	ferritico		160	18									
		perlitico		250	19									
	Ghisa malleabile	ferritico		130	20									
		perlitico		230	21									
N	Lavorazioni plastiche di leghe di alluminio	non invecchiabile		60	22	1750	1200	800	1750	1200	800			
		invecchiabile	indurito	100	23	510	380	250	510	380	250			
	Leghe di alluminio fuso	≤ 12 % Si, non invecchiabile		75	24	460	320	175	460	320	175			
		≤ 12 % Si, invecchiabile	indurito	90	25	300	205	110	300	205	110			
		> 12 % Si, non invecchiabile		130	26	270	185	100	270	185	100			
	Rame e leghe di rame (bronzo/ottone)	Leghe per macchine di tipo multiplo, PB > 1 %		110	27	610	410	205	610	410	205			
		CuZn, CuSnZn		90	28	310	250	195	310	250	195			
		CuSn, rame senza piombo e rame elettrolitico		100	29	225	170	115	225	170	115			
S	Leghe resistenti al calore	Base Fe	ricotto	200	30									
			indurito	280	31									
		Base Ni o Co	ricotto	250	32							180	160	140
			indurito	350	33							160	140	120
			fuso	320	34							120	100	80
	Leghe di titanio	Titanio puro		R_m 400	35									
		Leghe Alpha + Beta	indurito	R_m 1050	36									
H	Acciaio temprato		temprato e rinvenuto	55 HRC	37							220	170	130
			temprato e rinvenuto	60 HRC	38							200	160	120
	Ghisa dura		fuso	400	39							200	150	100
	Ghise temprate		temprato e rinvenuto	55 HRC	40							200	150	100
X	Materiali non metallici	Termoplastiche			41									
		Termoindurenti			42									
		Vetroresina VTR			43									
		Plastica rinforzata in fibra di carbonio			44									
		Grafite			45									
		Legno			46									

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.
Esempi di materiali per gruppi di taglio sono disponibili a pagina D11.

	Velocità di taglio v_c [m/min]																							
	BL									BC									BH			BL		
	YCB113			YCB121			YCB131			YCB113C			YCB121C			YCB131C			YCB215			YZB630		
	Avanzamento [mm]			Avanzamento [mm]			Avanzamento [mm]			Avanzamento [mm]			Avanzamento [mm]			Avanzamento [mm]			Avanzamento [mm]			Avanzamento [mm]		
	0,1	0,2	0,3	0,1	0,2	0,3	0,1	0,3	0,5	0,1	0,2	0,3	0,1	0,2	0,3	0,1	0,3	0,5	0,1	0,3	0,5	0,1	0,3	0,5
																			1500	980	400			
																			1250	800	320			
																			–	–	–			
																			300	200	100			
																			–	–	–			
																			300	200	100			
							160	140	120															
							140	120	100															
							120	100	80															
	240	180	140	220	170	130	160	120	100	240	180	140	220	170	130	160	120	100				220	170	130
	220	180	140	200	160	120	150	120	100	220	180	140	200	160	120	150	120	100				200	160	120
	250	150	100	200	150	100	180	120	100	250	150	100	200	150	100	180	120	100				200	150	100
	200	150	100	200	150	100	150	120	100	200	150	100	200	150	100	150	120	100				200	150	100

HC metallo duro rivestito
HT metallo duro non rivestito, componente principale (TiC) o (TiN), Cermet
HW metallo duro non rivestito, componente principale (WC)
BL nitruro di boro cubico-cristallino con basso contenuto di nitruro di boro
BH nitruro di boro cubico-cristallino con alto contenuto di nitruro di boro
CN ceramica Si_3N_4
CM ceramica mista
HC_1 cermet rivestito
BC CBN rivestito
CC ceramica rivestito
CR ceramica, componente principale ossido di alluminio (Al_2O_3), rinforzata
DP diamante policristallino

Inserti per tornitura, negativi

Gruppo materiali		Composizione/Struttura/Trattamento termico		Durezza HB Brinell	Gruppo di sgrossatura	Velocità di taglio v_c [m/min]									
						BC			BH			CM			
						YZB630C			YZB233			CA1000			
						Avanzamento [mm]			Avanzamento [mm]			Avanzamento [mm]			
						0,1	0,3	0,5	0,3	0,9	1,5	0,1	0,6	1,5	
P	Acciaio non legato	ca. 0,15 % C	Temprato	125	1										
		ca. 0,45 % C	Temprato	190	2										
		ca. 0,45 % C	pre-temprato	250	3										
		ca. 0,75 % C	Temprato	270	4										
		ca. 0,75 % C	pre-temprato	300	5										
	Acciaio al carbonio		Temprato	180	6										
			pre-temprato	275	7										
			pre-temprato	300	8										
			pre-temprato	350	9										
	Acciaio alto legato e acciaio alto legato per utensili		ricotto	200	10										
			temprato e rinvenuto	325	11										
M	Acciaio inossidabile	ferritico/martensitico	ricotto	200	12										
		martensitico	pre-temprato	240	13										
		austenitico	quencing	180	14										
		austenitico-ferritico		230	15										
K	Ghisa grigia	perlitico/ferritico		180	16				1500	950	400				
		perlitico (martensitico)		260	17				1250	780	320				
	Ghisa sferodale	ferritico		160	18				–	–	–				
		perlitico		250	19				500	300	100				
	Ghisa malleabile	ferritico		130	20				–	–	–				
		perlitico		230	21				500	300	100				
N	Lavorazioni plastiche di leghe di alluminio	non invecchiabile		60	22										
		invecchiabile	indurito	100	23										
	Leghe di alluminio fuso	≤ 12 % Si, non invecchiabile		75	24										
		≤ 12 % Si, invecchiabile	indurito	90	25										
		> 12 % Si, non invecchiabile		130	26										
	Rame e leghe di rame (bronzo/ottone)	Leghe per macchine di tipo multiplo, PB > 1 %		110	27										
		CuZn, CuSnZn		90	28										
		CuSn, rame senza piombo e rame elettrolitico		100	29										
S	Leghe resistenti al calore	Base Fe	ricotto	200	30										
			indurito	280	31										
		Base Ni o Co	ricotto	250	32										
			indurito	350	33										
			fuso	320	34										
	Leghe di titanio	Titanio puro		R_m 400	35										
		Leghe Alpha + Beta	indurito	R_m 1050	36										
H	Acciaio temprato		temprato e rinvenuto	55 HRC	37	220	170	130				180	150	120	
			temprato e rinvenuto	60 HRC	38	200	160	120				140	120	80	
	Ghisa dura		fuso	400	39	200	150	100				80	60	40	
	Ghise temprate		temprato e rinvenuto	55 HRC	40	200	150	100				–	–	–	
X	Materiali non metallici	Termoplastiche			41										
		Termoindurenti			42										
		Vetroresina VTR			43										
		Plastica rinforzata in fibra di carbonio			44										
		Grafite			45										
		Legno			46										

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.
Esempi di materiali per gruppi di taglio sono disponibili a pagina D11.

	Velocità di taglio v_c [m/min]																		
	CC			CN									CR						
	CM1000			CN1000			CS1000			CSX1000			CW1400			CW1800			
	Avanzamento [mm]			Avanzamento [mm]			Avanzamento [mm]			Avanzamento [mm]			Avanzamento [mm]						
	0,1	0,6	1,5	0,1	0,6	1,5	0,1	0,6	1,5	0,1	0,6	1,5	0,1	0,6	1,5	0,1	0,6	1,5	
				800	700	600													
				750	625	500													
				600	530	450													
				500	420	350													
				800	700	600													
				700	600	500													
							–	–	–	–	–	–	–	–	–	–	–	–	
							–	–	–	–	–	–	–	–	–	–	–	–	
							450	400	350	450	400	350	400	350	300	400	350	300	
							300	250	200	300	250	200	300	250	200	300	250	200	
							250	180	150	250	180	150	180	160	140	180	160	140	
							–	–	–	–	–	–	–	–	–	–	–	–	
							–	–	–	–	–	–	–	–	–	–	–	–	
	200	160	140																
	150	130	100																
	–	–	–																
	–	–	–																

HC metallo duro rivestito
HT metallo duro non rivestito, componente principale (TiC) o (TiN), Cermet
HW metallo duro non rivestito, componente principale (WC)
BL nitruro di boro cubico-cristallino con basso contenuto di nitruro di boro
BH nitruro di boro cubico-cristallino con alto contenuto di nitruro di boro
CN ceramica Si_3N_4
CM ceramica mista
HC_1 cermet rivestito
BC CBN rivestito
CC ceramica rivestito
CR ceramica, componente principale ossido di alluminio (Al_2O_3), rinforzata
DP diamante policristallino

Inserti per tornitura, positivi

Gruppo materiali		Composizione/Struttura/Trattamento termico		Durezza HB Brinell	Gruppo di sgrossatura	Velocità di taglio v_c [m/min] HC (CVD) YBC103 Avanzamento [mm] 0,1	0,2	0,4	YB6315 Avanzamento [mm] 0,1	0,2	0,4	YBC152 Avanzamento [mm] 0,1	0,2	0,4
P	Acciaio non legato	ca. 0,15 % C	Temprato	125	1	460	400	280	450	390	270	450	390	270
		ca. 0,45 % C	Temprato	190	2	390	340	240	380	330	230	380	330	230
		ca. 0,45 % C	pre-temprato	250	3	310	275	210	300	265	200	300	265	200
		ca. 0,75 % C	Temprato	270	4	300	265	200	290	255	190	290	255	190
		ca. 0,75 % C	pre-temprato	300	5	260	235	180	250	225	170	250	225	170
	Acciaio al carbonio		Temprato	180	6	370	310	190	360	300	180	360	300	180
			pre-temprato	275	7	260	220	160	250	210	150	250	210	150
			pre-temprato	300	8	240	210	160	230	200	150	230	200	150
			pre-temprato	350	9	210	180	130	200	170	120	200	170	120
	Acciaio alto legato e acciaio alto legato per utensili		ricotto	200	10	330	285	200	320	275	190	320	275	190
			temprato e rinvenuto	325	11	170	160	140	160	150	130	160	150	130
M	Acciaio inossidabile	ferritico/martensitico	ricotto	200	12									
		martensitico	pre-temprato	240	13									
		austenitico	quencing	180	14									
		austenitico-ferritico		230	15									
K	Ghisa grigia	perlitico/ferritico		180	16									
		perlitico (martensitico)		260	17									
	Ghisa sferodale	ferritico		160	18									
		perlitico		250	19									
	Ghisa malleabile	ferritico		130	20									
		perlitico		230	21									
N	Lavorazioni plastiche di leghe di alluminio	non invecchiabile		60	22									
		invecchiabile	indurito	100	23									
	Leghe di alluminio fuso	≤ 12 % Si, non invecchiabile		75	24									
		≤ 12 % Si, invecchiabile	indurito	90	25									
		> 12 % Si, non invecchiabile		130	26									
	Rame e leghe di rame (bronzo/ottone)	Leghe per macchine di tipo multiplo, PB > 1 %		110	27									
		CuZn, CuSnZn		90	28									
		CuSn, rame senza piombo e rame elettrolitico		100	29									
S	Leghe resistenti al calore	Base Fe	ricotto	200	30									
			indurito	280	31									
		Base Ni o Co	ricotto	250	32									
			indurito	350	33									
			fuso	320	34									
	Leghe di titanio	Titanio puro		R_m 400	35									
		Leghe Alpha + Beta	indurito	R_m 1050	36									
H	Acciaio temprato		temprato e rinvenuto	55 HRC	37									
			temprato e rinvenuto	60 HRC	38									
	Ghisa dura		fuso	400	39									
	Ghise temprate		temprato e rinvenuto	55 HRC	40									
X	Materiali non metallici	Termoplastiche			41									
		Termoindurenti			42									
		Vetroresina VTR			43									
		Plastica rinforzata in fibra di carbonio			44									
		Grafite			45									
		Legno			46									

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.
Esempi di materiali per gruppi di taglio sono disponibili a pagina D11.

	Velocità di taglio v_c [m/min]																							
	HC (CVD)																							
	YBC203			YBC252			YBC352			YBM153			YBM253			YBD102			YB7315			YBD152		
	Avanzamento [mm]			Avanzamento [mm]			Avanzamento [mm]			Avanzamento [mm]			Avanzamento [mm]			Avanzamento [mm]			Avanzamento [mm]			Avanzamento [mm]		
	0,1	0,3	0,6	0,1	0,3	0,6	0,2	0,4	0,6	0,1	0,2	0,4	0,1	0,2	0,4	0,1	0,2	0,4	0,1	0,2	0,4	0,1	0,2	0,4
	430	350	230	430	350	230	390	310	230															
	360	295	190	360	295	190	315	250	190															
	280	235	160	280	235	160	230	195	160															
	270	225	150	270	225	150	220	185	150															
	235	195	130	235	195	130	185	155	120															
	340	270	170	340	270	170	290	225	150															
	235	195	140	235	195	140	170	150	130															
	220	180	140	220	180	140	150	140	130															
	190	155	110	190	155	110	130	110	90															
	280	230	170	280	230	170	180	160	140															
	130	115	100	130	115	100	–	–	–															
										360	340	260	330	300	230									
										180	170	140	150	130	95									
										240	220	170	195	170	115									
										190	175	140	160	140	100									
																480	345	200	540	370	200	490	340	190
																220	180	135	300	220	135	250	190	130
																270	210	130	300	230	145	260	200	125
																200	150	95	230	180	110	190	140	90
																275	240	180	310	260	190	265	230	170
																190	145	85	230	170	100	190	140	90

HC	metallo duro rivestito
HT	metallo duro non rivestito, componente principale (TiC) o (TiN), Cermet
HW	metallo duro non rivestito, componente principale (WC)
BL	nitruro di boro cubico-cristallino con basso contenuto di nitruro di boro
BH	nitruro di boro cubico-cristallino con alto contenuto di nitruro di boro
CN	ceramica Si_3N_4
CM	ceramica mista
HC_1	cermet rivestito
BC	CBN rivestito
CC	ceramica rivestito
CR	ceramica, componente principale ossido di alluminio (Al_2O_3), rinforzata
DP	diamante policristallino

Inserti per tornitura, positivi

Gruppo materiali		Composizione/Struttura/Trattamento termico		Durezza HB Brinell	Gruppo di sgrossatura	Velocità di taglio v_c [m/min]									
						HC (CVD)			HC (PVD)						
						YBD152C			YBG101			YBG102			
						Avanzamento [mm]			Avanzamento [mm]			Avanzamento [mm]			
						0,1	0,2	0,4	0,1	0,2	0,4	0,1	0,2	0,4	
P	Acciaio non legato	ca. 0,15 % C	Temprato	125	1										
		ca. 0,45 % C	Temprato	190	2										
		ca. 0,45 % C	pre-temprato	250	3										
		ca. 0,75 % C	Temprato	270	4										
		ca. 0,75 % C	pre-temprato	300	5										
	Acciaio al carbonio		Temprato	180	6										
			pre-temprato	275	7										
			pre-temprato	300	8										
			pre-temprato	350	9										
	Acciaio alto legato e acciaio alto legato per utensili		ricotto	200	10										
			temprato e rinvenuto	325	11										
M	Acciaio inossidabile	ferritico/martensitico	ricotto	200	12							305	245	205	
		martensitico	pre-temprato	240	13							150	125	100	
		austenitico	quencing	180	14							200	165	145	
		austenitico-ferritico		230	15							160	130	115	
K	Ghisa grigia	perlitico/ferritico		180	16	520	360	200							
		perlitico (martensitico)		260	17	280	210	135							
	Ghisa sferodale	ferritico		160	18	280	220	135							
		perlitico		250	19	210	160	100							
	Ghisa malleabile	ferritico		130	20	280	245	180							
		perlitico		230	21	210	160	100							
N	Lavorazioni plastiche di leghe di alluminio	non invecchiabile		60	22				1800	880	–	1800	880	–	
		invecchiabile	indurito	100	23				540	380	–	540	380	–	
	Leghe di alluminio fuso	≤ 12 % Si, non invecchiabile		75	24				500	270	–	500	270	–	
		≤ 12 % Si, invecchiabile	indurito	90	25				320	170	–	320	170	–	
		> 12 % Si, non invecchiabile		130	26				290	150	–	290	150	–	
	Rame e leghe di rame (bronzo/ottone)	Leghe per macchine di tipo multiplo, PB > 1 %		110	27				660	320	–	660	320	–	
		CuZn, CuSnZn		90	28				330	300	–	330	300	–	
		CuSn, rame senza piombo e rame elettrolitico		100	29				220	175	–	220	175	–	
S	Leghe resistenti al calore	Base Fe	ricotto	200	30							60	45	–	
			indurito	280	31							55	40	–	
		Base Ni o Co	ricotto	250	32							55	40	–	
			indurito	350	33							50	35	–	
			fuso	320	34							50	35	–	
	Leghe di titanio	Titanio puro		R_m 400	35							95	60	–	
		Leghe Alpha + Beta	indurito	R_m 1050	36							75	40	–	
H	Acciaio temprato		temprato e rinvenuto	55 HRC	37										
			temprato e rinvenuto	60 HRC	38										
	Ghisa dura		fuso	400	39										
	Ghise temprate		temprato e rinvenuto	55 HRC	40										
X	Materiali non metallici	Termoplastiche			41										
		Termoindurenti			42										
		Vetroresina VTR			43										
		Plastica rinforzata in fibra di carbonio			44										
		Grafite			45										
		Legno			46										

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.
Esempi di materiali per gruppi di taglio sono disponibili a pagina D11.

	Velocità di taglio v_c [m/min]																							
	HC (PVD)															HC_1			HT					
	YBS103			YBG105			YB9320			YBG205(H)			YPD201			YNG151C			YNG151			YNT251		
	Avanzamento [mm]			Avanzamento [mm]			Avanzamento [mm]			Avanzamento [mm]			Avanzamento [mm]			Avanzamento [mm]			Avanzamento [mm]			Avanzamento [mm]		
	0,1	0,2	0,4	0,1	0,2	0,4	0,1	0,2	0,4	0,1	0,2	0,4	0,1	0,3	0,6	0,1	0,2	0,4	0,1	0,2	0,4	0,1	0,2	0,4
																470	320	–	470	320	–	470	320	–
																400	250	–	400	250	–	400	250	–
																300	200	–	300	200	–	300	200	–
																290	180	–	290	180	–	290	180	–
																245	150	–	245	150	–	245	150	–
																370	220	–	370	220	–	370	220	–
																255	160	–	255	160	–	255	160	–
																200	140	–	200	140	–	200	140	–
																185	130	–	185	130	–	185	130	–
																285	180	–	285	180	–	285	180	–
																150	90	–	150	90	–	150	90	–
	305	245	205	305	245	205	305	245	206	270	205	165	360	290	200									
	150	125	100	150	125	100	160	130	110	145	125	100	190	155	110									
	200	165	145	200	165	145	210	180	155	195	165	145	250	210	150									
	160	130	115	160	130	115	170	140	120	155	130	115	200	165	120									
																390	330	255	390	330	255	390	330	255
																355	310	245	355	310	245	355	310	245
																330	270	200	330	270	200	330	270	200
																310	270	210	310	270	210	310	270	210
																260	220	160	260	220	160	260	220	160
																210	170	120	210	170	120	210	170	120
	70	50	–	60	45	–	50	35	–	50	–	–	–	50	35									
	60	45	–	55	40	–	45	30	–	45	–	–	–	45	30									
	60	45	–	55	40	–	45	30	–	45	–	–	–	45	30									
	66	40	–	50	35	–	40	–	–	40	–	–	–	40	–									
	66	40	–	50	35	–	40	–	–	40	–	–	–	40	–									
	100	65	–	95	60	–	75	60	–	70	–	–	–	75	60									
	75	50	–	75	40	–	55	40	–	45	–	–	–	55	40									

HC metallo duro rivestito
HT metallo duro non rivestito, componente principale (TiC) o (TiN), Cermet
HW metallo duro non rivestito, componente principale (WC)
BL nitruro di boro cubico-cristallino con basso contenuto di nitruro di boro
BH nitruro di boro cubico-cristallino con alto contenuto di nitruro di boro
CN ceramica Si_3N_4
CM ceramica mista
HC_1 cermet rivestito
BC CBN rivestito
CC ceramica rivestito
CR ceramica, componente principale ossido di alluminio (Al_2O_3), rinforzata
DP diamante policristallino

Inserti per tornitura, positivi

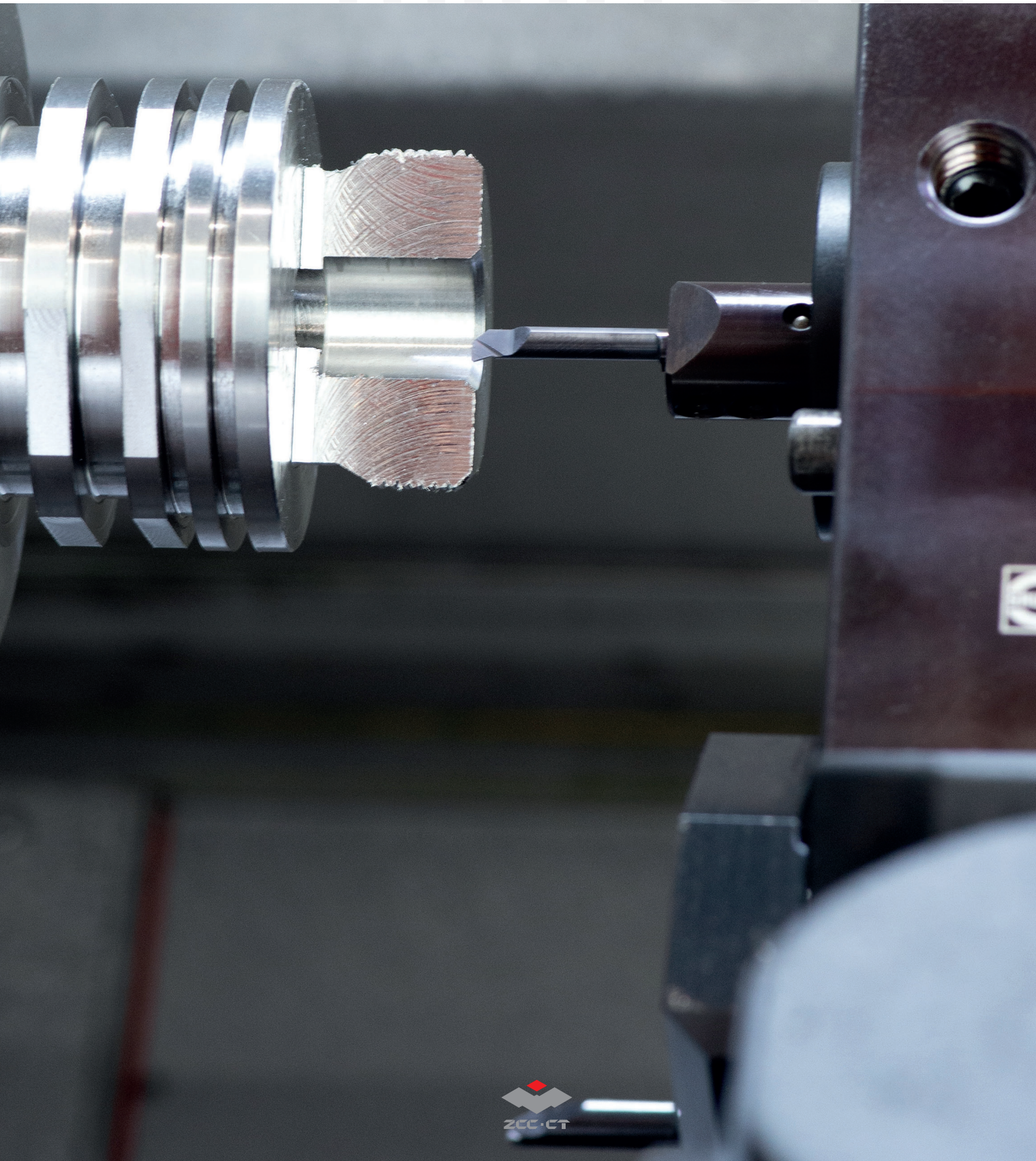
Gruppo materiali		Composizione/Struttura/Trattamento termico		Durezza HB Brinell	Gruppo di sgrossatura	Velocità di taglio v_c [m/min]								
						HW						BL		
						YD101			YD201			YCB112		
						Avanzamento [mm]			Avanzamento [mm]			Avanzamento [mm]		
						0,1	0,2	0,3	0,1	0,2	0,3	0,1	0,2	0,3
P	Acciaio non legato	ca. 0,15 % C	Temprato	125	1									
		ca. 0,45 % C	Temprato	190	2									
		ca. 0,45 % C	pre-temprato	250	3									
		ca. 0,75 % C	Temprato	270	4									
		ca. 0,75 % C	pre-temprato	300	5									
	Acciaio al carbonio		Temprato	180	6									
			pre-temprato	275	7									
			pre-temprato	300	8									
			pre-temprato	350	9									
	Acciaio alto legato e acciaio alto legato per utensili		ricotto	200	10									
			temprato e rinvenuto	325	11									
M	Acciaio inossidabile	ferritico/martensitico	ricotto	200	12									
		martensitico	pre-temprato	240	13									
		austenitico	quencing	180	14									
		austenitico-ferritico		230	15									
K	Ghisa grigia	perlitico/ferritico		180	16									
		perlitico (martensitico)		260	17									
	Ghisa sferodale	ferritico		160	18									
		perlitico		250	19									
	Ghisa malleabile	ferritico		130	20									
		perlitico		230	21									
N	Lavorazioni plastiche di leghe di alluminio	non invecchiabile		60	22	1550	1050	700	1550	1050	700			
		invecchiabile	indurito	100	23	450	320	200	450	320	200			
	Leghe di alluminio fuso	≤ 12 % Si, non invecchiabile		75	24	400	270	150	400	270	150			
		≤ 12 % Si, invecchiabile	indurito	90	25	250	170	95	250	170	95			
		> 12 % Si, non invecchiabile		130	26	230	150	85	230	150	85			
	Rame e leghe di rame (bronzo/ottone)	Leghe per macchine di tipo multiplo, PB > 1 %		110	27	550	370	170	550	370	170			
		CuZn, CuSnZn		90	28	260	210	160	260	210	160			
		CuSn, rame senza piombo e rame elettrolitico		100	29	190	145	95	190	145	95			
S	Leghe resistenti al calore	Base Fe	ricotto	200	30	55	30	–	55	30	–	–	–	–
			indurito	280	31	55	25	–	55	25	–	–	–	–
		Base Ni o Co	ricotto	250	32	45	25	–	45	25	–	180	160	140
			indurito	350	33	35	20	–	35	20	–	160	140	120
			fuso	320	34	40	20	–	40	20	–	120	100	80
	Leghe di titanio	Titanio puro		R_m 400	35	60	40	–	60	40	–	–	–	–
		Leghe Alpha + Beta	indurito	R_m 1050	36	30	–	–	30	–	–	–	–	–
H	Acciaio temprato		temprato e rinvenuto	55 HRC	37							220	170	130
			temprato e rinvenuto	60 HRC	38							200	160	120
	Ghisa dura		fuso	400	39							200	150	100
	Ghise temprate		temprato e rinvenuto	55 HRC	40							200	150	100
X	Materiali non metallici	Termoplastiche			41									
		Termoindurenti			42									
		Vetroresina VTR			43									
		Plastica rinforzata in fibra di carbonio			44									
		Grafite			45									
		Legno			46									

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.
Esempi di materiali per gruppi di taglio sono disponibili a pagina D11.

	Velocità di taglio v_c [m/min]																							
	BL									BC									BH			DP		
	YCB113			YCB121			YCB131			YCB113C			YCB121C			YCB131C			YCB215			YCD421		
	Avanzamento [mm]			Avanzamento [mm]			Avanzamento [mm]			Avanzamento [mm]			Avanzamento [mm]			Avanzamento [mm]			Avanzamento [mm]					
	0,1	0,2	0,3	0,1	0,2	0,3	0,1	0,2	0,3	0,1	0,2	0,3	0,1	0,2	0,3	0,1	0,2	0,3	0,1	0,2	0,3	0,05	0,2	0,4
																			1500	980	400			
																			1250	800	320			
																			–	–	–			
																			300	200	100			
																			–	–	–			
																			300	200	100			
																						2500	2000	250
																						2500	2000	250
																						2500	2000	250
																						2500	2000	250
																						1000	800	100
																						650	530	70
																						650	530	70
																						400	330	40
							–	–	–															
							–	–	–															
							160	140	120															
							140	120	100															
							120	100	80															
							–	–	–															
							–	–	–															
	240	180	140	220	170	130	160	120	100	240	180	140	220	170	130	160	120	100						
	220	180	140	200	160	120	150	120	100	220	180	140	200	160	120	150	120	100						
	250	150	100	200	150	100	180	120	100	250	150	100	200	150	100	180	120	100						
	200	150	100	200	150	100	150	120	100	200	150	100	200	150	100	150	120	100						

HC metallo duro rivestito
HT metallo duro non rivestito, componente principale (TiC) o (TiN), Cermet
HW metallo duro non rivestito, componente principale (WC)
BL nitruro di boro cubico-cristallino con basso contenuto di nitruro di boro
BH nitruro di boro cubico-cristallino con alto contenuto di nitruro di boro
CN ceramica Si_3N_4
CM ceramica mista
HC_1 cermet rivestito
BC CBN rivestito
CC ceramica rivestito
CR ceramica, componente principale ossido di alluminio (Al_2O_3), rinforzata
DP diamante policristallino

miniTURN



miniTURN

Panoramica del prodotto	**A430**
Panoramica dei gradi	**A431**
Codice sistema – inserti di taglio (T1-T4, C1, B1)	**A432**
Tornitura interna e copiatura	**A433-A437**
Tornitura interna e smussatura 45°	**A438**
Tornitura a tirare	**A439**
Codice sistema – inserti di taglio (G1-G2, F1-F3)	**A440**
Scanalatura/scanalatura e tornitura	**A441-A444**
Scanalatura assiale	**A445-A447**
Codice sistema – inserti di taglio (P1-P4)	**A448**
Filettatura	**A449-A453**
Codice sistema – portautensili	**A454**
Portautensili	**A455-A460**
Raccomandazioni sui dati di taglio	**A462-A463**
Utensili speciali	**A461**

Inserti di taglio

Serie	Inserto di taglio	Applicazione		Pagina
T1		Tornitura interna copiatura		A433
T2				A435
T3				A436
T4				A437
C1		Tornitura interna smussatura		A438
B1		Tornitura a tirare		A439
G1		Scanalatura scanalatura e tornitura		A441
G2				A444
F1		Scanalatura assiale		A445
F2				A446
F3				A447
P1		Filettatura		A449
P2				A450
P3				A451
P4				A452

miniTURN

Grado	ISO	Microstruttura	Descrizione gradi
YPG202	P10 - P30 M10 - M25		Grado di metallo duro con rivestimento in PVD P10–P30/M10–M25 per lavorazioni dalla finitura all'asportazione media di acciai inossidabili e acciaio. Ottima resistenza all´usura in una vasta gamma di applicazioni.

Inserti di taglio (T1–T4, C1, B1)

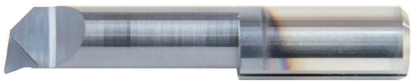
T1	6	60	21	020	L/R	YPG202
1	2	3	4	5	6	7

Serie	Sezione trasversale codolo D (h6) [mm]	Diametro foro min. D_{min} [mm]
1	2	3
Lunghezza utile L_1 [mm]	Raggio R [µm]	Versione
4	5	6
Grado		
7		

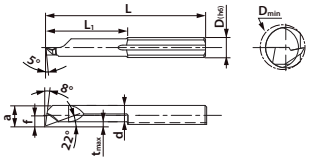
Tornitura interna e copiatura

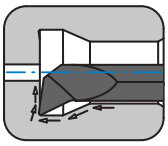
T1

– Lato anteriore 8°
– Angolo libero 22°



Versione destra





Articolo	✻	Dimensioni [mm]									YPG202
		D (h6)	D_{min}	L_1	L	R	t_{max}	a	f	d	
T1.4.10.04.008L		4	1	4	20	0,08	0,1	0,9	0,45	0,7	○
T1.4.10.04.008R		4	1	4	20	0,08	0,1	0,9	0,45	0,7	●
T1.4.10.06.008L		4	1	6	22	0,08	0,1	0,9	0,45	0,7	○
T1.4.10.06.008R		4	1	6	22	0,08	0,1	0,9	0,45	0,7	●
T1.4.10.08.008L		4	1	8	24	0,08	0,1	0,9	0,45	0,7	○
T1.4.10.08.008R		4	1	8	24	0,08	0,1	0,9	0,45	0,7	●
T1.4.20.06.010L		4	2	6	22	0,1	0,2	1,7	0,85	1,4	○
T1.4.20.06.010R		4	2	6	22	0,1	0,2	1,7	0,85	1,4	●
T1.4.20.11.005R		4	2	11	27	0,05	0,2	1,7	0,85	1,4	○
T1.4.20.11.010L		4	2	11	27	0,1	0,2	1,7	0,85	1,4	●
T1.4.20.11.010R		4	2	11	27	0,1	0,2	1,7	0,85	1,4	●
T1.4.30.11.015L		4	3	11	27	0,15	0,25	2,75	1,375	2,4	○
T1.4.30.11.015R		4	3	11	27	0,15	0,25	2,75	1,375	2,4	●
T1.4.30.16.005R		4	3	16	32	0,05	0,25	2,75	1,375	2,4	○
T1.4.30.16.015L		4	3	16	32	0,15	0,25	2,75	1,375	2,4	○
T1.4.30.16.015R		4	3	16	32	0,15	0,25	2,75	1,375	2,4	●
T1.4.30.21.015L		4	3	21	37	0,15	0,25	2,75	1,375	2,4	○
T1.4.30.21.015R		4	3	21	37	0,15	0,25	2,75	1,375	2,4	●
T1.4.40.11.005L		4	4	11	27	0,05	0,3	3,7	1,85	3,3	○
T1.4.40.11.005R		4	4	11	27	0,05	0,3	3,7	1,85	3,3	○
T1.4.40.11.020L		4	4	11	27	0,2	0,3	3,7	1,85	3,3	○
T1.4.40.11.020R		4	4	11	27	0,2	0,3	3,7	1,85	3,3	●
T1.4.40.16.005L		4	4	16	32	0,05	0,3	3,7	1,85	3,3	○
T1.4.40.16.005R		4	4	16	32	0,05	0,3	3,7	1,85	3,3	●
T1.4.40.16.020L		4	4	16	32	0,2	0,3	3,7	1,85	3,3	○
T1.4.40.16.020R		4	4	16	32	0,2	0,3	3,7	1,85	3,3	●
T1.4.40.21.005L		4	4	21	37	0,05	0,3	3,7	1,85	3,3	○
T1.4.40.21.005R		4	4	21	37	0,05	0,3	3,7	1,85	3,3	●
T1.4.40.21.020L		4	4	21	37	0,2	0,3	3,7	1,85	3,3	●
T1.4.40.21.020R		4	4	21	37	0,2	0,3	3,7	1,85	3,3	●
T1.4.40.26.020R		4	4	26	37	0,2	0,3	3,7	1,85	3,3	●
T1.5.50.11.020L		5	5	11	27	0,2	0,5	4,6	2,3	4	○
T1.5.50.11.020R		5	5	11	27	0,2	0,5	4,6	2,3	4	●
T1.5.50.16.020L		5	5	16	32	0,2	0,5	4,6	2,3	4	○
T1.5.50.16.020R		5	5	16	32	0,2	0,5	4,6	2,3	4	●
T1.5.50.21.005R		5	5	21	37	0,05	0,5	4,6	2,3	4	○
T1.5.50.21.020L		5	5	21	37	0.2	0,5	4,6	2,3	4	●
T1.5.50.21.020R		5	5	21	37	0.2	0,5	4,6	2,3	4	●
T1.5.50.26.020R		5	5	26	37	0,2	0,5	4,6	2,3	4	●

● In magazzino ○ Su richiesta

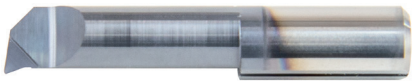
✻ Con raffreddamento interno

Codice sistema A432 | Portautensile A454 | Dati di taglio A462 | Ordine utensili speciali A461

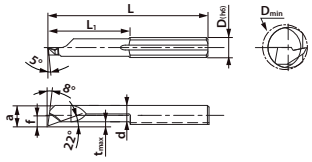
Tornitura interna e copiatura

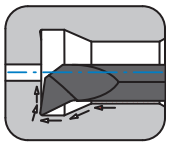
T1

– Lato anteriore 8°
– Angolo libero 22°



Versione destra





Articolo	✻	Dimensioni [mm]									YPG202
		D (h6)	D_{min}	L_1	L	R	t_{max}	a	f	d	
T1.5.50.31.020L		5	5	31	47	0,2	0,5	4,6	2,3	4	○
T1.5.50.31.020R		5	5	31	47	0,2	0,5	4,6	2,3	4	●
T1.6.60.16.015L		6	6	16	32	0,15	0,5	5,6	2,8	5	○
T1.6.60.16.020L		6	6	16	32	0,2	0,5	5,6	2,8	5	○
T1.6.60.16.020R		6	6	16	32	0,2	0,5	5,6	2,8	5	●
T1.6.60.21.015L		6	6	21	37	0,15	0,5	5,6	2,8	5	○
T1.6.60.21.020L		6	6	21	37	0,2	0,5	5,6	2,8	5	○
T1.6.60.21.020R		6	6	21	37	0,2	0,5	5,6	2,8	5	●
T1.6.60.26.020L		6	6	26	42	0,2	0,5	5,6	2,8	5	●
T1.6.60.26.020R		6	6	26	42	0,2	0,5	5,6	2,8	5	●
T1.6.60.36.020L		6	6	36	52	0,2	0,5	5,6	2,8	5	●
T1.6.60.36.020R		6	6	36	52	0,2	0,5	5,6	2,8	5	●
T1.7.68.21.020L		7	6,8	21	37	0,2	0,5	6,3	3,15	5,7	○
T1.7.68.21.020R		7	6,8	21	37	0,2	0,5	6,3	3,15	5,7	●
T1.7.68.26.020L		7	6,8	26	42	0,2	0,5	6,3	3,15	5,7	○
T1.7.68.26.020R		7	6,8	26	42	0,2	0,5	6,3	3,15	5,7	●
T1.7.68.31.020L		7	6,8	31	47	0,2	0,5	6,3	3,15	5,7	○
T1.7.68.31.020R		7	6,8	31	47	0,2	0,5	6,3	3,15	5,7	●
T1.7.68.41.020L		7	6,8	41	57	0,2	0,5	6,3	3,15	5,7	○
T1.7.68.41.020R		7	6,8	41	57	0,2	0,5	6,3	3,15	5,7	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

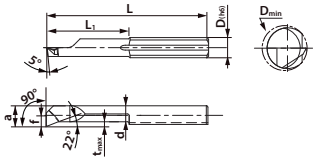
Codice sistema A432 | Portautensile A454 | Dati di taglio A462 | Ordine utensili speciali A461

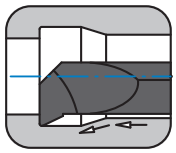
Tornitura interna e copiatura

T2

– Lato anteriore 0°
– Angolo libero 22°

Versione destra





Articolo	✻	Dimensioni [mm]									YPG202
		D (h6)	D_{min}	L_1	L	R	t_{max}	a	f	d	
T2.4.30.11.015R		4	3	11	27	0,15	0,4	2,5	1,25	2	○
T2.4.30.16.015R		4	3	11	27	0,15	0,4	2,5	1,25	2	○
T2.4.40.11.015L		4	4	11	27	0,15	0,5	3,5	1,75	2,9	○
T2.4.40.11.015R		4	4	11	27	0,15	0,5	3,5	1,75	2,9	●
T2.4.40.16.015R		4	4	16	32	0,15	0,5	3,5	1,75	2,9	●
T2.5.50.11.015L		5	5	11	27	0,15	0,7	4,4	2,2	3,6	○
T2.5.50.11.015R		5	5	11	27	0,15	0,7	4,4	2,2	3,6	○
T2.5.50.16.015L		5	5	16	32	0,15	0,7	4,4	2,2	3,6	○
T2.5.50.16.015R		5	5	16	32	0,15	0,7	4,4	2,2	3,6	●
T2.5.50.21.015L		5	5	21	37	0,15	0,7	4,4	2,2	3,6	○
T2.5.50.21.015R		5	5	21	37	0,15	0,7	4,4	2,2	3,6	●
T2.6.60.16.015L		6	6	16	32	0,15	0,9	5,4	2,7	4,4	○
T2.6.60.16.015R		6	6	16	32	0,15	0,9	5,4	2,7	4,4	○
T2.6.60.21.015L		6	6	21	37	0,15	0,9	5,4	2,7	4,4	○
T2.6.60.21.015R		6	6	21	37	0,15	0,9	5,4	2,7	4,4	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

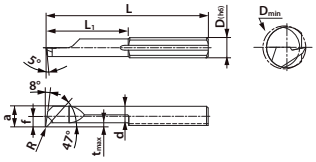
Codice sistema A432 | Portautensile A454 | Dati di taglio A462 | Ordine utensili speciali A461

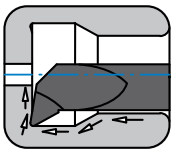
Tornitura interna e copiatura

T3

– Lato anteriore 8°
– Angolo libero 47°

Versione destra





Articolo	✻	Dimensioni [mm]									YPG202
		D (h6)	D_{min}	L_1	L	R	t_{max}	a	f	d	
T3.4.22.11.010L		4	2,2	11	27	0,1	0,4	1,95	0,975	1,45	○
T3.4.22.11.010R		4	2,2	11	27	0,1	0,4	1,95	0,975	1,45	●
T3.4.27.16.010L		4	2,7	16	32	0,1	0,5	2,45	1,225	1,85	○
T3.4.27.16.010R		4	2,7	16	32	0,1	0,5	2,45	1,225	1,85	●
T3.4.32.16.010L		4	3,2	16	32	0,1	0,6	2,95	1,475	2,25	○
T3.4.32.16.010R		4	3,2	16	32	0,1	0,6	2,95	1,475	2,25	●
T3.4.40.11.015L		4	4	11	27	0,15	0,8	3,5	1,75	2,6	○
T3.4.40.11.015R		4	4	11	27	0,15	0,8	3,5	1,75	2,6	○
T3.4.40.16.015L		4	4	16	32	0,15	0,8	3,5	1,75	2,6	○
T3.4.40.16.015R		4	4	16	32	0,15	0,8	3,5	1,75	2,6	○
T3.4.40.21.015L		4	4	21	37	0,15	0,8	3,5	1,75	2,6	○
T3.4.40.21.015R		4	4	21	37	0,15	0,8	3,5	1,75	2,6	●
T3.5.50.16.015L		5	5	16	27	0,15	1	4,4	2,2	3,3	○
T3.5.50.16.015R		5	5	16	27	0,15	1	4,4	2,2	3,3	●
T3.5.50.26.015L		5	5	26	42	0,15	1	4,4	2,2	3,3	○
T3.5.50.26.015R		5	5	26	42	0,15	1	4,4	2,2	3,3	●
T3.6.60.21.015L		6	6	21	37	0,15	1,8	5,3	2,65	3,4	○
T3.6.60.21.015R		6	6	21	37	0,15	1,8	5,3	2,65	3,4	●
T3.6.60.31.015L		6	6	31	47	0,15	1,8	5,3	2,65	3,4	○
T3.6.60.31.015R		6	6	31	47	0,15	1,8	5,3	2,65	3,4	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

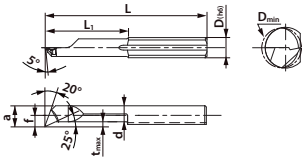
Codice sistema A432 | Portautensile A454 | Dati di taglio A462 | Ordine utensili speciali A461

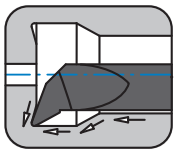
Tornitura interna e copiatura

T4

– Lato anteriore 20°
– Angolo libero 25°

Versione destra





Articolo	✻	Dimensioni [mm]									YPG202
		D (h6)	D_{min}	L_1	L	R	t_{max}	a	f	d	
T4.4.27.06.010L		4	2,7	6	22	0,1	0,3	2,45	1,225	2,05	○
T4.4.27.06.010R		4	2,7	6	22	0,1	0,3	2,45	1,225	2,05	●
T4.4.27.11.010L		4	2,7	11	27	0,1	0,3	2,45	1,225	2,05	○
T4.4.27.11.010R		4	2,7	11	27	0,1	0,3	2,45	1,225	2,05	○
T4.4.27.16.010L		4	2,7	16	32	0,1	0,3	2,45	1,225	2,05	○
T4.4.27.16.010R		4	2,7	16	32	0,1	0,3	2,45	1,225	2,05	●
T4.4.40.11.015L		4	4	11	27	0,15	0,8	3,5	1,75	2,6	○
T4.4.40.11.015R		4	4	11	27	0,15	0,8	3,5	1,75	2,6	○
T4.4.40.16.015L		4	4	16	32	0,15	0,8	3,5	1,75	2,6	○
T4.4.40.16.015R		4	4	16	32	0,15	0,8	3,5	1,75	2,6	●
T4.4.40.21.015L		4	4	21	37	0,15	0,8	3,5	1,75	2,6	○
T4.4.40.21.015R		4	4	21	37	0,15	0,8	3,5	1,75	2,6	○
T4.5.50.11.020L		5	5	11	27	0,2	1	4,4	2,2	3,3	○
T4.5.50.11.020R		5	5	11	27	0,2	1	4,4	2,2	3,3	●
T4.5.50.26.020L		5	5	26	42	0,2	1	4,4	2,2	3,3	○
T4.5.50.26.020R		5	5	26	42	0,2	1	4,4	2,2	3,3	○
T4.6.60.21.020L		6	6	21	37	0,2	1,8	5,3	2,65	3,4	○
T4.6.60.21.020R		6	6	21	37	0,2	1,8	5,3	2,65	3,4	●
T4.6.60.31.020L		6	6	31	47	0,2	1,8	5,3	2,65	3,4	○
T4.6.60.31.020R		6	6	31	47	0,2	1,8	5,3	2,65	3,4	●

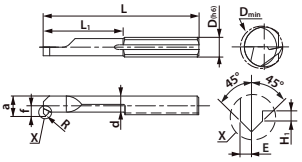
● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

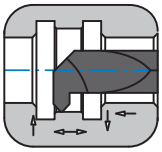
Codice sistema A432 | Portautensile A454 | Dati di taglio A462 | Ordine utensili speciali A461

Tornitura interna e smussatura

C1

Versione destra





Articolo	✻	Dimensioni [mm]											YPG202
		D (h6)	D_{min}	L_1	L	R	t_{max}	a	f	d	E	H_1	
C1.4.40.16.005L		4	4	16	32	0,5	0,8	3,7	1,85	2,8	0,4	0,23	○
C1.4.40.16.005R		4	4	16	32	0,5	0,8	3,7	1,85	2,8	0,4	0,23	●
C1.5.50.21.010L		5	5	21	37	0,1	1,2	4,4	2,2	3,1	0,7	0,5	○
C1.5.50.21.010R		5	5	21	37	0,1	1,2	4,4	2,2	3,1	0,7	0,5	●
C1.6.60.26.015L		6	6	26	42	0,15	1,4	5,3	2,65	3,8	0,7	0,5	○
C1.6.60.26.015R		6	6	26	42	0,15	1,4	5,3	2,65	3,8	0,7	0,5	●
C1.7.68.41.020L		7	6,8	41	57	0,2	1,8	6,3	3,15	4,4	1	0,7	○
C1.7.68.41.020R		7	6,8	41	57	0,2	1,8	6,3	3,15	4,4	1	0,7	○

● In magazzino ○ Su richiesta

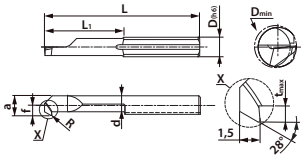
✻ Con raffreddamento interno

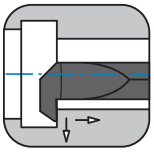
Codice sistema A432 | Portautensile A454 | Dati di taglio A462 | Ordine utensili speciali A461

Tornitura a tirare

B1

Versione destra





Articolo	✻	Dimensioni [mm]									YPG202
		D (h6)	D_{min}	L_1	L	R	t_{max}	a	f	d	
B1.4.30.16.005L		4	3	16	32	0,05	0,5	2,6	1,3	2	○
B1.4.30.16.005R		4	3	16	32	0,05	0,5	2,6	1,3	2	●
B1.4.40.21.010L		4	4	21	37	0,1	0,8	3,5	1,75	2,6	○
B1.4.40.21.010R		4	4	21	37	0,1	0,8	3,5	1,75	2,6	○
B1.5.50.31.015L		5	5	31	47	0,15	1	4,4	2,2	3,3	○
B1.5.50.31.015R		5	5	31	47	0,15	1	4,4	2,2	3,3	●
B1.6.60.31.015L		6	6	31	47	0,15	1,8	5,3	2,65	3,4	○
B1.6.60.31.015R		6	6	31	47	0,15	1,8	5,3	2,65	3,4	●
B1.7.70.31.015L		7	7	31	47	0,15	2,5	6,3	3,15	3,7	○
B1.7.70.31.015R		7	7	31	47	0,15	2,5	6,3	3,15	3,7	●

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Codice sistema A432 | Portautensile A454 | Dati di taglio A462 | Ordine utensili speciali A461

Inserti di taglio (G1–G2, F1–F3)

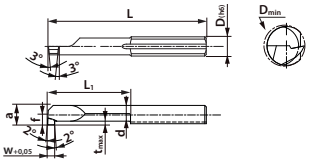
G1	6	60	21	20	L/R	YPG202
1	2	3	4	5	6	7

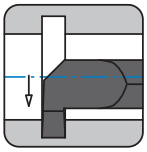
Serie	Sezione trasversale codolo D (h6) [mm]	Diametro foratura min. D_{min} [mm]
1	2	3
Lunghezza utile L_1 [mm]	Larghezza tagliente [in 0,1 mm]	Versione
4	5	6
Grado		
7		

Scanalatura/scanalatura e tornitura

G1

Versione destra





Articolo	✻	Dimensioni [mm]									YPG202
		D (h6)	D_{min}	L_1	L	w+0,06	t_{max}	a	f	d	
G1.4.20.06.05L		4	2	6	22	0,5	0,4	1,75	0,875	1,15	○
G1.4.20.06.05R		4	2	6	22	0,5	0,4	1,75	0,875	1,15	●
G1.4.20.11.05L		4	2	11	27	0,5	0,4	1,75	0,875	1,15	○
G1.4.20.11.05R		4	2	11	27	0,5	0,4	1,75	0,875	1,15	●
G1.4.30.06.07L		4	3	6	22	0,75	0,6	2,7	1,35	1,9	○
G1.4.30.06.07R		4	3	6	22	0,75	0,6	2,7	1,35	1,9	●
G1.4.30.11.07L		4	3	11	27	0,75	0,6	2,7	1,35	1,9	○
G1.4.30.11.07R		4	3	11	27	0,75	0,6	2,7	1,35	1,9	●
G1.4.40.11.10L		4	4	11	27	1	0,8	3,5	1,75	2,4	○
G1.4.40.11.10R		4	4	11	27	1	0,8	3,5	1,75	2,4	●
G1.4.40.16.10L		4	4	16	32	1	0,8	3,5	1,75	2,4	○
G1.4.40.16.10R		4	4	16	32	1	0,8	3,5	1,75	2,4	●
G1.5.50.16.10L		5	5	16	32	1	1	4,4	2,2	3,2	○
G1.5.50.16.10R		5	5	16	32	1	1	4,4	2,2	3,2	●
G1.5.50.16.15L		5	5	16	32	1,5	1	4,4	2,2	3,2	○
G1.5.50.16.15R		5	5	16	32	1,5	1	4,4	2,2	3,2	●
G1.5.50.16.20L		5	5	16	32	2	1	4,4	2,2	3,2	○
G1.5.50.16.20R		5	5	16	32	2	1	4,4	2,2	3,2	●
G1.5.50.21.10L		5	5	21	37	1	1	4,4	2,2	3,2	○
G1.5.50.21.10R		5	5	21	37	1	1	4,4	2,2	3,2	●
G1.5.50.21.15L		5	5	21	37	1,5	1	4,4	2,2	3,2	○
G1.5.50.21.15R		5	5	21	37	1,5	1	4,4	2,2	3,2	●
G1.5.50.21.20L		5	5	21	37	2	1	4,4	2,2	3,2	○
G1.5.50.21.20R		5	5	21	37	2	1	4,4	2,2	3,2	●
G1.5.50.26.10L		5	5	26	42	1	1	4,4	2,2	3,2	○
G1.5.50.26.10R		5	5	26	42	1	1	4,4	2,2	3,2	○
G1.5.50.26.15L		5	5	26	42	1,5	1	4,4	2,2	3,2	○
G1.5.50.26.15R		5	5	26	42	1,5	1	4,4	2,2	3,2	○
G1.5.50.26.20L		5	5	26	42	2	1	4,4	2,2	3,2	○
G1.5.50.26.20R		5	5	26	42	2	1	4,4	2,2	3,2	○
G1.5.50.31.10L		5	5	31	47	1	1	4,4	2,2	3,2	○
G1.5.50.31.10R		5	5	31	47	1	1	4,4	2,2	3,2	●
G1.5.50.31.15L		5	5	31	47	1,5	1	4,4	2,2	3,2	○
G1.5.50.31.15R		5	5	31	47	1,5	1	4,4	2,2	3,2	○
G1.5.50.31.20L		5	5	31	47	2	1	4,4	2,2	3,2	○
G1.5.50.31.20R		5	5	31	47	2	1	4,4	2,2	3,2	○
G1.6.60.16.10L		6	6	16	32	1	1,8	5,3	2,65	3,3	○
G1.6.60.16.10R		6	6	16	32	1	1,8	5,3	2,65	3,3	●
G1.6.60.16.15L		6	6	16	32	1,5	1,8	5,3	2,65	3,3	○
G1.6.60.16.15R		6	6	16	32	1,5	1,8	5,3	2,65	3,3	●

● In magazzino ○ Su richiesta

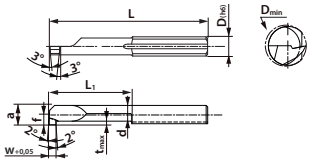
✻ Con raffreddamento interno

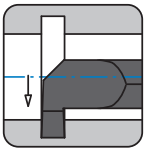
Codice sistema A440 | Portautensile A454 | Dati di taglio A462 | Ordine utensili speciali A461

Scanalatura/scanalatura e tornitura

G1

Versione destra





Articolo	✻	Dimensioni [mm]									YPG202
		D (h6)	D_{min}	L_1	L	w+0,06	t_{max}	a	f	d	
G1.6.60.16.20L		6	6	16	32	2	1,8	5,3	2,65	3,3	○
G1.6.60.16.20R		6	6	16	32	2	1,8	5,3	2,65	3,3	●
G1.6.60.21.10L		6	6	21	37	1	1,8	5,3	2,65	3,3	○
G1.6.60.21.10R		6	6	21	37	1	1,8	5,3	2,65	3,3	●
G1.6.60.21.15L		6	6	21	37	1,5	1,8	5,3	2,65	3,3	○
G1.6.60.21.15R		6	6	21	37	1,5	1,8	5,3	2,65	3,3	●
G1.6.60.21.20L		6	6	21	37	2	1,8	5,3	2,65	3,3	○
G1.6.60.21.20R		6	6	21	37	2	1,8	5,3	2,65	3,3	●
G1.6.60.26.10L		6	6	26	42	1	1,8	5,3	2,65	3,3	○
G1.6.60.26.10R		6	6	26	42	1	1,8	5,3	2,65	3,3	○
G1.6.60.26.15L		6	6	26	42	1,5	1,8	5,3	2,65	3,3	○
G1.6.60.26.15R		6	6	26	42	1,5	1,8	5,3	2,65	3,3	○
G1.6.60.26.20L		6	6	26	42	2	1,8	5,3	2,65	3,3	○
G1.6.60.26.20R		6	6	26	42	2	1,8	5,3	2,65	3,3	○
G1.6.60.31.20L		6	6	31	47	2	1,8	5,3	2,65	3,3	○
G1.6.60.31.20R		6	6	31	47	2	1,8	5,3	2,65	3,3	○
G1.6.60.36.10L		6	6	36	52	1	1,8	5,3	2,65	3,3	○
G1.6.60.36.10R		6	6	36	52	1	1,8	5,3	2,65	3,3	○
G1.6.60.36.15L		6	6	36	52	1,5	1,8	5,3	2,65	3,3	○
G1.6.60.36.15R		6	6	36	52	1,5	1,8	5,3	2,65	3,3	○
G1.7.70.16.10L		7	7	16	32	1	2,5	6,3	3,15	3,6	○
G1.7.70.16.10R		7	7	16	32	1	2,5	6,3	3,15	3,6	○
G1.7.70.16.15L		7	7	16	32	1,5	2,5	6,3	3,15	3,6	○
G1.7.70.16.15R		7	7	16	32	1,5	2,5	6,3	3,15	3,6	●
G1.7.70.16.20L		7	7	16	32	2	2,5	6,3	3,15	3,6	○
G1.7.70.16.20R		7	7	16	32	2	2,5	6,3	3,15	3,6	●
G1.7.70.26.10L		7	7	26	42	1	2,5	6,3	3,15	3,6	○
G1.7.70.26.10R		7	7	26	42	1	2,5	6,3	3,15	3,6	●
G1.7.70.26.15L		7	7	26	42	1,5	2,5	6,3	3,15	3,6	○
G1.7.70.26.15R		7	7	26	42	1,5	2,5	6,3	3,15	3,6	●
G1.7.70.26.20L		7	7	26	42	2	2,5	6,3	3,15	3,6	○
G1.7.70.26.20R		7	7	26	42	2	2,5	6,3	3,15	3,6	●
G1.7.70.31.10L		7	7	31	47	1	2,5	6,3	3,15	3,6	○
G1.7.70.31.10R		7	7	31	47	1	2,5	6,3	3,15	3,6	●
G1.7.70.31.15L		7	7	31	47	1,5	2,5	6,3	3,15	3,6	○
G1.7.70.31.15R		7	7	31	47	1,5	2,5	6,3	3,15	3,6	●
G1.7.70.31.20L		7	7	31	47	2	2,5	6,3	3,15	3,6	○
G1.7.70.31.20R		7	7	31	47	2	2,5	6,3	3,15	3,6	●
G1.7.70.36.10L		7	7	36	52	1	2,5	6,3	3,15	3,6	○
G1.7.70.36.10R		7	7	36	52	1	2,5	6,3	3,15	3,6	○

● In magazzino ○ Su richiesta

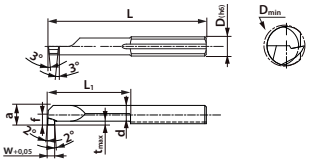
✻ Con raffreddamento interno

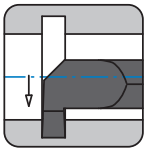
Codice sistema A440 | Portautensile A454 | Dati di taglio A462 | Ordine utensili speciali A461

Scanalatura/scanalatura e tornitura

G1

Versione destra





Articolo	✻	Dimensioni [mm]									YPG202
		D (h6)	D_{min}	L_1	L	w+0,06	t_{max}	a	f	d	
G1.7.70.36.15L		7	7	36	52	1,5	2,5	6,3	3,15	3,6	○
G1.7.70.36.15R		7	7	36	52	1,5	2,5	6,3	3,15	3,6	○
G1.7.70.36.20L		7	7	36	52	2	2,5	6,3	3,15	3,6	●
G1.7.70.36.20R		7	7	36	52	2	2,5	6,3	3,15	3,6	○
G1.7.70.41.15L		7	7	41	57	1,5	2,5	6,3	3,15	3,6	○
G1.7.70.41.15R		7	7	41	57	1,5	2,5	6,3	3,15	3,6	○
G1.7.70.41.20L		7	7	41	57	2	2,5	6,3	3,15	3,6	○
G1.7.70.41.20R		7	7	41	57	2	2,5	6,3	3,15	3,6	○
G1.7.70.46.10L		7	7	46	62	1	2,5	6,3	3,15	3,6	○
G1.7.70.46.10R		7	7	46	62	1	2,5	6,3	3,15	3,6	○

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

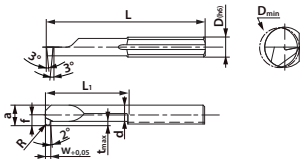
Codice sistema A440 | Portautensile A454 | Dati di taglio A462 | Ordine utensili speciali A461

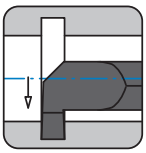
Scanalatura/scanalatura e tornitura

G2

– Con raggio pieno

Versione destra





Articolo	✻	Dimensioni [mm]										YPG202
		D (h6)	D_{min}	L_1	L	R	w+0,05	t_{max}	a	f	d	
G2.4.40.16.050.10L		4	4	16	32	0,5	1	0,8	3,5	1,75	2,5	●
G2.4.40.16.050.10R		4	4	16	32	0,5	1	0,8	3,5	1,75	2,5	○
G2.5.50.21.050.10L		5	5	21	37	0,5	1	1	4,4	2,2	3,2	○
G2.5.50.21.050.10R		5	5	21	37	0,5	1	1	4,4	2,2	3,2	●
G2.5.50.21.075.15L		5	5	21	37	0.75	1.5	1	4,4	2,2	3.2	○
G2.5.50.21.075.15R		5	5	21	37	0.75	1.5	1	4,4	2,2	3.2	○
G2.6.60.26.050.10L		6	6	26	42	0,5	1	1,8	5,3	2,65	3,3	●
G2.6.60.26.050.10R		6	6	26	42	0,5	1	1,8	5,3	2,65	3,3	●
G2.6.60.26.100.20L		6	6	26	42	1	2	1,8	5,3	2,65	3,3	●
G2.6.60.26.100.20R		6	6	26	42	1	2	1,8	5,3	2,65	3,3	●
G2.6.60.36.075.15L		6	6	36	52	0,75	2	2	5,3	2,65	3,3	○
G2.6.60.36.075.15R		6	6	36	52	0,75	2	2	5,3	2,65	3,3	●
G2.7.70.31.075.15L		7	7	31	47	0,75	1,5	2,5	6,3	3,15	3,6	○
G2.7.70.31.075.15R		7	7	31	47	0,75	1,5	2,5	6,3	3,15	3,6	○
G2.7.70.31.100.20L		7	7	31	47	1	2	2,5	6,3	3,15	3,6	○
G2.7.70.31.100.20R		7	7	31	47	1	2	2,5	6,3	3,15	3,6	○

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

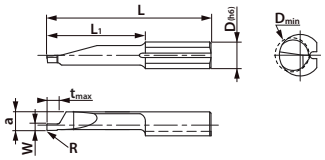
Codice sistema A440 | Portautensile A454 | Dati di taglio A462 | Ordine utensili speciali A461

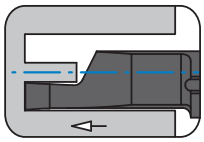
Scanalatura assiale

F1

– Con raggio angolare

Versione destra





Articolo	✻	Dimensioni [mm]								YPG202
		D (h6)	D_{min}	L_1	L	R	w+0,05	t_{max}	a	
F1.6.50.21.003.10L		6	5	21	37	0,03	1	2	4,2	●
F1.6.50.21.003.10R		6	5	21	37	0,03	1	2	4,2	●
F1.6.50.21.005.15L		6	5	21	37	0,05	1,5	3	4,2	○
F1.6.50.21.005.15R		6	5	21	37	0,05	1,5	3	4,2	●
F1.6.50.21.005.20L		6	5	21	37	0,05	2	5	4,2	○
F1.6.50.21.005.20R		6	5	21	37	0,05	2	5	4,2	●
F1.6.60.16.005.25L		6	6	16	31	0,05	2,5	5	5,2	○
F1.6.60.16.005.25R		6	6	16	31	0,05	2,5	5	5,2	●
F1.6.60.21.005.10L		6	6	21	37	0,05	1	2	5,2	○
F1.6.60.21.005.10R		6	6	21	37	0,05	1	2	5,2	○
F1.6.60.21.005.15L		6	6	21	37	0,05	1,5	3	5,2	○
F1.6.60.21.005.15R		6	6	21	37	0,05	1,5	3	5,2	●
F1.6.60.21.005.20L		6	6	21	37	0,05	2	5	5,2	○
F1.6.60.21.005.20R		6	6	21	37	0,05	2	5	5,2	●
F1.7.80.21.008.10L		7	8	21	37	0,08	1	2	5,9	○
F1.7.80.21.008.10R		7	8	21	37	0,08	1	2	5,9	○
F1.7.80.21.015.15L		7	8	21	37	0,15	1,5	3	5,9	○
F1.7.80.21.015.15R		7	8	21	37	0,15	1,5	3	5,9	○
F1.7.80.21.015.20L		7	8	21	37	0,15	2	4	5,9	○
F1.7.80.21.015.20R		7	8	21	37	0,15	2	4	5,9	○
F1.7.80.21.015.25L		7	8	21	37	0,15	2,5	5	5,9	○
F1.7.80.21.015.25R		7	8	21	37	0,15	2,5	5	5,9	●
F1.7.80.21.015.30L		7	8	21	37	0,15	3	6	5,9	●
F1.7.80.21.015.30R		7	8	21	37	0,15	3	6	5,9	●

● In magazzino ○ Su richiesta

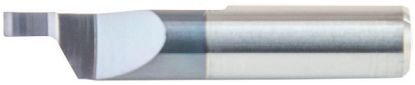
✻ Con raffreddamento interno

Codice sistema A440 | Portautensile A454 | Dati di taglio A462 | Ordine utensili speciali A461

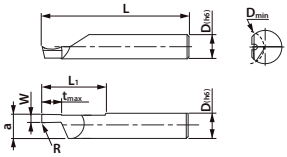
Scanalatura assiale

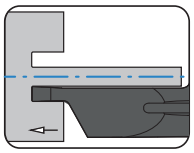
F2

– Con raggio angolare
– Sul perno



Versione destra





Articolo	✻	Dimensioni [mm]								YPG202
		D (h6)	D_{min}	L_1	L	R	w+0,05	t_{max}	a	
F2.6.60.16.010.15L		6	6	16	31	0,1	1,5	5	4,2	○
F2.6.60.16.010.15R		6	6	16	31	0,1	1,5	5	4,2	●
F2.6.60.16.015.20L		6	6	16	31	0,15	2	3,15	5,2	●
F2.6.60.16.015.20R		6	6	16	31	0,15	2	3,15	5,2	●
F2.6.60.16.015.25L		6	6	16	31	0,15	2,5	5	5,2	○
F2.6.60.16.015.25R		6	6	16	31	0,15	2,5	5	5,2	●
F2.6.65.16.015.30L		6	6,5	16	31	0,15	3	6	5,2	○
F2.6.65.16.015.30R		6	6,5	16	31	0,15	3	6	5,2	●

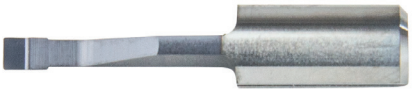
● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Codice sistema A440 | Portautensile A454 | Dati di taglio A462 | Ordine utensili speciali A461

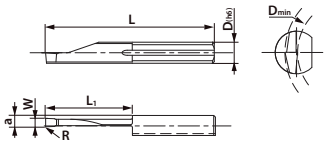
Scanalatura assiale

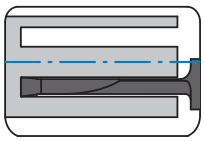
F3

– Con raggio angolare



Versione destra





Articolo	✻	Dimensioni [mm]							YPG202
		D (h6)	D_{min}	L_1	L	R	w+0,05	a	
F3.8.150.15.030.20L		8	15	15	37	0,3	2	5,9	●
F3.8.150.15.030.20R		8	15	15	37	0,3	2	5,9	●
F3.8.150.15.030.30L		8	15	15	37	0,3	3	5,9	●
F3.8.150.20.030.30L		8	15	20	37	0,3	3	5,9	●
F3.8.150.20.030.30R		8	15	20	37	0,3	3	5,9	●
F3.8.150.20.030.50L		8	15	20	37	0,3	5	5,9	●
F3.8.150.20.150.30L		8	15	20	37	1,5	3	5,9	●
F3.8.150.25.030.30L		8	15	25	37	0,3	3	5,9	●
F3.8.150.25.150.30L		8	15	25	37	1,5	3	5,9	●
F3.8.150.30.030.30L		8	15	30	37	0,3	3	5,9	●
F3.8.150.30.030.40R		8	15	30	37	0,3	4	5,9	●
F3.8.150.30.150.30L		8	15	30	37	1,5	3	5,9	●
F3.8.150.40.030.40R		8	15	40	57	0,3	4	5,9	●

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Codice sistema A440 | Portautensile A454 | Dati di taglio A462 | Ordine utensili speciali A461

Inserti di taglio (P1–P4)

P1	6	58	21	603	L/R	YPG202
1	2	3	4	5	6	7

1 – Serie

2 – Sezione trasversale codolo D (h6) [mm]

3 – Diametro foratura min. D_{min} [mm]

4 – Lunghezza utile L_1 [mm]

5 – Passo di filettatura [mm]

Code	Pollici (profilo parziale)
601	60° / 0,5–0,7 mm / 48–36 TPI
602	60° / 0,5–1,0 mm / 48–24 TPI
603	60° / 1,0–1,5 mm / 24–16 TPI
551	55° / 28–18 TPI
552	55° / 24–16 TPI

6 – Versione

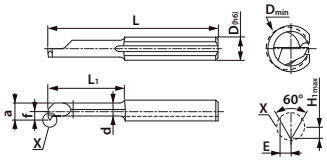
7 – Grado

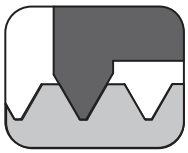
Filettatura

P1

– Profilo parziale 60°

Versione destra





Articolo	✻	Dimensioni [mm]											YPG202
		D (h6)	D_{min}	L_1	L	P	a	f	d	E	H_{1max}	r_{min}	
P1.4.24.11.601L		4	2,4	11	27	0.5-0.7 / 48-36	2,2	1,1	1,6	0,35	0,43	0,03	●
P1.4.24.11.601R		4	2,4	11	27	0.5-0.7 / 48-36	2,2	1,1	1,6	0,35	0,43	0,03	●
P1.4.38.11.602L		4	3,8	11	27	0.5-1.0 / 48-24	3,7	1,85	2,8	0,45	0,66	0,03	○
P1.4.38.11.602R		4	3,8	11	27	0.5-1.0 / 48-24	3,7	1,85	2,8	0,45	0,66	0,03	●
P1.4.38.16.601L		4	3,8	16	32	0.5-0.7 / 48-36	3,7	1,85	2,8	0,35	0,43	0,03	○
P1.4.38.16.601R		4	3,8	16	32	0.5-0.7 / 48-36	3,7	1,85	2,8	0,35	0,43	0,03	●
P1.5.48.16.602L		5	4,8	16	32	0.5-1.0 / 48-24	4,7	2,35	3,2	0,45	0,66	0,03	○
P1.5.48.16.602R		5	4,8	16	32	0.5-1.0 / 48-24	4,7	2,35	3,2	0,45	0,66	0,03	●
P1.5.48.16.603L		5	4,8	16	32	1.0-1.5 / 24-16	4,7	2,35	3,2	0,7	0,97	0,06	○
P1.5.48.16.603R		5	4,8	16	32	1.0-1.5 / 24-16	4,7	2,35	3,2	0,7	0,97	0,06	●
P1.6.58.21.603L		6	5,8	21	37	1.0-1.5 / 24-16	5,5	2,75	4	0,7	0,97	0,03	○
P1.6.58.21.603R		6	5,8	21	37	1.0-1.5 / 24-16	5,5	2,75	4	0,7	0,97	0,03	●

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

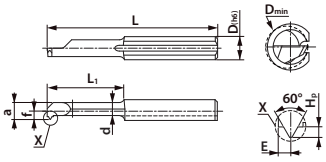
Codice sistema A448 | Portautensile A454 | Dati di taglio A462 | Ordine utensili speciali A461

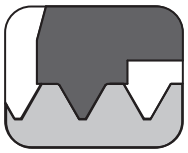
Filettatura

P2

– Filettatura regolare e di precisione metrica ISO
– Profilo pieno 60°

Versione destra





Articolo	✻	Dimensioni [mm]											YPG202
		D (h6)	D_{min}	L_1	L	P	a	f	d	E	H_{1max}	r_{min}	
P2.4.32.11.070L		4	M4x0.7	11	27	0,7	3	1,5	2,4	0,5	0,38	0,41	○
P2.4.32.11.070R		4	M4x0.7	11	27	0,7	3	1,5	2,4	0,5	0,38	0,41	●
P2.4.34.11.050L		4	MF4x0.5	11	27	0,5	3,3	1,65	2,65	0,35	0,27	0,29	○
P2.4.34.11.050R		4	MF4x0.5	11	27	0,5	3,3	1,65	2,65	0,35	0,27	0,29	○
P2.4.40.11.080L		4	M5x0.8	11	27	0,8	3,9	1,95	2,8	0,55	0,43	0,47	○
P2.4.40.11.080R		4	M5x0.8	11	27	0,8	3,9	1,95	2,8	0,55	0,43	0,47	●
P2.5.48.16.100L		5	M6x1/ MF8x1	16	32	1	4,5	2,25	3,4	0,7	0,54	0,59	○
P2.5.48.16.100R		5	M6x1/ MF8x1	16	32	1	4,5	2,25	3,4	0,7	0,54	0,59	●
P2.5.50.16.050L		5	MF6x0.5	16	32	0,5	4,4	2,2	3,3	0,35	0,27	0,29	○
P2.5.50.16.050R		5	MF6x0.5	16	32	0,5	4,4	2,2	3,3	0,35	0,27	0,29	○
P2.5.54.16.075L		5	MF6x0.75	16	32	0,75	4,7	2,35	3,8	0,55	0,41	0,45	○
P2.5.54.16.075R		5	MF6x0.75	16	32	0,75	4,7	2,35	3,8	0,55	0,41	0,45	○
P2.6.58.21.100L		6	M7x1/MF8x1	21	37	1	5,5	2,75	4,4	0,7	0,54	0,59	○
P2.6.58.21.100R		6	M7x1/MF8x1	21	37	1	5,5	2,75	4,4	0,7	0,54	0,59	●
P2.6.65.21.125L		6	M8x1.25 /MF10x1.25	21	37	1,25	5,9	2,95	4,8	0,9	0,68	0,73	○
P2.6.65.21.125R		6	M8x1.25 /MF10x1.25	21	37	1,25	5,9	2,95	4,8	0,9	0,68	0,73	●

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

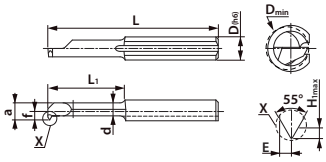
Codice sistema A448 | Portautensile A454 | Dati di taglio A462 | Ordine utensili speciali A461

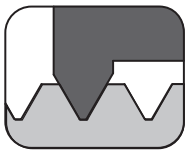
Filettatura

P3

– Profilo parziale 55°

Versione destra





Articolo	✻	Dimensioni [mm]											YPG202
		D (h6)	D_{min}	L_1	L	P	a	f	d	E	H_{1max}	r_{min}	
P3.4.40.11.551L		4	4	11	27	28-24	3,9	1,95	2,8	0,5	0,677	0,125	○
P3.4.40.11.551R		4	4	11	27	28-24	3,9	1,95	2,8	0,5	0,677	0,125	●
P3.5.47.16.552L		5	4,7	16	32	48-24	3,9	1,95	3,3	0,45	0,4	0,17	○
P3.5.47.16.552R		5	4,7	16	32	48-24	3,9	1,95	3,3	0,45	0,4	0,17	●

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

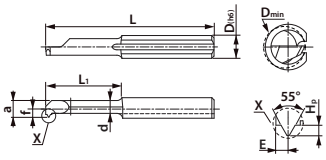
Codice sistema A448 | Portautensile A454 | Dati di taglio A462 | Ordine utensili speciali A461

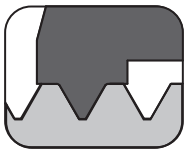
Filettatura

P4

– Filettatura Whitworth
– Profilo pieno 55°

Versione destra





Articolo	✻	Dimensioni [mm]										YPG202
		D (h6)	D_{min}	L_1	L	P	a	f	d	E	H_p	
P4.5.52.16.TPI28L		5	1/16"-28BSP / G1/16"	16	32	28	4,95	2,475	3,75	0,8	0,58	○
P4.5.52.16.TPI28R		5	1/16"-28BSP / G1/16"	16	32	28	4,95	2,475	3,75	0,8	0,58	○
P4.6.62.16.TPI19L		6	1/4"-19BSP / G1/4"	16	32	19	5,95	2,975	3,75	1	0,86	○
P4.6.62.16.TPI19R		6	1/4"-19BSP / G1/4"	16	32	19	5,95	2,975	3,75	1	0,86	○

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Codice sistema A448 | Portautensile A454 | Dati di taglio A462 | Ordine utensili speciali A461

Note

Portautensili

SH	1600	06	(L/R)
1	2	3	4

Tipologia	
Code	Descrizione
DH	Utensile bilaterale
SH	Utensile monolaterale con collegamento refrigerante G1/8"
QH	Utensile quadrato con bussola di riduzione
QH90	Utensile quadrato 90° con bussola di riduzione
QHU	Utensile universale per centro di tornitura con bussola di riduzione
RS	Bussola di riduzione

1

Sezione trasversale codolo portautensile D (g6) [mm]

2

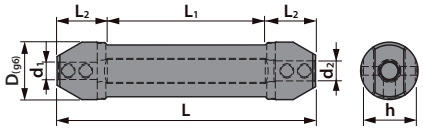
Diametro foratura [mm]

3

Orientamento

4

DH – Utensile bilaterale



Articolo	✻	Stock	Dimensioni [mm]						
			D (g6)	d_1	d_2	L	L_1	L_2	h
DH1600.4.5		●	16	4	5	80	50	15	15
DH1600.6.7		●	16	6	7	80	50	15	15
DH1905.4.5		○	19,05	4	5	90	55	17,5	18
DH1905.6.7		○	19,05	6	7	90	55	17,5	18
DH2000.4.5		●	20	4	5	90	55	17,5	19
DH2000.6.7		●	20	6	7	90	55	17,5	19
DH2200.4.5		○	22	4	5	90	55	17,5	19
DH2200.6.7		○	22	6	7	90	55	17,5	19
DH2500.4.5		●	25	4	5	105	75	15	24
DH2500.6.7		●	25	6	7	105	75	15	24
DH2540.4.5		○	25,4	4	5	105	75	15	24,4
DH2540.6.7		○	25,4	6	7	105	75	15	24,4

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

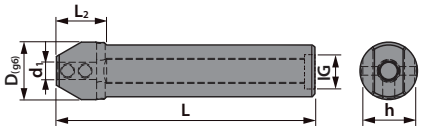
Parti di ricambio

	d1	**4**	**6**
	Vite	M5×5MT	M5×5MT
	Chiave	WT25L	WT25L

Codice sistema A454 Informazioni tecniche A607 Dati di taglio A462

SH – Utensile monolaterale

Collegamento refrigerante G1/8”



Articolo	✻	Stock	Dimensioni [mm]					
			D (g6)	d_1	L	L_2	h	IG
SH1600.04	✻	●	16	4	75	20	15	G1/8"
SH1600.05	✻	●	16	5	75	20	15	G1/8"
SH1600.06	✻	●	16	6	75	20	15	G1/8"
SH1600.07	✻	●	16	7	75	20	15	G1/8"
SH1600.08	✻	○	16	8	75	20	15	G1/8"
SH1905.04	✻	○	19,05	4	90	20	18	G1/8"
SH1905.05	✻	○	19,05	5	90	20	18	G1/8"
SH1905.06	✻	○	19,05	6	90	20	18	G1/8"
SH1905.07	✻	○	19,05	7	90	20	18	G1/8"
SH2000.04	✻	●	20	4	90	20	19	G1/8"
SH2000.05	✻	●	20	5	90	20	19	G1/8"
SH2000.06	✻	●	20	6	90	20	19	G1/8"
SH2000.07	✻	●	20	7	90	20	19	G1/8"
SH2000.08	✻	○	20	8	90	20	19	G1/8"
SH2200.04	✻	○	22	4	90	20	21	G1/8"
SH2200.05	✻	○	22	5	90	20	21	G1/8"
SH2200.06	✻	○	22	6	90	20	21	G1/8"
SH2200.07	✻	○	22	7	90	20	21	G1/8"
SH2500.04	✻	○	25	4	100	20	24	G1/8"
SH2500.05	✻	○	25	5	100	20	24	G1/8"
SH2500.06	✻	○	25	6	100	20	24	G1/8"
SH2500.07	✻	○	25	7	100	20	24	G1/8"
SH2540.04	✻	○	25,4	4	100	20	24	G1/8"
SH2540.05	✻	○	25,4	5	100	20	24	G1/8"
SH2540.06	✻	○	25,4	6	100	20	24	G1/8"
SH2540.07	✻	○	25,4	7	100	20	24	G1/8"

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

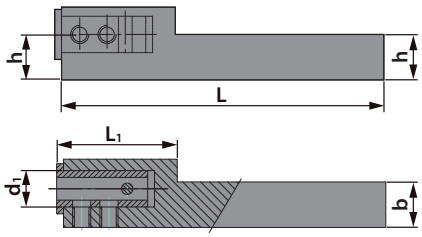
Parti di ricambio

	d1	4	5	6	7	8
	Vite	M5×5MT	M5×5MT	M5×5MT	M5×5MT	M5×5MT
	Chiave	WT25L	WT25L	WT25L	WT25L	WT25L

Codice sistema A454 Informazioni tecniche A607 Dati di taglio A462

QH – Utensile quadrato

Bussola di riduzione



Articolo	✻	Stock		Dimensioni [mm]						
		R	L	d_1	L	L_1	h	b	H_1	B_1
QH1010.08L			○	8	100	25	10	10	16	15
QH1010.08R		○		8	100	25	10	10	16	15
QH1212.08L			○	8	100	25	12	12	16	15
QH1212.08R		○		8	100	25	12	12	16	15
QH1616.12L			○	12	125	25	16	16	24,5	19,5
QH1616.12R		○		12	125	25	16	16	24,5	19,5

● In magazzino ○ Su richiesta

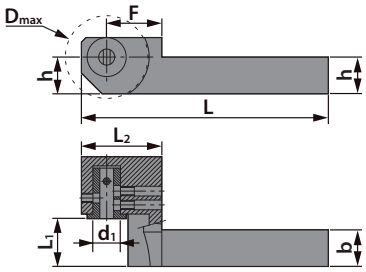
✻ Con raffreddamento interno

Parti di ricambio

	Articolo	QH1010.08L	QH1010.08R	QH1212.08L	QH1212.08R	QH1616.12L	QH1616.12R
	Bussola di riduzione	RS08.*	RS08.*	RS08.*	RS08.*	RS12.*	RS12.*
	Vite	M5×8MT	M5×8MT	M5×8MT	M5×8MT	M5×8MT	M5×8MT
	Chiave	WT25L	WT25L	WT25L	WT25L	WT25L	WT25L

Codice sistema A454 Informazioni tecniche A607 Dati di taglio A462

QH90 – Utensile quadrato 90° Bussola di riduzione



Articolo	✻	Stock		Dimensioni [mm]									
		R	L	d_1	L	L_1	L_2	h	b	H_1	B_1	D_{max}	F
QH901010.08L			○	8	100	28	18	10	10	16,5	43	26	19
QH901010.08R		○		8	100	28	18	10	10	16,5	43	26	19
QH901212.12L			○	12	100	30	23	12	12	20,5	48	26	19
QH901212.12R		○		12	100	30	23	12	12	20,5	48	26	19
QH901616.12L			○	12	105	35	28	16	16	26	53	36	24
QH901616.12R		○		12	105	35	28	16	16	26	53	36	24

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

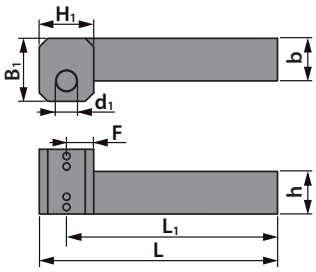
Parti di ricambio

	Articolo	QH901010.08L	QH901010.08R	QH901212.12L	QH901212.12R	QH901616.12L	QH901616.12R
	Bussola di riduzione	RS08.*	RS08.*	RS12.*	RS12.*	RS12.*	RS12.*
	Vite	M5×8MT	M5×8MT	M5×8MT	M5×8MT	M5×8MT	M5×8MT
	Chiave	WT25L	WT25L	WT25L	WT25L	WT25L	WT25L

Codice sistema A454 Informazioni tecniche A607 Dati di taglio A462

QHU – Utensile universale

Per centro di tornitura con bussola di riduzione



Articolo	✻	Stock		Dimensioni [mm]							
		R	L	d_1	L	L_1	h	b	H_1	B_1	F
QHU2020.12L			●	12	140	124	20	20	32	37	16
QHU2020.12R		○		12	140	124	20	20	32	37	16
QHU2525.12L			●	12	140	124	25	25	32	37	16
QHU3232.12L			●	12	140	124	32	32	32	37	16

● In magazzino ○ Su richiesta

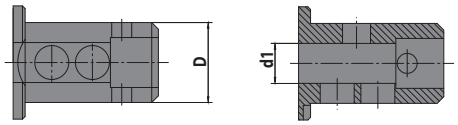
✻ Con raffreddamento interno

Parti di ricambio

	Articolo	**QHU2020.12L**	**QHU2020.12R**	**QHU2525.12L**	**QHU3232.12L**
	Bussola di riduzione	RS12.*	RS12.*	RS12.*	RS12.*
	Vite	M5×8MT	M5×8MT	M5×8MT	M5×8MT
	Chiave	WT25L	WT25L	WT25L	WT25L

Codice sistema A454 Informazioni tecniche A607 Dati di taglio A462

RS – Bussola di riduzione

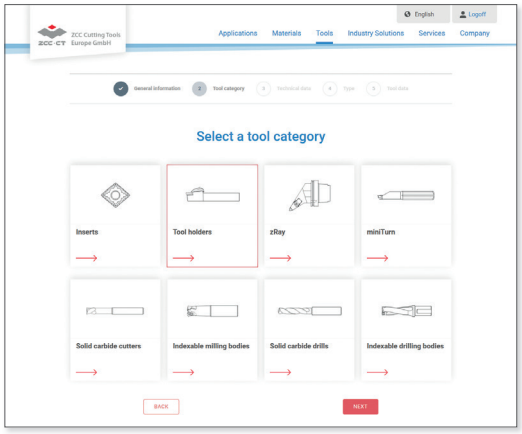


Articolo	Dimensioni [mm]		Stock
	d_1	D	
RS08.04	4	8	●
RS08.05	5	8	●
RS08.06	6	8	●
RS12.04	4	12	●
RS12.05	5	12	●
RS12.06	6	12	●
RS12.07	7	12	●
RS12.08	8	12	●

● In magazzino ○ Su richiesta

Il vostro utensile speciale personalizzato è a portata di mano

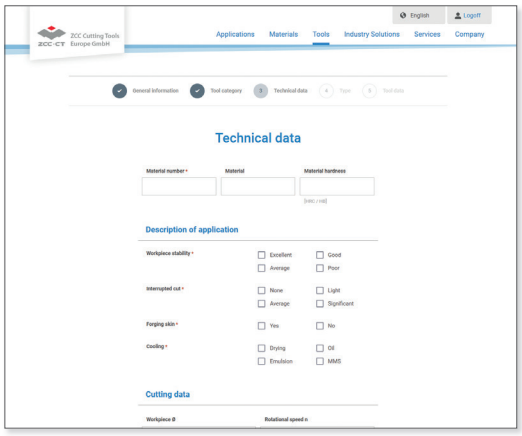
Lavorate con applicazioni per cui è possibile ottenere vantaggi in termini commerciali, tecnici o logistici impiegando utensili ottimizzati su misura e specifici per le vostre esigenze? ZCC Cutting Tools Europe vi offre consulenza e supporto personali nella programmazione, implementazione e ordinazione dei prodotti. Con il nostro innovativo Onlinetool dedicato alle richieste di utensili speciali, riceverete la vostra offerta personalizzata con pochi semplici passaggi (www.zccct-europe.com).



Home page "Strumento online per utensili speciali" con Selezione della categoria dell'utensile

Selezione della categoria dell'utensile

Scansionando il codice QR presente nella pagina, sarete reindirizzati alla home page del nostro strumento online per la richiesta di utensili speciali e qui potrete iniziare subito con la categoria precedentemente selezionata. È semplicissimo.



Definizione dei parametri pertinenti dell'utensile

Definizione dei parametri dell'utensile

Successivamente potete seguire comodamente la procedura. Potete inoltre caricare parti di disegni, bozze e modelli 3D già esistenti in tutta sicurezza.

L'accesso rapido e diretto agli utensili speciali di ZCC Cutting Tools Europe.

Effettuate subito l'accesso al nostro sito web per visualizzare il nuovo **Modulo per utensili speciali**.

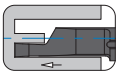
Utensili in metallo duro integrale per tornitura interna – miniTURN

Gruppo materiali		Composizione/Struttura/Trattamento termico		Durezza HB Brinell	Gruppo di sgrossatura	Velocità di taglio v_c [m/min]		
						HW	HC (PVD)	
						YD201	YPG202	
						Avanzamento [mm]	Avanzamento [mm]	Avanzamento [mm]
P	Acciaio non legato	ca. 0,15 % C	Temprato	125	1	70	150	
		ca. 0,45 % C	Temprato	190	2	70	135	
		ca. 0,45 % C	pre-temprato	250	3	50	115	
		ca. 0,75 % C	Temprato	270	4	45	110	
		ca. 0,75 % C	pre-temprato	300	5	40	105	
	Acciaio al carbonio		Temprato	180	6	55	135	
			pre-temprato	275	7	45	100	
			pre-temprato	300	8	40	90	
			pre-temprato	350	9	40	85	
	Acciaio alto legato e acciaio alto legato per utensili		ricotto	200	10	–	100	
			temprato e rinvenuto	325	11	–	75	
M	Acciaio inossidabile	ferritico/martensitico	ricotto	200	12	60	120	
		martensitico	pre-temprato	240	13	50	100	
		austenitico	quencing	180	14	50	115	
		austenitico-ferritico		230	15	40	100	
K	Ghisa grigia	perlitico/ferritico		180	16	55	165	
		perlitico (martensitico)		260	17	45	145	
	Ghisa sferodale	ferritico		160	18	65	175	
		perlitico		250	19	50	130	
	Ghisa malleabile	ferritico		130	20	–	135	
		perlitico		230	21	–	130	
N	Lavorazioni plastiche di leghe di alluminio	non invecchiabile		60	22	200	400	
		invecchiabile	indurito	100	23	150	300	
	Leghe di alluminio fuso	≤ 12 % Si, non invecchiabile		75	24	100	200	
		≤ 12 % Si, invecchiabile	indurito	90	25	80	160	
		> 12 % Si, non invecchiabile		130	26	60	120	
	Rame e leghe di rame (bronzo/ottone)	Leghe per macchine di tipo multiplo, PB > 1 %		110	27	60	120	
		CuZn, CuSnZn		90	28	150	300	
		CuSn, rame senza piombo e rame elettrolitico		100	29	60	120	
S	Leghe resistenti al calore	Base Fe	ricotto	200	30	30	75	
			indurito	280	31	30	40	
		Base Ni o Co	ricotto	250	32	30	60	
			indurito	350	33	30	55	
			fuso	320	34	30	55	
	Leghe di titanio	Titanio puro		R_m 400	35	30	105	
		Leghe Alpha + Beta	indurito	R_m 1050	36	–	40	
H	Acciaio temprato		temprato e rinvenuto	55 HRC	37			
			temprato e rinvenuto	60 HRC	38			
	Ghisa dura		fuso	400	39			
	Ghise temprate		temprato e rinvenuto	55 HRC	40			
X	Materiali non metallici	Termoplastiche			41			
		Termoindurenti			42			
		Vetroresina VTR			43			
		Plastica rinforzata in fibra di carbonio			44			
		Grafite			45			
		Legno			46			

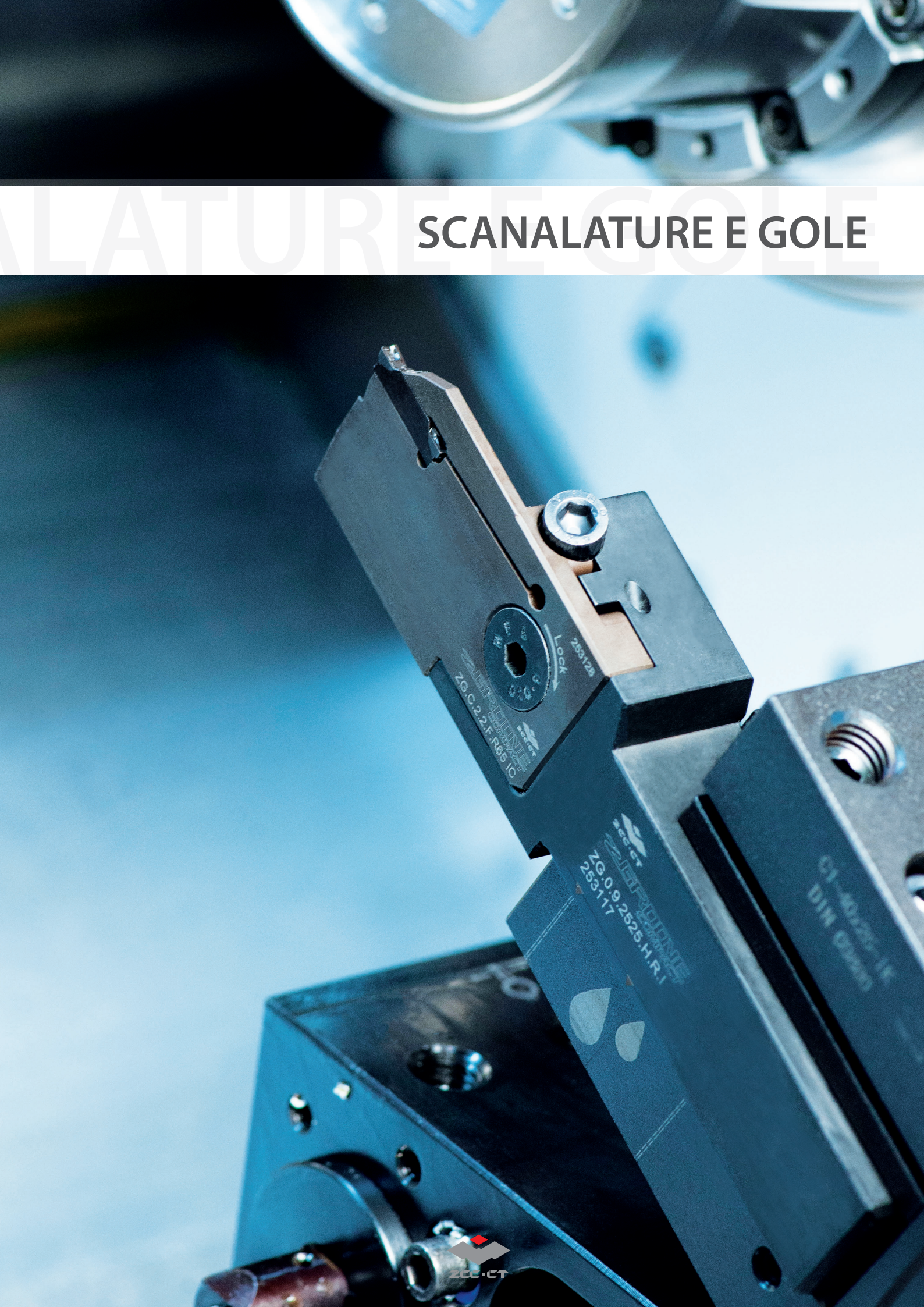
Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.

HC metallo duro rivestito
HW metallo duro non rivestito, componente principale (WC)

Profondità di taglio a_p e avanzamento f

Prodotti	Applicazione			Raggio [mm]				
				0,03	0,05	0,1	0,15	0,2
T1–T4		Tornitura interna Copiatura	Avanzamento f [mm/giro]	0,01–0,02	0,01–0,03	0,03–0,06	0,03–0,08	0,04–0,12
			Profondità di taglio a_p [mm]	0,01–0,03	0,02–0,07	0,05–0,15	0,08–0,20	0,10–0,25
C1		Tornitura interna Smussatura	Avanzamento f [mm/giro]	0,01–0,03				
B1		Tornitura a tirare	Avanzamento f [mm/giro]	–	0,01–0,03	0,03–0,06	0,03–0,08	–
			Profondità di taglio a_p [mm]	–	0,02–0,07	0,05–0,15	0,08–0,20	–
G1–G2		Scanalatura Scanalatura e tornitura	Avanzamento f [mm/giro]	0,01–0,05				
F1–F3		Scanalatura assiale	Avanzamento f [mm/giro]	0,01–0,03				

SCANALATURE E GOLE



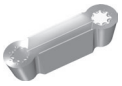
Scanalature e gole

Panoramica prodotti	**A466-A467**
Panoramica sistema	**A468-A469**
Posizionamento dell'utensile	**A470-A471**
Panoramica rompitrucioli	**A472-A473**
Campo di applicazione dei rompitrucioli	**A474-A475**
Panoramica gradi	**A476-A477**
Campo di applicazione dei gradi	**A478-A481**
Codice sistema – Inserti	**A482**
Inserti	**A483-A503**
Codice sistema – Inserti – Serie QC	**A504**
Inserti – Serie QC	**A505-A509**
Codice sistema – Portautensile	**A510**
Portautensile	**A511-A525**
Codice sistema – Barre alesatrici	**A526**
Barre alesatrici	**A527-A529**
Codice sistema - Lama e portautensile	**A530**
Lama e portautensile	**A531-A533**
Codice sistema – Portautensile monoblocco	**A534**
Supporto monoblocco di precisione	**A535-A541**
Codice sistema – Portautensile – Serie QC	**A542**
Portautensile – Serie QC	**A543-A545**
Dati di taglio consigliati	**A546-A547**
Informazioni tecniche	**A616**
Gli utensili speciali	**A619**

Inserti per scanalatura e troncatura

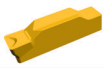
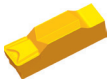
Bilaterale

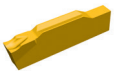
ZT*D-MM	ZT*D-MG	ZT**-EG	ZP*D-MG	ZP*D-MG-R/L	ZP*D-MM	ZT*D-MU	
1,5-8	2,5-6	1-6,5	1,5-6	2,35-4	2	3-6	Larghezza
A484	A485	A495	A486	A487	A488	A483	Pagina

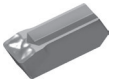


ZR*D-MG	ZR*D-EG	ZR*D-LH	ZILD-LC	
2,5-6	2-6	6-8	8	Larghezza
A498	A499	A502	A503	Pagina

Monolaterale





ZT*S-MM	ZT*S-MM-25	ZT*S-MG	ZP*S-MG-25	ZP*S-MG-R/L	ZP*S-MG	ZIMF-NM	ZIGQ-NM	
2,5-3	4-6	5-6	4-6	2,5-3	2,5-8	3-6	3-6	Larghezza
A493	A494	A492	A490	A491	A489	A500	A501	Pagina

A tre denti

QC**R/L	QC**R/L***R	
0,5-4,8	1-4	Larghezza
A505, B206	A509	Pagina

Portautensili esterni

GQC**R/L
A543

QE**R/L
A511

QE*S**N
A531

QE*S**N-1
A532

QE*SN30
A513

QE*SR/L
A516

QECDR/L
A514

Pagina

QF**R/L
A517

QF**RR/LL
A519

QF*DR/L
A522

QF*SRR/LL
A521

QFHSDR/L
A524

QX*DR/L
A515

QZS*
A533

Pagina

QE**R/L-DGC
A535

QE**R/L-DGSC
A537

QE**R/L-SC
A538

Pagina

Barre alesatrici

C***-Q*DR/L
A527

S*K-QC**R/L
A544

Pagina

Scanalature e gole Panoramica sistema

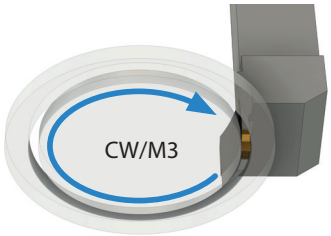
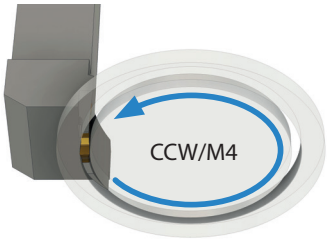
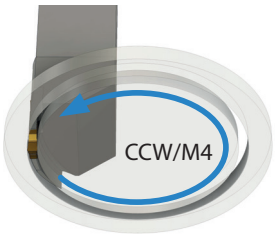
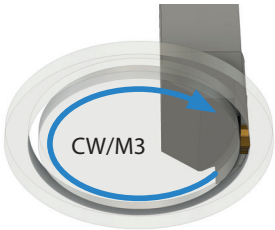
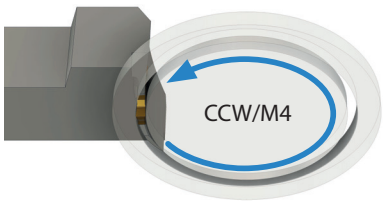
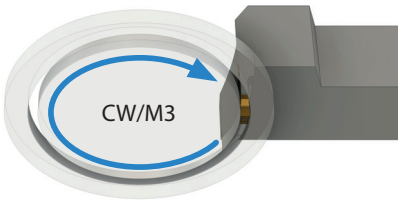
	Informazioni di sistema	Larghezza tagliente S	Profondità di scanalatura a_r max	Scanalatura	Gole	Scanalatura a tuffo	Pag.
Sistema QE	• Sistema per la **scanalatura e gole radiale** e la **scanalatura a tuffo** • Portautensile disponibile per la lavorazione interna ed esterna • Possibilità di refrigerazione mirata e trasmissione KSS diretta mediante il codolo • Inserti di taglio con uno e due taglienti • Inserti di taglio dedicati alla scanalatura di precisione	2,0–6,0 mm	fino a 30,0 mm	✔	✔	✔	■ A511 ● A527
Sistema QZ e QE	• Sistema per la **scanalatura e troncatura radiale** • Combinazione di portatagliente e portautensile • Sistema dotato di autobloccaggio • Inserti di taglio con un tagliente • Impiego flessibile	2,5–6,0 mm	fino a 60,0 mm	✔	✔	–	■ A531
Sistema QF	• Sistema per la **scanalatura assiale** e la **scanalatura a tuffo** • Area di prima scanalatura con Ø 48–400 mm • Bloccaggio tramite viti per la massima stabilità • Inserti di taglio con due taglienti • Portautensile disponibile in versione neutra e con angolazione di 90° • Sottostruttura destra per M3 • Sottostruttura sinistra per M4	2,0–6,0 mm	fino a 22,0 mm	✔	–	✔	■ A525
Sistema QX	• Sistema per la **retro-tornitura** • Portacodolo con angolo di inclinazione di 45° • Bloccaggio tramite viti per la massima stabilità • Per inserti di tornitura con due taglienti • Per lavorazioni di tornitura come ad esempio incavature e retro-torniture. Possibilità di impiego anche per operazioni di tornitura in copiatura	3,0–6,0 mm	fino a 4,0 mm	✔	–	✔	■ A515

■ Portautensili esterni
● Barre alesatrici

	Informazioni di sistema	Larghezza tagliente S	Profondità di scanalatura a_r max	Scanalatura	Gole	Scanalatura a tuffo	Pag.
Sistema QE*S*N	• Sistema speciale dedicato a **materiali a difficile asportazione** • Rompitrucioli speciali per materiali a difficile asportazione • Bloccaggio tramite viti per la massima stabilità • Per inserti di scanalatura con un tagliente	3,0–6,0 mm	fino a 22,0 mm	✔	–	✔	■ A516
Sistema QC	• Sistema per la **scanalatura di precisione** • Portautensile disponibile per la lavorazione esterna e interna • Bloccaggio a vite tangenziale per un'elevata stabilità e rigidità • 3 taglienti per un'alta redditività • Inserti rettificati con precisione e con tolleranze elevate • Alta ripetibilità nella sostituzione del tagliente • Inserti con tagliente diritto o circolare • Particolarità della lavorazione interna: portautensile destro + inserto di taglio sinistro / portautensile sinistro + inserto di taglio destro	0,5–4,8 mm	fino a 5,0 mm	✔	–	–	■ A543 ● A544

■ Portautensili esterni
● Barre alesatrici

Versioni dei portautensili per la lavorazione assiale

Portautensile	Posizionamentoo dell'utensile
QFFD****L**-**H	
QFFD****R**-**H	
QFFD****LL**-**H	
QFFD****RR**-**H	
QFFD****L**-**L	
QFFD****R**-**L	

Note

Scanalatura

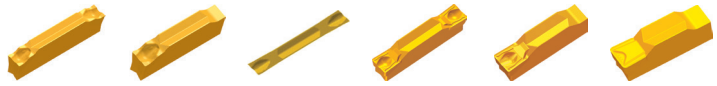
MM
P M K S

Rompitruciolo rettificato con tagliente diritto per la lavorazione generale di acciaio, acciaio inox, ghisa e materiali a difficile asportazione. Può essere utilizzato per scanalatura, scanalatura a tuffo e troncatura.

MU
P K M

Rompitruciolo per il massimo controllo del truciolo nella lavorazione generale di acciaio e ghisa.

MG
P M K S



Rompitruciolo per lavorazione generica di acciaio, acciaio inossidabile, ghise e materiali a difficile asportazione. Utilizzabile per gole, gole/tornitura, troncatura.

MG
P M K S

Rompitruciolo universale con profilo tondo per lavorazione generica di acciaio, acciaio inossidabile e ghise. Utilizzabile per gole e gole/tornitura.

EG
M P S

Rompitruciolo di precisione rettificato per lavorazioni di scanalatura e tornitura. Adatto per la lavorazione di acciaio inossidabile Classe E per una migliore ripetibilità.

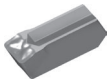
EG
M P S

Rompitruciolo di precisione rettificato con profilo tondo lavorazioni di scanalatura e tornitura. Adatto per la lavorazione di acciaio inossidabile Classe E per una migliore ripetibilità.

Scanalatura

NM

S M



Rompitruciolo speciale per la lavorazione di materiali a difficile asportazione.

LC

N

Rompitruciolo rettificato per contornatura e tornitura di metalli non ferrosi.

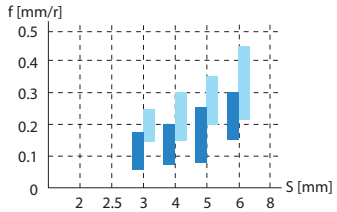
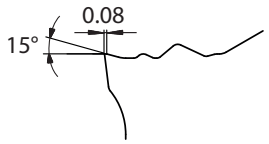
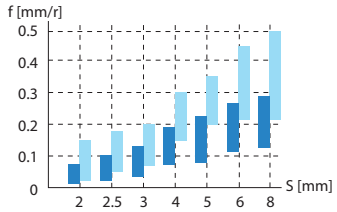
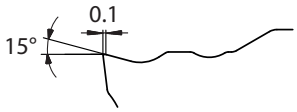
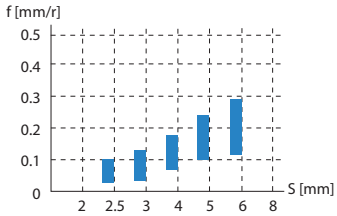
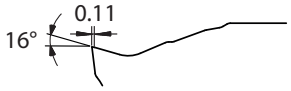
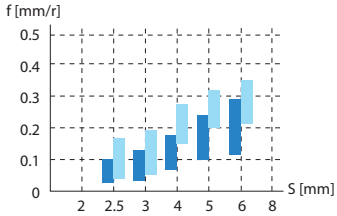
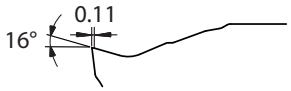
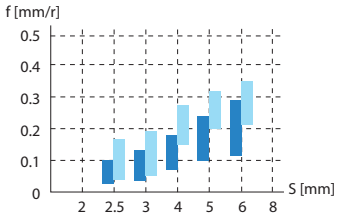
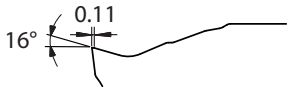
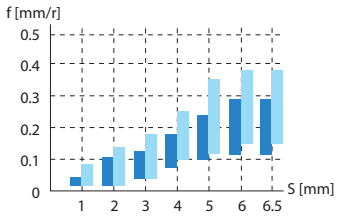
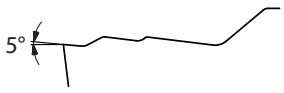
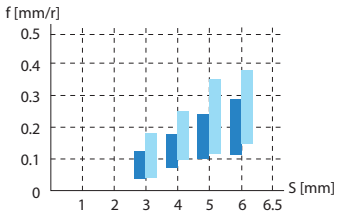
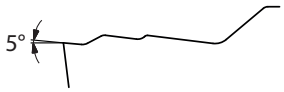
LH

N

Rompitruciolo rettificato per contornatura e tornitura di metalli non ferrosi.

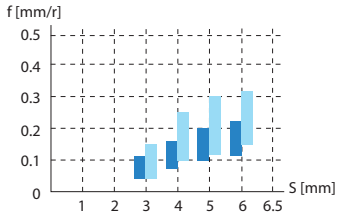
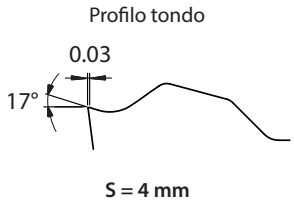
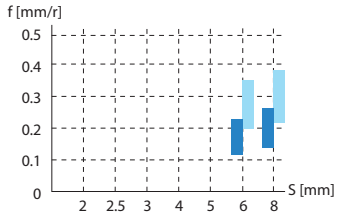
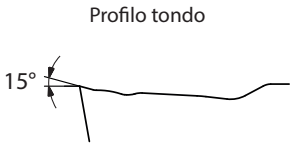
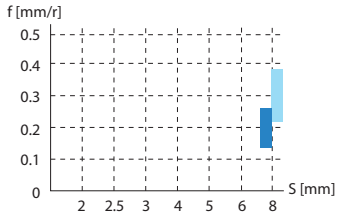
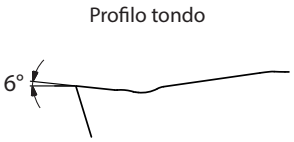
Scanalature e gole

Campo di applicazione dei rompitrucioli

Rompitruciolo	Applicazione	P	M	K	N	S	H	Avanzamento	Versione tagliente
ZT****-MU	Scanalature e gole ✔	✔	✔	✔		✔			 S = 4 mm
	Scanalatura a tuffo ✔								
ZT****-MM	Scanalature e gole ✔	✔	✔	✔		✔			 S = 4 mm
	Scanalatura a tuffo ✔								
ZP****-MG	Scanalature e gole ✔	✔	✔	✔		✔			 S = 4 mm
	Scanalatura a tuffo –								
ZT****-MG	Scanalature e gole ✔	✔	✔	✔		✔			 S = 4 mm
	Scanalatura a tuffo ✔								
ZR****-MG	Scanalature e gole ✔	✔	✔	✔		✔			Profilo tondo  S = 4 mm
	Scanalatura a tuffo ✔								
ZT****-EG	Scanalature e gole ✔	✔	✔	✔		✔			 S = 4 mm
	Scanalatura a tuffo ✔								
ZR****-EG	Scanalature e gole ✔	✔	✔		✔	✔			Profilo tondo  S = 4 mm
	Scanalatura a tuffo ✔								

✔ Molto adatto ✔ Adatto

Scanalature e gole
Scanalatura a tuffo

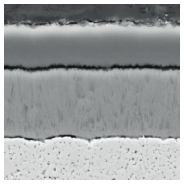
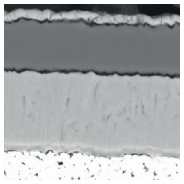
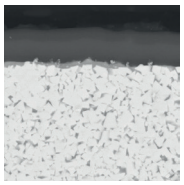
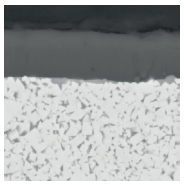
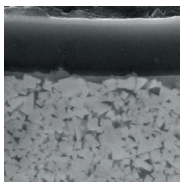
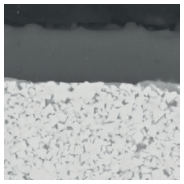
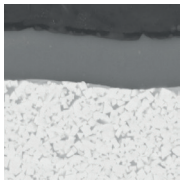
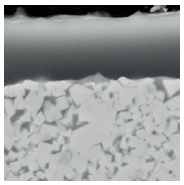
Rompitruciolo	Applicazione	P	M	K	N	S	H	Avanzamento	Versione tagliente
ZI****-NM	Scanalature e gole ✔✔								
	Scanalatura a tuffo ✔✔		✔		✔	✔✔			
ZR****-LH	Scanalature e gole ✔✔								
	Scanalatura a tuffo ✔✔				✔✔	✔			
ZI****-LC	Scanalature e gole ✔✔								
	Scanalatura a tuffo ✔✔				✔✔	✔			

✔✔ Molto adatto ✔ Adatto

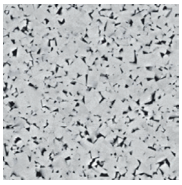
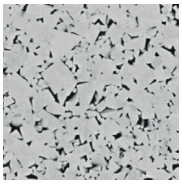
Scanalature e gole

Scanalatura a tuffo

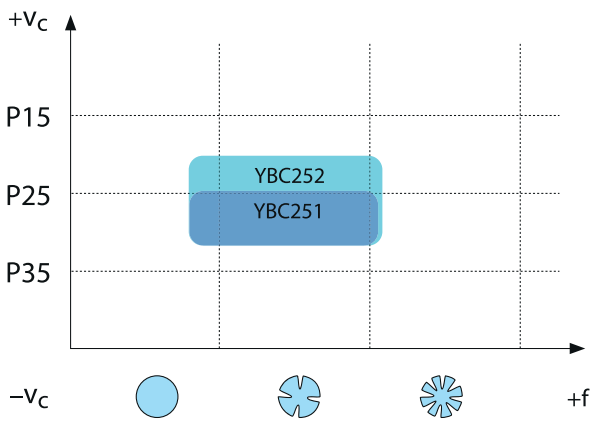
Scanalature e troncatura

Grado	ISO	Microstruttura	Descrizione gradi
YBC252	P20 - P35		Grado di metallo duro con rivestimento in CVD P20-P35 adatto per lavorazioni dall´asportazione media alla sgrossatura di acciaio e acciaio fuso. Resistenza all´usura e tenacità ottimizzata per un ampio campo di applicazioni.
YBC251	P20 - P35		Grado di metallo duro con rivestimento in CVD P20-P35 adatto per lavorazioni dall´asportazione media alla sgrossatura di acciaio e acciaio fuso per basse velocità di taglio.
YBG105	S05 - S20		Grado di metallo duro con rivestimento multistrato in PVD S05-S20 adatto per lavorazioni dalla finitura all´asportazione media di superleghe ma anche di acciai inossidabili. Ottima resistenza all´usura e alla temperatura in una vasta gamma di applicazioni
YBG102	S05 - S15		Grado di metallo duro con rivestimento in PVD S05-S15 per lavorazioni dalla finitura all´asportazione media di superleghe, acciaio inossidabile e alluminio. Ottima resistenza all´usura in una vasta gamma di applicazioni.
YB9320	P10 - P30 M10 - M25		Grado di metallo duro P10 - P30/M10 - M25 con rivestimento in PVD multistrato per lavorazioni che spaziano dalla finitura all'asportazione media di acciaio inossidabile, superleghe e acciaio (scanalatura/fresatura). Resistenza all'usura ottimale grazie all'adesione migliore del rivestimento e alla maggiore resistenza termica in un ampio campo di applicazione.
YBG205	P10 - P30 M20 - M40 S15-S25		Grado di metallo duro P10 - P30/M20 - M40/S15 - S25 con rivestimento in PVD multistrato per lavorazioni che spaziano dalla finitura all'asportazione media di acciaio inossidabile, superleghe e acciaio (fresatura). Resistenza all'usura e resistenza termica ottimali in un ampio campo di applicazione.
YBG202	P10 - P30 M10 - M25		Grado di metallo duro con rivestimento in PVD P10–P30/M10–M25 per lavorazioni dalla finitura all'asportazione media di acciai inossidabili e acciaio (fresatura). Ottima resistenza all´usura in una vasta gamma di applicazioni.
YBG302	P15 - P30 M25 - M40		Grado di metallo duro con rivestimento in PVD P15–P30/M25–M40 per lavorazioni dall'asportazione media fino alla sgrossatura di acciaio inossidabile e acciaio (fresatura). Ottima resistenza all´usura e tenacità.

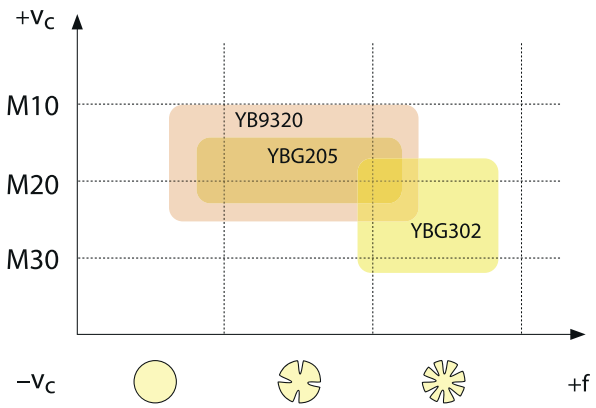
Scanalature e troncatura

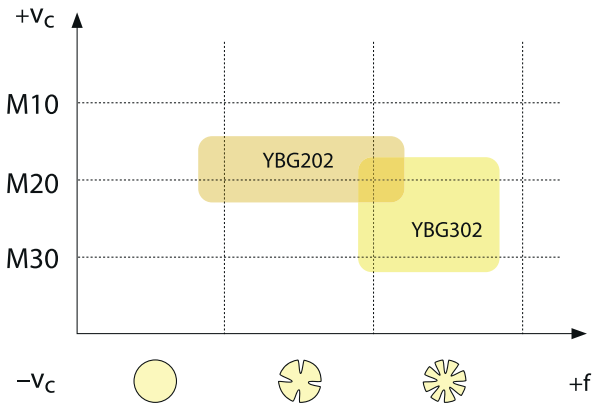
Grado	ISO	Microstruttura	Descrizione gradi
YD101	K05 - K20 N05 - N20		Substrato in metallo duro non rivestito K05–K20/N05–N20 per lavorazioni dalla finitura all´asportazione media di alluminio e altri materiali.
YD201	K10 - K30 N10 - N30		Substrato in metallo duro non rivestito K10–K30/N10–N30 per l´asportazione media di alluminio e altri materiali.

Gradi di metallo duro con rivestimento in CVD per acciaio

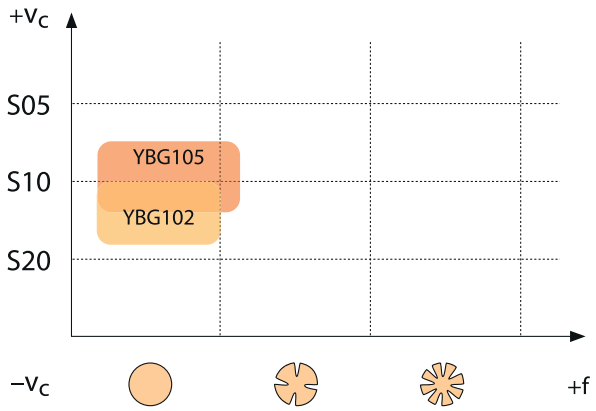


Gradi di metallo duro con rivestimento in PVD per acciaio inossidabile

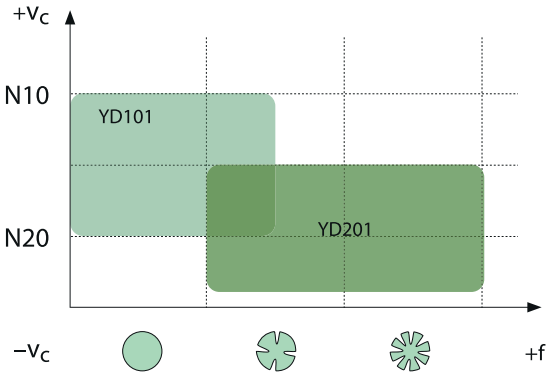




Gradi di metallo duro con rivestimento in PVD per superleghe



Gradi di metallo duro per metalli non ferrosi



Campi di applicazione dei gradi – scanalature e gole

	ISO	HC[1] (CVD)	HC[1] (PVD)	HT	HC[2]	Ceramic	HW	CBN	PCD
P	P01								
	P10	YBC251, YBC252							
	P20								
	P30								
	P40								
M	M01								
	M10		YBG202, YBG205, YB9320, YBG302						
	M20								
	M30								
	M40								
K	K01								
	K10								
	K20								
	K30								
N	N01								
	N10						YD101, YD102		
	N20								
	N30								
S	S01								
	S10		YBG102, YBG105						
	S20								
	S30								
H	H01								
	H10								
	H20								
	H30								

P	Acciaio
M	Acciaio inossidabile
K	Ghisa
N	Metalli non ferrosi
S	Materiali a difficile asportazione
H	Materiali ad elevata durezza

HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Metallo duro non rivestito

Note

ZP	G	D	04	04	–	M	G
1	2	3	4	5		6	7

Applicazione	
Code	Descrizione
ZP	Troncatura
ZT	Scanalatura e tornitura
ZR	Inserti con raggio

1

Dim. sede inserto [mm]	
Larghezza tagliente	
Code	Descrizione
B	2,0
E	2,5
F	3,0
G	4,0
H	5,0
K	6,0
L	8,0

2

Numero taglienti	
Code	Descrizione
S	Singolo
D	Doppio

3

Spessore dell'inserto S [mm]	
Code	S
02	2,0
025	2,5
03	3,0
04	4,0
05	5,0
06	6,0
08	8,0

4

Raggio di punta r [mm]	
Code	r
02	0,2
03	0,3
04	0,4
08	0,8

5

Classe di tolleranza [mm]	
Code	Descrizione
M	±0,13
E	±0,025

6

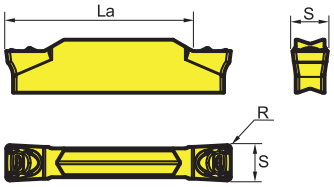
Rompitruciolo	
Code	Descrizione
G	Rompitruciolo generico
F	Rompitruciolo speciale
M	Tagliente diritto
U	Rompitruciolo universale

7

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

Inserti per scanalatura e troncatura

Inserti scanalatura (bilaterale)



2 taglienti

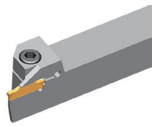
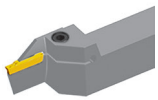
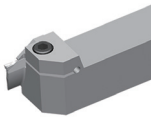
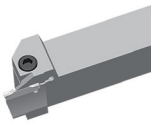
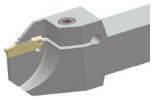
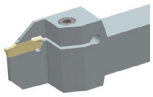
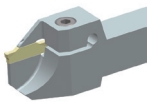
	HC[1] (CVD)						HC[1] (PVD)						HW	
P	◐	◐						◐	◐	◐	◐			
M								◐	◐	◐	◐			
K														
N													●	◐
S							●	●	◐	◐	◐			
H														

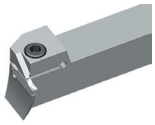
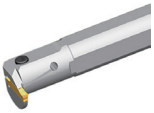
	ISO	R±0.1	La *max*	S±0.10	f	YBC252	YBC251					YBG105	YBG102	YB9320	YBG205	YBG202	YBG302		YD101	YD201		
	ZTFD0302-MU	0,2	17	3	0,06-0,18									●								
	ZTFD0303-MU	0,3	17	3	0,06-0,18									●								
	ZTGD0402-MU	0,2	22	4	0,08-0,20									●								
	ZTGD0404-MU	0,4	22	4	0,08-0,20									●								
	ZTHD0504-MU	0,4	22	5	0,09-0,25									●								
	ZTHD0508-MU	0,8	22	5	0,09-0,25									●								
	ZTKD0604-MU	0,4	22	6	0,15-0,30									○								
	ZTKD0608-MU	0,8	22	6	0,15-0,30									○								

● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito
HW Carburo cementato non rivestito

Utensile

QE*D*R/L	QF*D*R/L-H	QF*D*LL-H	QF*D*RR-H	QE*D*R/L-DGC	QE*D*R/L-DGSC	QE*D*R/L-SC
						
A511	A517	A519	A519	A535	A537	A538

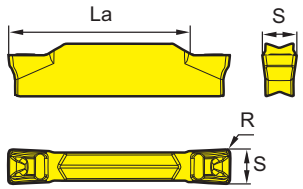
QF*D*R/L-L	C***-Q*DR/L
	
A522	A527

Codice sistema A482 | Scelta gradi A478 | Informazioni tecniche A607 | Dati di taglio A546

Inserti per scanalatura e troncatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

ZT** Inserti scanalatura (bilaterale)



2 taglienti

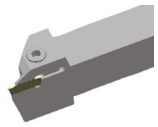
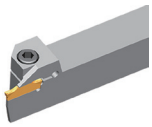
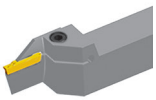
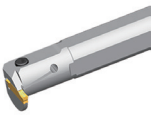
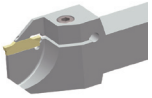
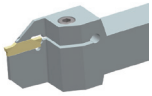
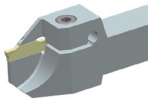
	HC¹ (CVD)						HC¹ (PVD)						HW	
P	⊛	⊛							⊛	⊛	⊛	⊛		
M									⊛	⊛	⊛	⊛		
K														
N													●	⊛
S							●	●	⊛	⊛	⊛			
H														

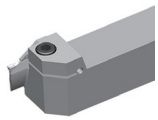
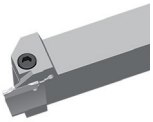
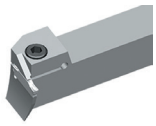
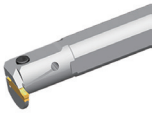
	ISO	R±0.1	La *max*	S	f	YBC252	YBC251					YBG105	YBG102	YB9320	YBG205	YBG202	YBG302		YD101	YD201	
	ZTAD01502-MM	0,2	12	1,5	0,03-0,12										○						
	ZTBD02002-MM	0,2	13	2	0,02-0,07									●	●		○				
	ZTED02503-MM	0,3	17	2,5	0,03-0,1									●							
	ZTFD0303-MM	0,3	17	3	0,04-0,13									●							
	ZTGD0404-MM	0,4	22	4	0,06-0,18									●							
	ZTHD0504-MM	0,4	22	5	0,08-0,23									●							
	ZTKD0608-MM	0,8	22	6	0,12-0,27									●							
	ZTLD0808-MM	0,8	28	8	0,13-0,29									●	○						

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HW Carburo cementato non rivestito

Utensile

QE*A*R/L	QE*D*R/L	QF*D*R/L-H	*-QBDR/L	QE*D*R/L-DGC	QE*D*R/L-DGSC	QE*D*R/L-SC
						
A511	A511	A517	A527	A535	A537	A538

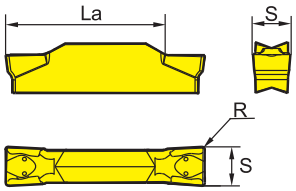
QF*D*LL-H	QF*D*RR-H	QF*D*R/L-L	C***-Q*DR/L
			
A519	A519	A522	A527

Codice sistema A482 | Scelta gradi A478 | Informazioni tecniche A607 | Dati di taglio A546

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

Inserti per scanalatura e troncatura

Inserti scanalatura (bilaterale)



2 taglienti

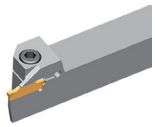
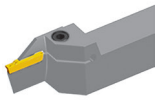
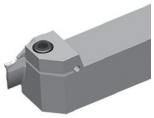
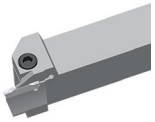
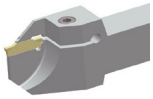
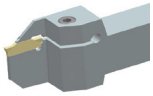
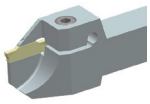
	HC[1] (CVD)						HC[1] (PVD)						HW	
P	⊛	⊛						⊛	⊛	⊛	⊛			
M								⊛	⊛	⊛	⊛			
K														
N													●	⊛
S							●	●	⊛	⊛	⊛			
H														

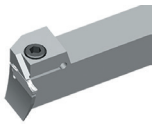
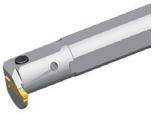
	ISO	R±0.1	La *max*	S±0.10	f	YBC252	YBC251					YBG105	YBG102	YB9320	YBG205	YBG202	YBG302		YD101	YD201
	ZTED02503-MG	0,3	17	2,5	0,03-0,11											○	●			
	ZTFD0303-MG	0,3	17	3	0,04-0,14								○		●	○	●			
	ZTGD0402-MG	0,2	22	4	0,07-0,2															
	ZTGD0404-MG	0,4	22	4	0,07-0,2		○								●	○	●			●
	ZTHD0504-MG	0,4	22	5	0,10-0,25										●	○	●			
	ZTKD0604-MG	0,4	22	6	0,13-0,30										○					
	ZTKD0608-MG	0,8	22	6	0,13-0,30								○	●			●			

● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito
HW Carburo cementato non rivestito

Utensile

QE*D*R/L	QF*D*R/L-H	QF*D*LL-H	QF*D*RR-H	QE*D*R/L-DGC	QE*D*R/L-DGSC	QE*D*R/L-SC
						
A511	A517	A519	A519	A535	A537	A538

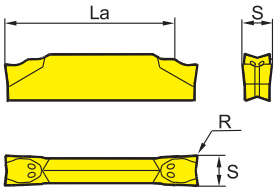
QF*D*R/L-L	C***-Q*DR/L
	
A522	A527

Codice sistema A482 | Scelta gradi A478 | Informazioni tecniche A607 | Dati di taglio A546

Buone condizioni di lavorazione
Condizioni di lavorazione normali
Condizioni di lavorazione sfavorevoli

Inserti per scanalatura e troncatura

Inserti scanalatura (bilaterale)



2 taglienti

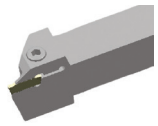
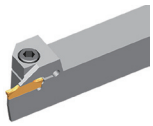
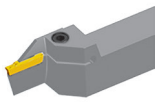
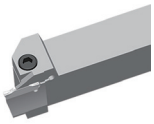
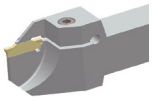
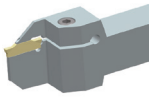
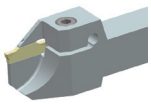
	HC[1] (CVD)						HC[1] (PVD)						HW	
P	✱	✱							✱	✱	✱	✱		
M									✱	✱	✱	✱		
K														
N													●	✱
S							●	●	✱	✱	✱			
H														

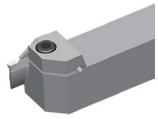
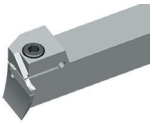
	ISO	R±0.1	La *max*	S±0.10	f	YBC252	YBC251					YBG105	YBG102	YB9320	YBG205	YBG202	YBG302		YD101	YD201	
	ZPAD01502-MG	0,2	12	1,5	0,03-0,08										●						
	ZPED02502-MG	0,2	17	2,5	0,03-0,1		○							●			●				
	ZPFD0302-MG	0,2	17	3	0,04-0,13		○							●			●				
	ZPGD0402-MG	0,2	22	4	0,07-0,18		○							●			●			○	
	ZPHD0503-MG	0,3	22	5	0,1-0,24											○	●				
	ZPKD0604-MG	0,4	22	6	0,12-0,29	○										○	●				

● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito
HW Carburo cementato non rivestito

Utensile

QE*A*R/L	QE*D*R/L	QF*D*R/L-H	QF*D*RR-H	QE*D*R/L-DGC	QE*D*R/L-DGSC	QE*D*R/L-SC
						
A511	A511	A517	A519	A535	A537	A538

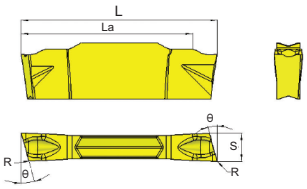
QF*D*LL-H	QF*D*R/L-L	C***-Q*DR/L
		
A519	A522	A527

Codice sistema A482 Scelta gradi A478 Informazioni tecniche A607 Dati di taglio A546

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

Inserti per scanalatura e troncatura

ZT** Inserti scanalatura (bilaterale)



Versione destra

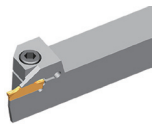
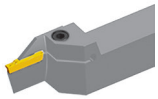
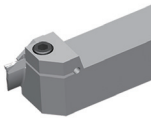
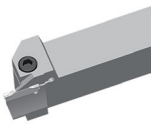
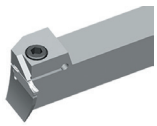
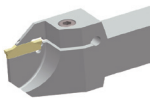
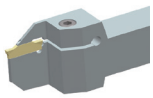
	HC[1] (CVD)						HC[1] (PVD)						HW	
P	◐	◐						◐	◐	◐	◐			
M								◐	◐	◐	◐			
K														
N													●	◐
S							●	●	◐	◐	◐			
H														

	ISO	La *max*	L	S	θ	R	f	YBC252	YBC251					YBG105	YBG102	YB9320	YBG205	YBG202	YBG302		YD101	YD201
	ZPED02502-MG-6L	17	20	2,35	6°	0,2	0,03-0,08												●			
	ZPED02502-MG-6R	17	20	2,35	6°	0,2	0,03-0,08									●			●			
	ZPED02502-MG-15L	17	20	2,35	15°	0,2	0,03-0,05												○			
	ZPED02502-MG-15R	17	20	2,35	15°	0,2	0,03-0,05											○	○			
	ZPFD0302-MG-6L	17	20	2,85	6°	0,2	0,04-0,1									●			●			
	ZPFD0302-MG-6R	17	20	2,85	6°	0,2	0,04-0,1									●			○			
	ZPFD0302-MG-15L	17	20	2,85	15°	0,2	0,04-0,08												○			
	ZPFD0302-MG-15R	17	20	2,85	15°	0,3	0,04-0,08									●			○			
	ZPGD0402-MG-15R	22	25	4	15°	0,2	0,06-0,18									●						

● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito
HW Carburo cementato non rivestito

Utensile

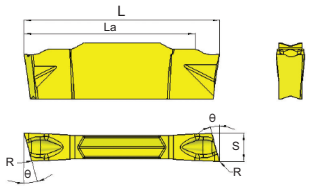
QE*D*R/L	QF*D*R/L-H	QF*D*LL-H	QF*D*RR-H	QF*D*R/L-L	QE*D*R/L-DGC	QE*D*R/L-DGSC
						
A511	A517	A519	A519	A522	A535	A537

C***-Q*DR/L
A527

Codice sistema A482 | Scelta gradi A478 | Informazioni tecniche A607 | Dati di taglio A546

Inserti per scanalatura e troncatura

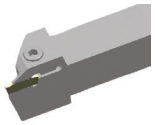
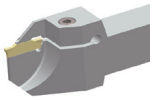
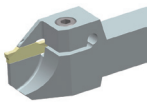
Buone condizioni di lavorazione
Condizioni di lavorazione normali
Condizioni di lavorazione sfavorevoli

Inserti scanalatura (bilaterale)		HC[1] (CVD)						HC[1] (PVD)						HW	
 2 taglienti	P	⊛	⊛							⊛	⊛	⊛	⊛		
	M									⊛	⊛	⊛	⊛		
	K														
	N													●	⊛
	S							●	●	⊛	⊛	⊛			
	H														

ISO		R±0.1	La *max*	S±0.10	f	YBC252	YBC251					YBG105	YBG102	YB9320	YBG205	YBG202	YBG302		YD101	YD201	
	ZPBD02002-MM-8R	0,2	12	2	0,02-0,07											○					

● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito
HW Carburo cementato non rivestito

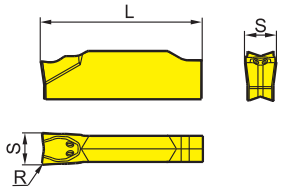
Utensile			
QE*D*R/L	***-QBDR/L**	**QE*D*R/L-DGC**	**QE*D*R/L-SC**
			
A511	A527	A535	A538

Codice sistema A482 | Scelta gradi A478 | Informazioni tecniche A607 | Dati di taglio A546

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

Inserti per scanalatura e troncatura

Inserti scanalatura (monolaterale)



1 tagliente

	HC[1] (CVD)					HC[1] (PVD)						HW	
P	✱	✱					✱	✱	✱	✱			
M							✱	✱	✱	✱			
K													
N												●	✱
S						●	●	✱	✱	✱			
H													

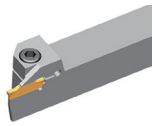
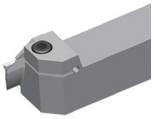
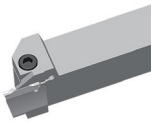
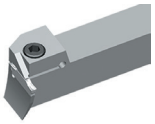
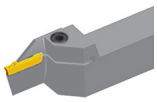
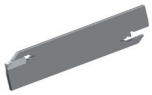
	ISO	R±0.1	L	S±0.10	f	YBC252	YBC251					YBG105	YBG102	YB9320	YBG205	YBG202	YBG302		YD101	YD201		
	ZPES02502-MG	0,2	20	2,5	0,03-0,1									●			●					
	ZPFS0302-MG	0,2	20	3	0,04-0,13		○							●			●					
	ZPGS0402-MG	0,2	20	4	0,07-0,18		○									○	●			○		
	ZPHS0503-MG	0,3	20	5	0,1-0,24											○	●					
	ZPKS0604-MG	0,4	20	6	0,12-0,29											○	●					
	ZPLS0806-MG	0,6	20	8	0.25-0.65										○							

● In magazzino ○ Su richiesta

Inserti a tagliente unico esclusivamente per l´impiego su lame per gole

HC[1] Carburo cementato rivestito
HW Carburo cementato non rivestito

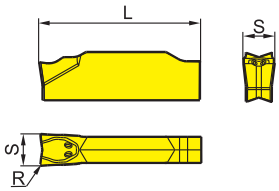
Utensile

QE*S*R/L	QF*S*LL-H	QF*S*RR-H	QF*S*R/L-L	QF*S*R/L-H	QZ**+QE**
					
A513	A521	A521	A524	A525	A532

Codice sistema A482 | Scelta gradi A478 | Informazioni tecniche A607 | Dati di taglio A546

Inserti per scanalatura e troncatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

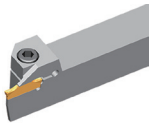
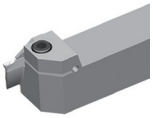
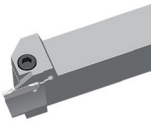
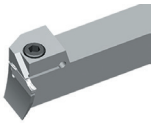
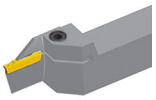
Inserti scanalatura (monolaterale)		HC[1] (CVD)						HC[1] (PVD)						HW	
 1 tagliente	P	⊛	⊛						⊛	⊛	⊛	⊛			
	M								⊛	⊛	⊛	⊛			
	K														
	N													●	⊛
	S							●	●	⊛	⊛	⊛			
	H														

	ISO	R±0.1	L	S±0.10	f	YBC252	YBC251					YBG105	YBG102	YB9320	YBG205	YBG202	YBG302		YD101	YD201	
	ZPGS0402-MG-25	0,2	24,6	4	0,07-0,18									●							
	ZPHS0503-MG-25	0,3	24,6	5	0,1-0,24									●							
	ZPKS0604-MG-25	0,4	24,6	6	0,12-0,29									●							

● In magazzino ○ Su richiesta

Inserti a tagliente unico esclusivamente per l´impiego su lame per gole

HC[1] Carburo cementato rivestito
HW Carburo cementato non rivestito

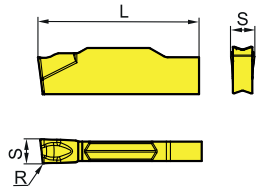
Utensile					
QE*S*R/L	**QF*S*LL-H**	**QF*S*RR-H**	**QF*S*R/L-L**	**QF*S*R/L-H**	**QZ**+QE****
					
A513	A521	A521	A524	A525	A532

Codice sistema A482 | Scelta gradi A478 | Informazioni tecniche A607 | Dati di taglio A546

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

Inserti per scanalatura e troncatura

Inserti scanalatura (monolaterale)



1 tagliente

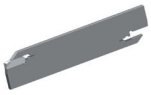
	HC[1] (CVD)				HC[1] (PVD)						HW		
P	⊛	⊛					⊛	⊛	⊛	⊛			
M							⊛	⊛	⊛	⊛			
K													
N											●	⊛	
S					○	○	⊛	⊛	⊛				
H													

	ISO	R±0.1	L	S±0.10	θ	f	YBC252	YBC251				YBG105	YBG102	YB9320	YBG205	YBG202	YBG302		YD101	YD201	
	ZPES02502-MG-6L	0,2	19,9	2,5	6°	0,03-0,08								●							
	ZPES02502-MG-6R	0,2	19,9	2,5	6°	0,03-0,08								●							
	ZPFS0302-MG-6L	0,2	19,9	3	6°	0,04-0,1								●							
	ZPFS0302-MG-6R	0,2	19,9	3	6°	0,04-0,1								●							

● In magazzino ○ Su richiesta

Inserti a tagliente unico esclusivamente per l´impiego su lame per gole

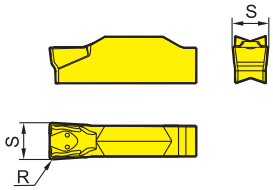
HC[1] Carburo cementato rivestito
HW Carburo cementato non rivestito

Utensile
QZ+QE****

A532

Codice sistema A482 | Scelta gradi A478 | Informazioni tecniche A607 | Dati di taglio A546

Inserti per scanalatura e troncatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli



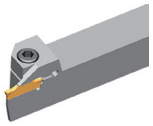
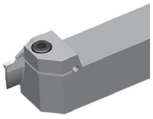
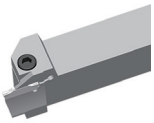
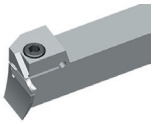
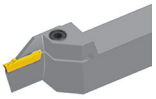
1 tagliente

Inserti scanalatura (monolaterale)		HC[1] (CVD)						HC[1] (PVD)						HW		
	P	⊛	⊛						⊛	⊛	⊛	⊛				
	M								⊛	⊛	⊛	⊛				
	K															
	N													●	⊛	
	S							●	●	⊛	⊛	⊛				
	H															

ISO		R±0.1	S±0.10	f	YBC252	YBC251				YBG105	YBG102	YB9320	YBG205	YBG202	YBG302		YD101	YD201	
	ZTHS0504-MG	0,4	5	0,10-0,25								○			●				
	ZTKS0608-MG	0,8	6	0,13-0,30										○	●				

● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito
HW Carburo cementato non rivestito

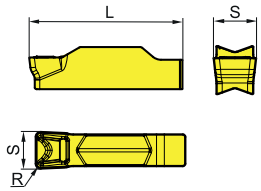
Utensile					
QE*S*R/L	**QF*S*LL-H**	**QF*S*RR-H**	**QF*S*R/L-L**	**QF*S*R/L-H**	**QZ**+QE****
					
A513	A521	A521	A524	A525	A531

Codice sistema A482 | Scelta gradi A478 | Informazioni tecniche A607 | Dati di taglio A546

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

Inserti per scanalatura e troncatura

Inserti scanalatura (monolaterale)



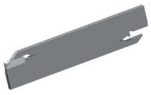
1 tagliente

	HC[1] (CVD)						HC[1] (PVD)						HW	
P	⊛	⊛						⊛	⊛	⊛	⊛			
M								⊛	⊛	⊛	⊛			
K														
N													●	⊛
S							○	○	⊛	⊛	⊛			
H														

	ISO	R±0.1	L	S±0.10	f	YBC252	YBC251	YBG105	YBG102	YB9320	YBG205	YBG202	YBG302	YD101	YD201
	ZTES02503-MM	0,3		2,5	0,03-0,1					●					
	ZTFS0303-MM	0,3	19,9	3	0,04-0,13					●					

● In magazzino ○ Su richiesta

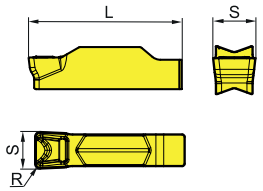
HC[1] Carburo cementato rivestito
HW Carburo cementato non rivestito

Utensile
QZ+QE****

A532

Codice sistema A482 | Scelta gradi A478 | Informazioni tecniche A607 | Dati di taglio A546

Inserti per scanalatura e troncatura

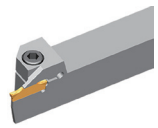
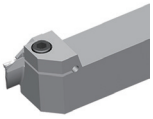
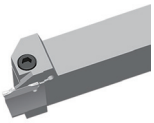
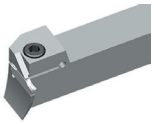
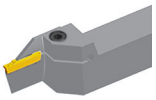
- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

Inserti scanalatura (monolaterale)		HC[1] (CVD)						HC[1] (PVD)						HW	
 1 tagliente	P	⊛	⊛							⊛	⊛	⊛	⊛		
	M									⊛	⊛	⊛	⊛		
	K														
	N													●	⊛
	S							●	●	⊛	⊛	⊛			
	H														

ISO		R±0.1	L	S±0.10	f	YBC252	YBC251					YBG105	YBG102	YB9320	YBG205	YBG202	YBG302		YD101	YD201	
	ZTGS0404-MM-25	0,4	24,6	4	0,06-0,18									●							
	ZTHS0504-MM-25	0,4	24,6	5	0,08-0,23									●							
	ZTKS0608-MM-25	0,8	24,6	6	0,12-0,27									●							

● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito
HW Carburo cementato non rivestito

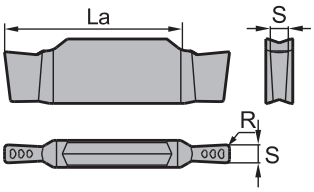
Utensile					
QE*S*R/L	**QF*S*LL-H**	**QF*S*RR-H**	**QF*S*R/L-L**	**QF*S*R/L-H**	**QZ**+QE****
					
A513	A521	A521	A524	A525	A532

Codice sistema A482 | Scelta gradi A478 | Informazioni tecniche A607 | Dati di taglio A546

● Buone condizioni di lavorazione
✲ Condizioni di lavorazione normali
✲ Condizioni di lavorazione sfavorevoli

Inserti per scanalatura e troncatura

Inserti scanalatura (bilaterale)

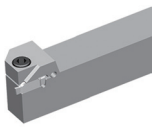


	HC[1] (CVD)					HC[1] (PVD)						HW	
P	✲	✲					✲	✲	✲	✲			
M							✲	✲	✲	✲			
K													
N												●	✲
S						●	●	✲	✲	✲			
H													

	ISO	La *max*	S±0.025	R±0.05	f	YBC252	YBC251				YBG105	YBG102	YB9320	YBG205	YBG202	YBG302		YD101	YD201
	ZTCD01002-EG	2,6	1	0,2	0,02-0,04											○			
	ZTCD011502-EG	2,6	1,15	0,2	0,02-0,04											○			
	ZTCD01202-EG	2,6	1,2	0,2	0,02-0,04											○			
	ZTCD013802-EG	2,6	1,38	0,2	0,02-0,04											○			
	ZTCD01402-EG	2,6	1,4	0,2	0,02-0,04											○			
	ZTCD01500-EG	2,6	1,5	0	0,02-0,04											○			
	ZTCD01502-EG	2,6	1,5	0,2	0,02-0,04											○			
	ZTCD01503-EG	2,6	1,5	0,3	0,02-0,04										○				
	ZTCD015503-EG	2,6	1,55	0,3	0,02-0,04											○			
	ZTCD01602-EG	2,6	1,6	0,2	0,02-0,04											○			
	ZTCD01702-EG	3,4	1,7	0,2	0,02-0,08											○			
	ZTCD01704-EG	3,4	1,7		0,02-0,08								○			○			
	ZTCD017503-EG	3,4	1,75	0,3	0,02-0,08											○			
	ZTCD017602-EG	3,4	1,76	0,2	0,02-0,08										○				
	ZTCD01802-EG	3,4	1,8	0,2	0,02-0,08											○			
	ZTCD018502-EG	3,4	1,85	0,2	0,02-0,08											○			
	ZTCD019602-EG	3,4	1,9	0,2	0,02-0,08											○			
	ZTCD02000-EG	3,4	2	0	0,02-0,08											○			
	ZTCD02002-EG	3,4	2	0,2	0,02-0,08											●			
	ZTCD020503-EG	3,4	2,05	0,3	0,02-0,08											○			
	ZTCD021502-EG	3,4	2,15	0,2	0,02-0,08											○			
	ZTCD02302-EG	3,4	2,3	0,2	0,03-0,11											○			
	ZTCD02303-EG	3,4	2,3	0,3	0,03-0,11											○			
	ZTCD02402-EG	3,4	2,4	0,2	0,03-0,11											○			

● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito
HW Carburo cementato non rivestito

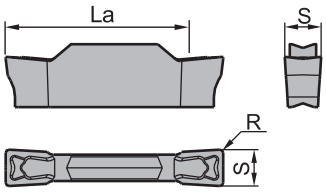
Utensile
QECD

A514

Codice sistema A482 | Scelta gradi A478 | Informazioni tecniche A607 | Dati di taglio A546

Inserti per scanalatura e troncatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

Inserti scanalatura (bilaterale)



	HC¹ (CVD)						HC¹ (PVD)						HW	
P	⊛	⊛							⊛	⊛	⊛	⊛		
M									⊛	⊛	⊛	⊛		
K														
N													●	⊛
S							●	●	⊛	⊛	⊛			
H														

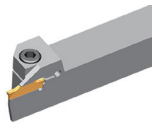
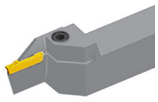
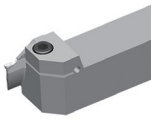
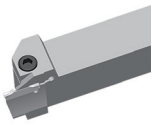
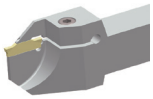
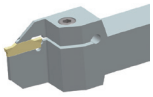
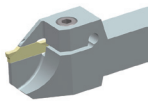
	ISO	La *max*	S±0.025	R±0.05	f	YBC252	YBC251					YBG105	YBG102	YB9320	YBG205	YBG202	YBG302		YD101	YD201
	ZTED02502-EG	17	2,5	0,2	0,03-0,11												○			
	ZTED026502-EG	17	2,65	0,2	0,03-0,11												○			
	ZTED02702-EG	17	2,7	0,2	0,03-0,11												○			
	ZTED02703-EG	17	2,7	0,3	0,03-0,11												○			
	ZTED02802-EG	17	2,8	0,2	0,04-0,13												○			
	ZTED02803-EG	17	2,8	0,3	0,04-0,13												○			
	ZTED02804-EG	17	2,8	0,4	0,04-0,13												○			
	ZTED02903-EG	17	2,9	0,3	0,04-0,13												○			
	ZTFD03002-EG	17	3	0,2	0,04-0,13												○			
	ZTFD03003-EG	17	3	0,3	0,04-0,13												○			
	ZTFD03203-EG	17	3,2	0,3	0,04-0,13												○			
	ZTFD0325024-EG	17	3,25	2,4	0,04-0,13												○			
	ZTFD03302-EG	17	3,3	0,2	0,04-0,13												○			
	ZTFD03303-EG	17	3,3	0,3	0,04-0,13												○			
	ZTFD03403-EG	17	3,4	0,3	0,04-0,13												○			
	ZTFD035-EG	17	3,5	0	0,04-0,13												○			
	ZTGD039602-EG	22	3,96	0,2	0,07-0,18												○			
	ZTGD04002-EG	22	4	0,2	0,07-0,18												○			
	ZTGD04003-EG	22	4	0,3	0,07-0,18												○			
	ZTGD04004-EG	22	4	0,4	0,07-0,18												○			
	ZTGD04008-EG	22	4	0,8	0,07-0,18											○				
	ZTGD04505-EG	22	4,5	0,5	0,07-0,18												○			
	ZTGD04805-EG	22	4,8	0,5	0,1-0,24												○			
	ZTHD05003-EG	22	5	0,3	0,1-0,24												○			
	ZTHD05004-EG	22	5	0,4	0,1-0,24										○					
	ZTHD05008-EG	22	5	0,8	0,1-0,24											○				
	ZTHD05012-EG	22	5	0,12	0,1-0,24											○				
	ZTHD05202-EG	22	5,2	0,2	0,1-0,24												○			
	ZTHD052503-EG	22	5,25	0,3	0,1-0,24												○			
	ZTHD05508-EG	22	5,5	0,8	0,1-0,24												○			
	ZTKD06504-EG	22	6,5	0,4	0,12-0,29												○			

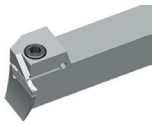
● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HW Carburo cementato non rivestito

Codice sistema A482 | Scelta gradi A478 | Informazioni tecniche A607 | Dati di taglio A546

Utensile

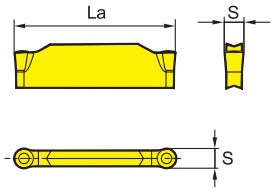
QE*D*R/L	QF*D*R/L-H	QF*D*LL-H	QF*D*RR-H	QE*D*R/L-DGC	QE*D*R/L-DGSC	QE*D*R/L-SC
						
A511	A517	A519	A519	A535	A537	A538

QF*D*R/L-L	C***-Q*DR/L
	
A522	A527

Codice sistema A482 | Scelta gradi A478 | Informazioni tecniche A607 | Dati di taglio A546

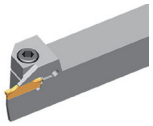
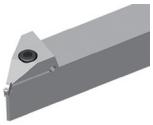
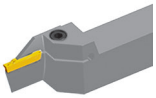
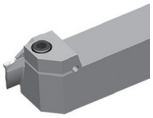
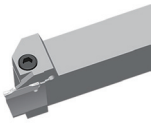
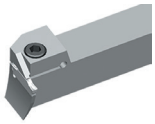
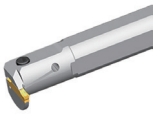
Inserti per scanalatura e troncatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

Inserti scanalatura (bilaterale)		HC[1] (CVD)					HC[1] (PVD)							HW		
 2 taglienti	P	⊛	⊛						⊛	⊛	⊛	⊛				
	M								⊛	⊛	⊛	⊛				
	K															
	N													●	⊛	
	S						●	●	⊛	⊛	⊛					
	H															
ISO	La *max* / S±0.10 / f	YBC252	YBC251				YBG105	YBG102	YB9320	YBG205	YBG202	YBG302		YD101	YD201	
ZRED025-MG	17,5 / 2,5 / 0,03-0,11										○	●				
ZRFD03-MG	17 / 3 / 0,04-0,14								●			●				
ZRGD04-MG	21 / 4 / 0,07-0,2									●		●				
ZRHD05-MG	20 / 5 / 0,1-0,24										○	●				
ZRKD06-MG	19 / 6 / 0,12-0,29										○	●				

● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito
HW Carburo cementato non rivestito

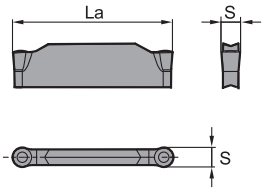
Utensile						
QE*D*R/L	**QX*D***	**QF*D*R/L-H**	**QF*D*LL-H**	**QF*D*RR-H**	**QF*D*R/L-L**	**C***-Q*DR/L**
						
A511	A515	A517	A519	A519	A522	A527

Codice sistema A482 | Scelta gradi A478 | Informazioni tecniche A607 | Dati di taglio A546

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

Inserti per scanalatura e troncatura

Inserti scanalatura (bilaterale)



2 taglienti

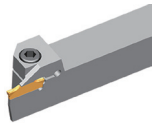
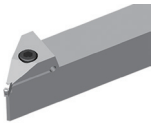
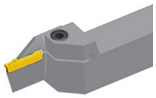
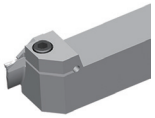
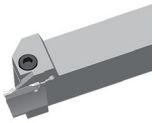
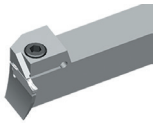
	HC[1] (CVD)					HC[1] (PVD)							HW		
P	◎	◎					◎	◎	◎	◎					
M							◎	◎	◎	◎					
K															
N													●	◎	
S						●	●	◎	◎	◎					
H															

	ISO	La *max*	S±0.025	f	YBC252	YBC251				YBG105	YBG102	YB9320	YBG205	YBG202	YBG302		YD101	YD201	
	ZRBD02-EG	15	2	0,05-0,15									○						
	ZRFD03-EG	17	3	0,04-0,14								●			○				
	ZRGD04-EG	21	4	0,07-0,2								●							
	ZRHD05-EG	20	5	0,1-0,24								●			○				
	ZRKD06-EG	19	6	0,12-0,29								○							

● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito
HW Carburo cementato non rivestito

Utensile

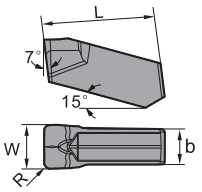
QE*D*R/L	QX*D*	QF*D*R/L-H	QF*D*LL-H	QF*D*RR-H	QF*D*R/L-L	C***-Q*DR/L
						
A511	A515	A517	A519	A519	A522	A527

Codice sistema A482 | Scelta gradi A478 | Informazioni tecniche A607 | Dati di taglio A546

Inserti per scanalatura e troncatura

Buone condizioni di lavorazione
Condizioni di lavorazione normali
Condizioni di lavorazione sfavorevoli

Inserti scanalatura (monolaterale)

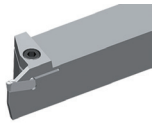


	HC[1] (CVD)					HC[1] (PVD)							HW		
P	⊛	⊛						⊛	⊛	⊛	⊛				
M								⊛	⊛	⊛	⊛				
K															
N													●	⊛	
S						●	●	⊛	⊛	⊛					
H															

	ISO	R±0.1	W±0.05	b	L	f	YBC252	YBC251				YBG105	YBG102	YB9320	YBG205	YBG202	YBG302		YD101	YD201	
	ZIMF304N-NM	0,4	3	2,4	15,3	0,04-0,11						●									
	ZIMF406N-NM	0,6	4	3,2	15,3	0,07-0,16						●	○								
	ZIMF506N-NM	0,6	5	4	15,3	0,1-0,2						●	○								
	ZIMF608N-NM	0,8	6	4	15,3	0,12-0,23						●	○								

● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito
HW Carburo cementato non rivestito

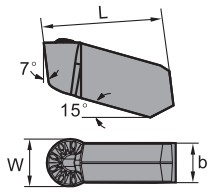
Utensile
QE*S*R/L-N

A516

Codice sistema A482 | Scelta gradi A478 | Informazioni tecniche A607 | Dati di taglio A546

Buone condizioni di lavorazione
Condizioni di lavorazione normali
Condizioni di lavorazione sfavorevoli

Inserti per scanalatura e troncatura

Inserti scanalatura (monolaterale)

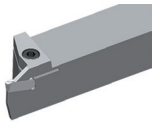


	HC[1] (CVD)						HC[1] (PVD)						HW	
P	⊛	⊛						⊛	⊛	⊛	⊛			
M								⊛	⊛	⊛	⊛			
K														
N													●	⊛
S							●	●	⊛	⊛	⊛			
H														

	ISO	W±0.05	b	L	f	YBC252	YBC251	YBG105	YBG102	YB9320	YBG205	YBG202	YBG302	YD101	YD201
	ZIGQ3N-NM	3	2,4	15,3	0,04-0,11			●	○						
	ZIGQ4N-NM	4	3,2	15,3	0,07-0,16			●	○						
	ZIGQ5N-NM	5	4	15,3	0,1-0,2			●	○						
	ZIGQ6N-NM	6	5	15,3	0,13-0,24			●							

● In magazzino ○ Su richiesta

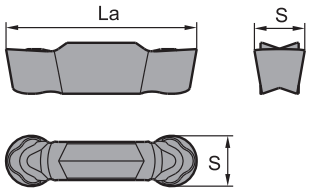
HC[1] Carburo cementato rivestito
HW Carburo cementato non rivestito

Utensile
QE*S*R/L-N

A516

Codice sistema A482 | Scelta gradi A478 | Informazioni tecniche A607 | Dati di taglio A546

Inserti per scanalatura e troncatura

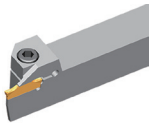
- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

Inserti scanalatura (bilaterale)		HC[1] (CVD)						HC[1] (PVD)						HW		
	P	⊛	⊛						⊛	⊛	⊛	⊛				
	M								⊛	⊛	⊛	⊛				
	K															
	N													●	⊛	
	S							●	●	⊛	⊛	⊛				
	H															

ISO		La *max*	S±0.025	f	YBC252	YBC251				YBG105	YBG102	YB9320	YBG205	YBG202	YBG302		YD101	YD201	
	ZRKD06-LH	19	6	0,12-0,23													○		
	ZRLD08-LH	22	8	0,14-0,26													○		

● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito
HW Carburo cementato non rivestito

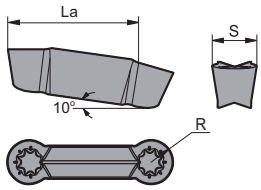
Utensile	
QE*D*R/L	**C***-Q*DR/L**
	
A511	A527

Codice sistema A482 | Scelta gradi A478 | Informazioni tecniche A607 | Dati di taglio A546

- ● Buone condizioni di lavorazione
- ✲ Condizioni di lavorazione normali
- ✲ Condizioni di lavorazione sfavorevoli

Inserti per scanalatura e troncatura

Inserti scanalatura (bilaterale)



	HC[1] (CVD)					HC[1] (PVD)						HW	
P	✲	✲					✲	✲	✲	✲			
M							✲	✲	✲	✲			
K													
N												●	✲
S						●	●	✲	✲	✲			
H													

	ISO	La *max*	S±0.025	f	YBC252	YBC251				YBG105	YBG102	YB9320	YBG205	YBG202	YBG302		YD101	YD201	
	ZILD08-LC	22	8	0,14-0,26													○	○	

● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito
HW Carburo cementato non rivestito

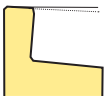
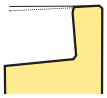
Codice sistema A482 | Scelta gradi A478 | Informazioni tecniche A607 | Dati di taglio A546

Inserti triangolari per scanalatura con tagliente diritto

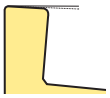
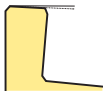
QC	22	R	300 –	R	03
1	2	3	4	5	6

Serie (1)

Lunghezza tagliente [mm] (2)	
Code	I.C
11	6,35
16	9,525
22	12,70

Direzione di taglio (3)	
Code	Descrizione
R	 Destra
L	 Sinistra

Larghezza scanalatura [mm] (4)	
Code	Descrizione
050	0,50
100	1,00
…	…
480	4,80

Forma tagliente (5)	
Code	Descrizione
R	 Raggio
C	 Smusso

Raggio / Smusso [mm] (6)	
Code	Descrizione
005	0,05
02	0,2
03	0,3
04	0,4

Inserti triangolari per scanalatura con tagliente tondo

QC	22	R	300 –	R
1	2	3	4	5

Serie (1)

Lunghezza tagliente [mm] (2)	
Code	I.C
11	6,35
16	9,525
22	12,70

Direzione di taglio (3)	
Code	Descrizione
R	Destra
L	Sinistra

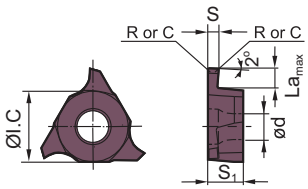
Larghezza scanalatura [mm] (4)	
Code	Descrizione
050	0,50
100	1,00
…	…
480	4,80

Tondo (5)

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

Inserti per scanalatura e troncatura

QC ** Inserti - Tornitura/Fresatura



Versione destra

	HC[1] (CVD)						HC[1] (PVD)						HW	
P	⊛	⊛							⊛		⊛	⊛		
M									⊛		⊛	⊛		
K														
N													●	⊛
S							●	●	⊛		⊛			
H														

ISO	La *max*	S±0.025	R/C	ØI.C	S1	ød	f	YBC252	YBC251					YBG105	YBG102	YB9320	YBG205	YBG202	YBG302		YD101	YD201
QC11R050-R005	1,1	0,5	0,05	6,35	3,18	2,8	0,01-0,025										○					
QC11L050-R005	1,1	0,5	0,05	6,35	3,18	2,8	0,01-0,025										○					
QC11R100-R01	1,5	1	0,1	6,35	3,18	2,8	0,01-0,03										○					
QC11L100-R01	1,5	1	0,1	6,35	3,18	2,8	0,02-0,03										○					
QC11R120-R02	1,5	1,2	0,2	6,35	3,18	2,8	0,02-0,03										●					
QC11L120-R02	1,5	1,2	0,2	6,35	3,18	2,8	0,02-0,03										●					
QC11R125-R02	1,5	1,25	0,2	6,35	3,18	2,8	0,02-0,03										●					
QC11L125-R02	1,5	1,25	0,2	6,35	3,18	2,8	0,02-0,03										●					
QC11R145-R02	1,5	1,45	0,2	6,35	3,18	2,8	0,02-0,05										●					
QC11L145-R02	1,5	1,45	0,2	6,35	3,18	2,8	0,02-0,05										●					
QC11R150-R02	1,5	1,5	0,2	6,35	3,18	2,8	0,02-0,05										●					
QC11L150-R02	1,5	1,5	0,2	6,35	3,18	2,8	0,02-0,05										●					
QC11R200-R02	2	2	0,2	6,35	3,18	2,8	0,02-0,06										●					
QC11L200-R02	2	2	0,2	6,35	3,18	2,8	0,02-0,06										●					
QC11R225-R02	2	2,25	0,2	6,35	3,18	2,8	0,02-0,06										○					
QC11L225-R02	2	2,25	0,2	6,35	3,18	2,8	0,02-0,06										○					
QC16R050-R005	1,7	0,5	0,05	9,525	3,18	4,4	0,01-0,025										○					
QC16R075-R01	2	0,75	0,1	9,525	3,18	4,4	0,02-0,03										○					
QC16L075-R01	2	0,75	0,1	9,525	3,18	4,4	0,02-0,03										○					
QC16R080-R01	2	0,8	0,1	9,525	3,18	4,4	0,02-0,03										○					
QC16R095-R01	2	0,95	0,1	9,525	3,18	4,4	0,02-0,03										○					
QC16L095-R01	2	0,95	0,1	9,525	3,18	4,4	0,02-0,03										○					
QC16R100-R005	2	1	0,05	9,525	3,18	4,4	0,02-0,03										○					
QC16L100-R01	2	1	0,1	9,525	3,18	4,4	0,02-0,03										○					
QC16R110-R01	2	1,1	0,1	9,525	3,18	4,4	0,02-0,03										○					
QC16L110-R01	2	1,1	0,1	9,525	3,18	4,4	0,02-0,03										●	○				
QC16R115-R04	2	1,15	0,4	9,525	3,18	4,4	0,02-0,03										○					
QC16R120-R01	2	1,2	0,1	9,525	3,18	4,4	0,02-0,03										○					
QC16L120-R01	2	1,2	0,1	9,525	3,18	4,4	0,02-0,03										○					
QC16R125-R02	2	1,25	0,2	9,525	3,18	4,4	0,02-0,03										○					
QC16L125-R02	2	1,25	0,2	9,525	3,18	4,4	0,02-0,03										●					
QC16R130-R02	2	1,3	0,2	9,525	3,18	4,4	0,02-0,06										○					
QC16L130-R02	2	1,3	0,2	9,525	3,18	4,4	0,02-0,06										○					
QC16L135-R02	2	1,35	0,2	9,525	3,18	4,4	0,02-0,03										○					

● In magazzino ○ Su richiesta

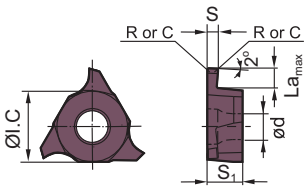
HC[1] Carburo cementato rivestito
HW Carburo cementato non rivestito

Codice sistema A504 | Scelta gradi A478 | Informazioni tecniche A607 | Dati di taglio A546

Inserti per scanalatura e troncatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

QC ** Inserti - Tornitura/Fresatura



Versione destra

	HC¹ (CVD)						HC¹ (PVD)						HW		
P	◉	◉							◉	◉	◉	◉			
M									◉	◉	◉	◉			
K															
N													●	◉	
S							●	●	◉		◉				
H															

ISO	La *max*	S±0.025	R/C	ØI.C	S1	ød	f	YBC252	YBC251					YBG105	YBG102	YB9320	YBG205	YBG202	YBG302			YD101	YD201		
QC16R140-R02	2	1,4	0,2	9,525	3,18	4,4	0,02-0,06										○								
QC16R145-R02	2	1,45	0,2	9,525	3,18	4,4	0,02-0,06										●								
QC16L145-R02	2	1,45	0,2	9,525	3,18	4,4	0,02-0,06										●								
QC16R150-R02	2	1,5	0,2	9,525	3,18	4,4	0,02-0,06										●								
QC16L150-R02	2	1,5	0,2	9,525	3,18	4,4	0,02-0,06										○								
QC16R160-R02	2	1,6	0,2	9,525	3,18	4,4	0,02-0,06										●								
QC16L160-R02	2	1,6	0,2	9,525	3,18	4,4	0,02-0,06										●								
QC16R165-R02	2	1,65	0,2	9,525	3,18	4,4	0,02-0,06										○								
QC16L165-R02	2	1,65	0,2	9,525	3,18	4,4	0,02-0,06										○								
QC16R170-R02	2	1,7	0,2	9,525	3,18	4,4	0,02-0,06										○								
QC16L170-R02	2	1,7	0,2	9,525	3,18	4,4	0,02-0,06										○								
QC16R175-R02	2	1,75	0,2	9,525	3,18	4,4	0,02-0,07										●								
QC16L175-R02	2	1,75	0,2	9,525	3,18	4,4	0,02-0,06										○								
QC16R180-R02	2	1,8	0,2	9,525	3,18	4,4	0,02-0,07										○								
QC16R185-R02	2,5	1,85	0,2	9,525	3,18	4,4	0,02-0,07										●								
QC16R185-R06	2,5	1,85	0,6	9,525	3,18	4,4	0,02-0,05										○								
QC16L185-R02	2,5	1,85	0,2	9,525	3,18	4,4	0,02-0,07										○								
QC16R200-R02	2,5	2	0,2	9,525	3,18	4,4	0,02-0,07										●								
QC16L200-R02	2,5	2	0,2	9,525	3,18	4,4	0,02-0,07										●								
QC16L210-R02	2,5	2,1	0,2	9,525	3,18	4,4	0,02-0,07										○								
QC16L210-R05	2,5	2,1	0,5	9,525	3,18	4,4	0,02-0,07										○								
QC16L215-R02	2,5	2,15	0,2	9,525	3,18	4,4	0,02-0,06										○								
QC16R220-R02	2,5	2,2	0,2	9,525	3,18	4,4	0,02-0,07										○								
QC16L220-R02	2,5	2,2	0,2	9,525	3,18	4,4	0,02-0,07										○								
QC16R250-R02	2,5	2,5	0,2	9,525	3,18	4,4	0,02-0,08										●								
QC16L250-R02	2,5	2,5	0,2	9,525	3,18	4,4	0,02-0,08										●								
QC16R300-R02	3	3	0,2	9,525	3,18	4,4	0,03-0,11										●								
QC16L300-R02	3	3	0,2	9,525	3,18	4,4	0,03-0,11										●								
QC22R100-R01	2	1	0,1	12,7	4,76	5,5	0,02-0,03										●								
QC22L100-R02	2	1	0,2	12,7	4,76	5,5	0,02-0,03										○								
QC22R125-R02	2	1,25	0,2	12,7	4,76	5,5	0,02-0,03										●								
QC22L125-R02	2	1,25	0,2	12,7	4,76	5,5	0,02-0,03										○								
QC22R145-R02	2	1,45	0,2	12,7	4,76	5,5	0,02-0,06										○								
QC22L145-R02	2	1,45	0,2	12,7	4,76	5,5	0,02-0,06										○								

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HW Carburo cementato non rivestito

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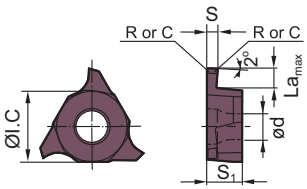
Buone condizioni di lavorazione
Condizioni di lavorazione normali
Condizioni di lavorazione sfavorevoli

Inserti per scanalatura e troncatura

QC ** Inserti - Tornitura/Fresatura



Versione destra

	HC¹ (CVD)						HC¹ (PVD)						HW	
P	◐	◐						◐	◐	◐	◐			
M								◐	◐	◐	◐			
K														
N													●	◐
S							●	●			◐			
H														

ISO	La *max*	S±0.025	R/C	ØI.C	S1	ød	f	YBC252	YBC251					YBG105	YBG102	YB9320	YBG205	YBG202	YBG302			YD101	YD201	
QC22R150-R02	3,5	1,5	0,2	12,7	4,76	5,5	0,02-0,06										○							
QC22L150-R02	3,5	1,5	0,2	12,7	4,76	5,5	0,02-0,06										○							
QC22R175-R02	3,5	1,75	0,2	12,7	4,76	5,5	0,02-0,06										●							
QC22L175-R02	3,5	1,75	0,2	12,7	4,76	5,5	0,02-0,06										○							
QC22R185-R02	3,5	1,85	0,2	12,7	4,76	5,5	0,02-0,07										●							
QC22L185-R02	3,5	1,85	0,2	12,7	4,76	5,5	0,02-0,07										○							
QC22R195-R02	3,5	1,95	0,2	12,7	4,76	5,5	0,02-0,07										○							
QC22R200-R02	3,5	2	0,2	12,7	4,76	5,5	0,02-0,07										○							
QC22L200-R02	3,5	2	0,2	12,7	4,76	5,5	0,02-0,07										○							
QC22R205-R04	3,5	2,05	0,4	12,7	4,76	5,5	0,02-0,06									○								
QC22R225-R02	3,5	2,25	0,2	12,7	4,76	5,5	0,02-0,07										○							
QC22R230-R01	3,5	2,3	0,1	12,7	4,76	5,5	0,02-0,06									○	○							
QC22R230-R02	3,5	2,3	0,2	12,7	4,76	5,5	0,02-0,07										●							
QC22R230-R04	3,5	2,3	0,4	12,7	4,76	5,5	0,02-0,06									○	○							
QC22L230-R02	3,5	2,3	0,2	12,7	4,76	5,5	0,02-0,07										○							
QC22R250-R03	4	2,5	0,3	12,7	4,76	5,5	0,02-0,08										●							
QC22L250-R03	4	2,5	0,3	12,7	4,76	5,5	0,02-0,08										○							
QC22R265-R03	4	2,65	0,3	12,7	4,76	5,5	0,02-0,08										●							
QC22L265-R03	4	2,65	0,3	12,7	4,76	5,5	0,02-0,08										●							
QC22R280-R03	4	2,8	0,3	12,7	4,76	5,5	0,02-0,08										●							
QC22L280-R03	4	2,8	0,3	12,7	4,76	5,5	0,02-0,08										○							
QC22R300-R03	4	3	0,3	12,7	4,76	5,5	0,03-0,11										○							
QC22L300-R03	4	3	0,3	12,7	4,76	5,5	0,03-0,11										○							
QC22R320-R03	4	3,2	0,3	12,7	4,76	5,5	0,03-0,11										○							
QC22L320-R03	4	3,2	0,3	12,7	4,76	5,5	0,03-0,11										○							
QC22R330-R03	4	3,3	0,3	12,7	4,76	5,5	0,03-0,11										○							
QC22L330-R03	4	3,3	0,3	12,7	4,76	5,5	0,03-0,11										○							
QC22R350-R03	5	3,5	0,3	12,7	4,76	5,5	0,05-0,13										○							
QC22L350-R03	5	3,5	0,3	12,7	4,76	5,5	0,05-0,13										○							
QC22R400-R04	5	4	0,4	12,7	4,76	5,5	0,05-0,14										○							
QC22L400-R04	5	4	0,4	12,7	4,76	5,5	0,05-0,14										●							
QC22R430-R04	5	4,3	0,4	12,7	4,76	5,5	0,05-0,14										○							
QC22L430-R04	5	4,3	0,4	12,7	4,76	5,5	0,05-0,14										○	○						
QC22R450-R04	5	4,5	0,4	12,7	4,76	5,5	0,06-0,18										○							

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HW Carburo cementato non rivestito

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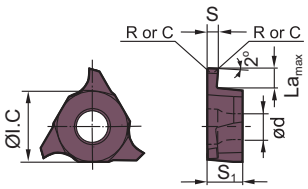
Inserti per scanalatura e troncatura

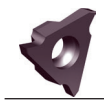
- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

QC ** Inserti - Tornitura/Fresatura



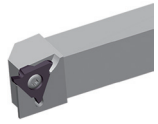
Versione destra

	HC¹ (CVD)					HC¹ (PVD)							HW		
P	◉	◉						◉	◉	◉	◉				
M								◉	◉	◉	◉				
K															
N													●	◉	
S						●	●	◉	◉	◉					
H															

	ISO	La *max*	S±0.025	R/C	ØI.C	S1	ød	f	YBC252	YBC251				YBG105	YBG102	YB9320	YBG205	YBG202	YBG302		YD101	YD201	
	**QC22L450-R04**	5	4,5	0,4	12,7	4,76	5,5	0,06-0,18									○					○	
	QC22R480-R04	5	4,8	0,4	12,7	5,06	5,5	0,06-0,18									○						
	QC22L480-R04	5	4,8	0,4	12,7	5,06	5,5	0,08-0,2									○						

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HW Carburo cementato non rivestito

Utensile	
GQCR/L	**S***-QC**R/L**
	
A543	A544

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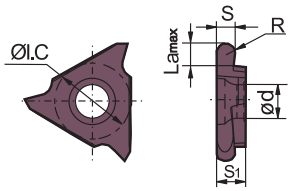
- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

Inserti per scanalatura e troncatura

QC ** Inserti - Tornitura/Fresatura



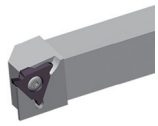
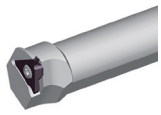
Versione destra

	HC[1] (CVD)						HC[1] (PVD)						HW	
P	◐	◐						◐	◐	◐	◐			
M								◐	◐	◐	◐			
K														
N													●	◐
S							●	●	◐	◐	◐			
H														

	ISO	La *max*	S±0.025	R/C	ØI.C	S1	ød	f	YBC252	YBC251					YBG105	YBG102	YB9320	YBG205	YBG202	YBG302			YD101	YD201	
	QC16R100R	2	1	0,5	12,7	3,18	4,4	0,02-0,03										○							
	QC16R120R	2	1,2	0,6	12,7	3,18	4,4	0,02-0,03										○							
	QC16R150R	2	1,5	0,75	12,7	3,18	4,4	0,02-0,06										○							
	QC16R200R	2,5	2	1	12,7	3,18	4,4	0,02-0,07										●							
	QC16L200R	2,5	2	1	12,7	3,18	4,4	0,02-0,07										○							
	QC16R250R	2,5	2,5	1,25	12,7	3,18	4,4	0,02-0,08										○							
	QC16L280R	2,5	2,8	1,4	12,7	3,18	4,4	0,02-0,08										○							
	QC16R300R	2,5	3	1,5	12,7	3,18	4,4	0,03-0,11										●							
	QC16L300R	2,5	3	1,5	12,7	3,18	4,4	0,03-0,11										●							
	QC22R100R	2	1	0,5	12,7	4,76	5,5	0,02-0,03										●							
	QC22L100R	2	1	0,5	12,7	4,76	5,5	0,02-0,03										○	○						
	QC22R150R	3,5	1,5	0,75	12,7	4,76	5,5	0,02-0,06										●							
	QC22L150R	3,5	1,5	0,75	12,7	4,76	5,5	0,02-0,06										●	○						
	QC22R170R	3,5	1,7	0,85	12,7	4,76	5,5	0,02-0,06										○							
	QC22R200R	3,5	2	1	12,7	4,76	5,5	0,02-0,07										○							
	QC22L200R	3,5	2	1	12,7	4,76	5,5	0,02-0,07										○							
	QC22R250R	4	2,5	1,25	12,7	4,76	5,5	0,02-0,08										●							
	QC22L250R	4	2,5	1,25	12,7	4,76	5,5	0,02-0,08										●							
	QC22R300R	4	3	1,5	12,7	4,76	5,5	0,03-0,11										●							
	QC22L300R	4	3	1,5	12,7	4,76	5,5	0,03-0,11										●							
	QC22R320R	4	3,2	1,6	12,7	4,76	5,5	0,03-0,11										○							
	QC22R400R	5	4	2	12,7	4,76	5,5	0,05-0,14										●							
	QC22L400R	5	4	2	12,7	4,76	5,5	0,05-0,14										●							

● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito
HW Carburo cementato non rivestito

Utensile	
GQCR/L	**S***-QC**R/L**
	
A543	A544

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Portautensili esterni

Q	E	G	D	2525	R	22	–	S	C
1	2	3	4	5	6	7		8	9

1 – Portautensili per scanalatura e troncatura

2 – Applicazione

Code	Descrizione
E	Lavorazione esterna

3 – Dim. sede inserto [mm]

Larghezza portautensile/tagliente

Code	Descrizione
B	2,0
E	2,5
F	3,0
G	4,0
H	5,0
K	6,0

4 – Numero taglienti

Code	Descrizione
S	Singolo
D	Doppio

5 – Sezione portautensile [mm] x [mm]

6 – Versione

Code	Descrizione
R	Destra
L	Sinistra

7 – Max. profondità di taglio [mm]

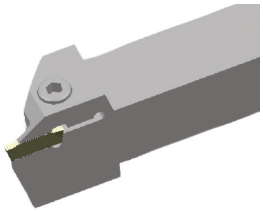
8 – Extra

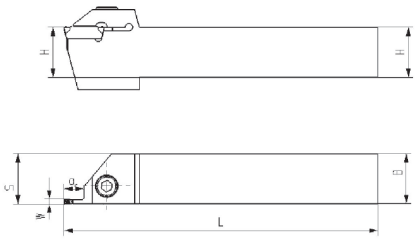
Code	Descrizione
S	Portautensile rinforzato
DG	Portautensile con rinforzo per maggiore profondità di scanalatura
DGS	Portautensile senza rinforzo per maggiore profondità di scanalatura

9 – Con raffreddamento interno

Portautensile per scanalatura (esterna)

QE**R/L





Articolo	✻	Stock R	Stock L	Dimensioni [mm] HxB	L	S	W	ar_{max}	Inserto
QEAD2020R/L12		○	○	20x20	125	19	1,5	12	Z*AD**
QEBD1212R/L14		○	○	12x12	125	12,18	2	14	Z*BD**
QEBD1616R/L17		○	○	16x16	125	16,16	2	17	Z*BD**
QEBD1616R/L04		○	○	16x16	150	16,17	2	4	Z*BD**
QEBD2020R/L14		○	○	20x20	125	20,17	2	14	Z*BD**
QEBD2020R/L07		○	○	20x20	150	20,17	2	7	Z*BD**
QEBD2525R/L14		○	○	25x25	150	25,17	2	14	Z*BD**
QEED1212R/L10		○	○	12x12	110	12,25	2,5	10	Z*ED**
QEED1212R/L17		○	○	12x12	110	12,25	2,5	17	Z*ED**
QEED1616R/L10		●	●	16x16	125	15	2,5	10	Z*ED**
QEED1616R/L17		●	●	16x16	125	15	2,5	17	Z*ED**
QEED2020R/L17		●	●	20x20	125	19	2,5	17	Z*ED**
QEED2020R/L10		●	●	20x20	150	10	2,5	10	Z*ED**
QEED2525R/L10		●	●	25x25	150	19	2,5	10	Z*ED**
QEED2525R/L17		●	●	25x25	150	19	2,5	17	Z*ED**
QEFD1616R/L10		●	●	16x16	125	14,8	3	10	Z*FD**
QEFD1616R/L17		●	●	16x16	125	14,8	3	17	Z*FD**
QEFD2020R/L10		●	●	20x20	125	18,8	3	10	Z*FD**
QEFD2020R/L17		●	●	20x20	125	18,8	3	17	Z*FD**
QEFD2020L34			○	20x20	125	20,4	3	34	Z*FD**
QEFD2525R/L10		●	●	25x25	150	23,8	3	10	Z*FD**
QEFD2525R/L17		●	●	25x25	150	23,8	3	17	Z*FD**
QEFD2525R/L25		○	○	25x25	150	23,8	3	25	Z*FD**
QEFD3232R/L17		○	○	32x32	150	32,4	3	17	Z*FD**
QEGD2020R/L13		●	●	20x20	140	18,5	4	13	Z*GD**
QEGD2020R/L22		●	●	20x20	140	18,5	4	22	Z*GD**
QEGD2525R13C	✻	○		25x25	120	25,45	4	13	Z*GD**
QEGD2525R/L13		●	●	25x25	150	23,5	4	13	Z*GD**
QEGD2525R/L22		●	●	25x25	150	23,5	4	22	Z*GD**
QEGD3225N15				25x32	170	30,5	4	15	Z*GD**
QEGD3232R/L13		●	●	32x32	170	30,5	4	13	Z*GD**
QEGD3232R/L22		●	●	32x32	170	30,5	4	22	Z*GD**
QEHD2020L34			○	20x20	125	20,5	5	34	Z*HD**
QEHD2025R/L13		○		20x25	150	23	5	13	Z*HD**
QEHD2525R/L13		●	●	25x25	150	23	5	13	Z*HD**

Codice sistema A510 | Scelta gradi A478 | Informazioni tecniche A607 | Dati di taglio A546

Scanalature e gole Portautensile

Articolo	✻	Stock R	Stock L	Dimensioni [mm] HxB	L	S	W	ar_{max}	Inserto
QEHD2525R/L22		●	●	25x25	150	23	5	22	Z*HD**
QEHD3225N15				25x32	170	30	5	22	Z*HD**
QEHD3225N28				25x32	170	30	5	22	Z*HD**
QEHD3232R/L13		●	●	32x32	170	30	5	13	Z*HD**
QEHD3232R/L22		●	●	32x32	170	30	5	22	Z*HD**
QEKD2020R/L22		○	○	20x20	125	20,5	6	22	Z*KD**
QEKD2525R/L13		●	●	25x25	150	22,6	6	13	Z*KD**
QEKD2525R/L22		●	●	25x25	150	22,6	6	22	Z*KD**
QEKD3232R/L13		●	●	32x32	170	29,6	6	13	Z*KD**
QEKD3232R/L22		●	●	32x32	170	29,6	6	22	Z*KD**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto H	Z*AD** 16-20	Z*BD** 12	Z*BD** 16-20	Z*BD** 25	Z*ED** 12	Z*ED** 16	Z*ED** 20-32	Z*FD** 16	Z*FD** 20-32	Z*GD** 20-32	Z*HD** 20-32	Z*KD** 20-32
	Vite	GB70-85-M4×16	GB70-85-M4×12 (2,6 Nm)	GB70-85-M5×16 (4,0 Nm)	GB70-85-M6×20 (7,0 Nm)	GB70-85-M4×12 (2,6 Nm)	GB70-85-M5×20 (4,0 Nm)	GB70-85-M6×20 (7,0 Nm)	GB70-85-M5×20 (4,0 Nm)	GB70-85-M6×20 (7,0 Nm)	GB70-85-M6×20 (7,0 Nm)	GB70-85-M6×20 (7,0 Nm)	GB70-85-M6×20 (7,0 Nm)
	Chiave	WH40L	WH30L	WH40L	WH50L	WH30L	WH40L	WH50L	WH40L	WH50L	WH50L	WH50L	WH50L

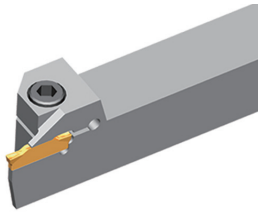
Inserto

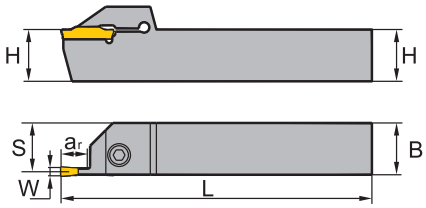
A483	A484	A485	A486	A487	A488	A495
A498	A499	A502				

Codice sistema A510 | Scelta gradi A478 | Informazioni tecniche A607 | Dati di taglio A546

Portautensile per scanalatura (esterna)

QE*SN30





Articolo	✻	Stock	Dimensioni [mm]					Inserto
			HxB	L	S	W	ar_{max}	
QEHS2525N30		●	25x25	150	12,5	5	30	Z*HS**
QEHS3232N30		●	32x32	170	16	5	30	Z*HS**
QEKS2525N30		○	25x25	150	12,5	6	30	Z*KS**
QEKS3232N30		○	32x32	170	16	6	30	Z*KS**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**Z*HS****	**Z*KS****
	H	**25-32**	**25-32**
	Vite	GB70-85-M6×20 (7,0 Nm)	GB70-85-M6×20 (7,0 Nm)
	Chiave	WH50L	WH50L

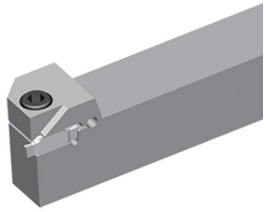
Inserto

A489	A490	A492	A494

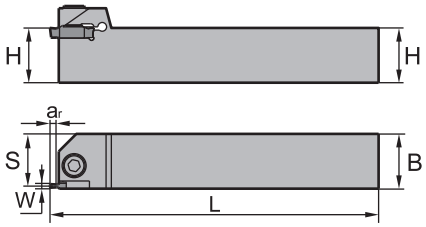
Codice sistema A510 | Scelta gradi A478 | Informazioni tecniche A607 | Dati di taglio A546

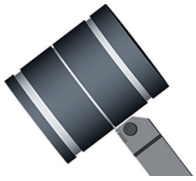
Portautensile per scanalatura (esterna)

QECDR/L



Versione destra





Articolo	✻	Stock R	Stock L	Dimensioni [mm] HxB	L	S	ar_{max}	Inserto
QECD1616R/L025		○	○	16x16	125	14,75	2,5	Z*CD**
QECD2020R/L025		○	○	20x20	125	18,75	2,5	Z*CD**
QECD2525R/L025		○	○	25x25	150	23,75	2,5	Z*CD**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**Z*CD****	**Z*CD****
	H	**16**	**20-32**
	Vite	GB70-85-M5×20 (4,0 Nm)	GB70-85-M6×20 (7,0 Nm)
	Chiave	WH40L	WH50L

Inserto

A495

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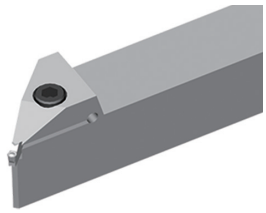
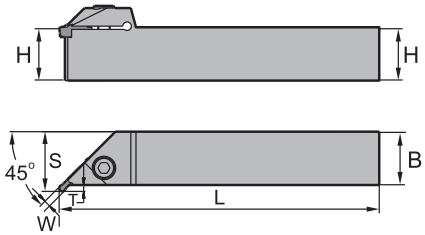
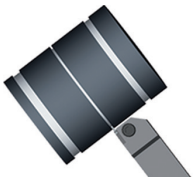
Portautensile per scanalatura (esterna)

QX*DR/L



Versione destra





Articolo	✻	Stock		Dimensioni [mm]					Inserto
		R	L	HxB	L	S	W	ar_{max}	
QXFD2020R/L03-45		○	○	20x20	125	23	3	3	Z*FD**
QXFD2525R/L03-45		●	●	25x25	150	28	3	3	Z*FD**
QXFD3232R/L03-45		○	○	32x32	170	35	3	3	Z*FD**
QXGD2020R/L03-45		○	○	20x20	125	23	4	3	Z*GD**
QXGD2525R/L03-45		○	○	25x25	150	28	4	3	Z*GD**
QXGD3232R/L03-45		○	○	32x32	170	35	4	3	Z*GD**
QXHD2020R/L04-45		○	○	20x20	125	24	5	4	Z*HD**
QXHD2525R/L04-45		○	○	25x25	150	29	5	4	Z*HD**
QXHD3232R/L04-45		○	○	32x32	170	36	5	4	Z*HD**
QXKD2020R/L04-45		○	○	20x20	125	24	6	4	Z*KD**
QXKD2525R/L04-45		○	○	25x25	150	29	6	4	Z*KD**
QXKD3232R/L04-45		○	○	32x32	170	36	6	4	Z*KD**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**Z*FD****	**Z*GD****	**Z*HD****	**Z*KD****
	H	**20-32**	**20-32**	**20-32**	**20-32**
	Vite	GB70-85-M6×20 (7,0 Nm)	GB70-85-M6×20 (7,0 Nm)	GB70-85-M6×20 (7,0 Nm)	GB70-85-M6×20 (7,0 Nm)
	Chiave	WH50L	WH50L	WH50L	WH50L

Inserto

A498	A499

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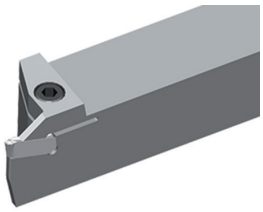
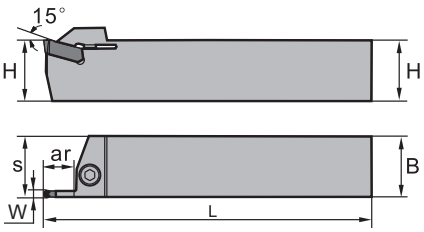
Portautensile per scanalatura (esterna)

QE*SR/L



Versione destra



Articolo	✻	Stock		Dimensioni [mm]					Inserto
		R	L	HxB	L	S	W	ar_{max}	
QEFS2525R/L12-3N		○	○	25x25	150	25,3	3	12	ZI**
QEGS2525R/L12-4N		○	○	25x25	150	25,3	4	12	ZI**
QEHS2525R/L12-5N		○	○	25x25	150	25,4	5	12	ZI**
QEKS2525R/L12-6N		○	○	25x25	150	25,4	6	12	ZI**
QEFS3232R/L22-3N		○	○	32x32	170	32,3	3	22	ZI**
QEGS3232R/L22-4N		○	○	32x32	170	32,3	4	22	ZI**
QEHS3232R/L22-5N		○	○	32x32	170	32,4	5	22	ZI**
QEKS3232R/L22-6N		○		32x32	170	32,4	6	22	ZI**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**ZI****
	H	**25-32**
	Vite	GB70-85-M6×20 (7,0 Nm)
	Chiave	WH50L

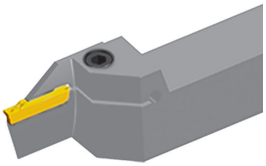
Inserto

A500	A501

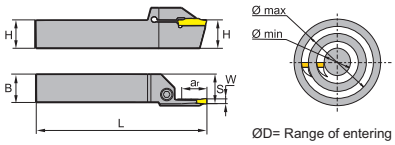
Codice sistema A510 Scelta gradi A478 Informazioni tecniche A607 Dati di taglio A546

Portautensile per scanalatura (assiale)

QF**R/L



Versione sinistra



Articolo	*	Stock		Dimensioni [mm]						Inserto
		R	L	HxB	L	S	W	ar_{max}	ØD (min-max)	
QFFD2020R/L7-48H		○	○	20x20	150	21	3	7	48-66	Z*FD**
QFFD2020R/L7-60H		○	○	20x20	150	21	3	7	60-80	Z*FD**
QFFD2020R/L7-74H		○	○	20x20	150	21	3	7	74-110	Z*FD**
QFFD2020R/L7-100H		○	○	20x20	150	21	3	7	100-150	Z*FD**
QFFD2020R/L10-48H		○	○	20x20	150	21	3	10	48-66	Z*FD**
QFFD2020R/L10-60H		○	○	20x20	150	21	3	10	60-80	Z*FD**
QFFD2020R/L10-74H		○	○	20x20	150	21	3	10	74-110	Z*FD**
QFFD2020R/L10-100H		○	○	20x20	150	21	3	10	100-150	Z*FD**
QFFD2525R/L10-48H		●	●	25x25	150	26	3	10	48-66	Z*FD**
QFFD2525R/L10-60H		●	●	25x25	150	26	3	10	60-80	Z*FD**
QFFD2525R/L10-74H		●	●	25x25	150	26	3	10	74-110	Z*FD**
QFFD2525R/L10-100H		●	●	25x25	150	26	3	10	100-150	Z*FD**
QFFD2525R/L17-48H		●	●	25x25	150	26	3	17	48-66	Z*FD**
QFFD2525R/L17-60H		●	●	25x25	150	26	3	17	60-80	Z*FD**
QFFD2525R/L17-74H		●	●	25x25	150	26	3	17	74-110	Z*FD**
QFFD2525R/L17-100H		●	●	25x25	150	26	3	17	100-150	Z*FD**
QFFD2525R/L17-130L		○	○	25x25	150		3	17	130-230	Z*FD**
QFGD2020R/L10-52H		○	○	20x20	150	21	4	10	52-72	Z*GD**
QFGD2020R/L10-64H			○	20x20	150	21	4	10	64-100	Z*GD**
QFGD2020R/L10-90H		○	○	20x20	150	21	4	10	90-140	Z*GD**
QFGD2020R/L10-130H		○	○	20x20	150	21	4	10	130-230	Z*GD**
QFGD2020R/L15-52H		○	○	20x20	150	21	4	15	52-72	Z*GD**
QFGD2020R/L15-64H		○	○	20x20	150	21	4	15	64-100	Z*GD**
QFGD2020R/L15-90H		○	○	20x20	150	21	4	15	90-140	Z*GD**
QFGD2020R/L15-130H		○	○	20x20	150	21	4	15	130-230	Z*GD**
QFGD2525R/L13-52H		●	●	25x25	150	26	4	13	52-72	Z*GD**
QFGD2525R/L13-64H		●	●	25x25	150	26	4	13	64-100	Z*GD**
QFGD2525R/L13-90H		●	●	25x25	150	26	4	13	90-140	Z*GD**
QFGD2525R/L13-130H		●	●	25x25	150	26	4	13	130-230	Z*GD**
QFGD2525R/L22-52H		●	●	25x25	150	26	4	22	52-72	Z*GD**
QFGD2525R/L22-64H		●	●	25x25	150	26	4	22	64-100	Z*GD**
QFGD2525R/L22-90H		●	●	25x25	150	26	4	22	90-140	Z*GD**
QFGD2525R/L22-130H		●	●	25x25	150	26	4	22	130-230	Z*GD**
QFHD2525R/L13-58H		●	●	25x25	150	26	5	13	58-96	Z*HD**
QFHD2525R/L13-86H		●	●	25x25	150	26	5	13	86-140	Z*HD**
QFHD2525R/L13-130H		●	●	25x25	150	26	5	13	130-200	Z*HD**

Codice sistema A510 | Scelta gradi A478 | Informazioni tecniche A607 | Dati di taglio A546

Scanalature e gole Portautensile

Articolo	✻	Stock R	Stock L	Dimensioni [mm] HxB	L	S	W	ar_{max}	ØD (min-max)	Inserto
QFHD2525R/L13-185H		●	●	25x25	150	26	5	13	185-400	Z*HD**
QFHD2525R/L22-58H		●	●	25x25	150	26	5	22	58-96	Z*HD**
QFHD2525R/L22-86H		●	●	25x25	150	26	5	22	86-140	Z*HD**
QFHD2525R/L22-130H		●	●	25x25	150	26	5	22	130-200	Z*HD**
QFHD2525R/L22-185H		●	●	25x25	150	26	5	22	185-400	Z*HD**
QFHD3232L13-185H			○	32x32	150	33	5	13	185-400	Z*HD**
QFHD3232R13-250H		○		32x32	150	33	5	13	250-800	Z*HD**
QFKD2525R/L13-60H		●	●	25x25	150	26	6	13	60-100	Z*KD**
QFKD2525R/L13-88H		○	●	25x25	150	26	6	13	88-180	Z*KD**
QFKD2525R/L13-160H		●	●	25x25	150	26	6	13	160-400	Z*KD**
QFKD2525R/L20-45H			○	25x25	150		6	20	45-90	Z*KD**
QFKD2525R/L22-60H		●	●	25x25	150	26	6	22	60-100	Z*KD**
QFKD2525R/L22-88H		●	●	25x25	150	26	6	22	88-180	Z*KD**
QFKD2525R/L22-160H		●	●	25x25	150	26	6	22	160-400	Z*KD**
QFKD2525R/L30-88H		●		25x25	150		6	30	88-180	Z*KD**
QFKD2525L32-70H			○	25x25	150		6	32	70-100	Z*KD**
QFLD2525R/L25-75H		●	●	25x25	150	27	8	25	75-150	Z*LD**
QFLD2525R/L25-140H		○	●	25x25	150	27	8	25	140-400	Z*LD**
QFLD3232R/L28-140H		●	○	32x32	170	33,8	8	28	140-400	Z*LD**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	Z*FD**	Z*GD**	Z*HD**	Z*KD**	Z*LD**
	H	20-25	20-25	16-40	20-25	25-32
	Vite	GB70-85-M6×20 (7,0 Nm)	GB70-85-M6×20 (7,0 Nm)	GB70-85-M6×20 (7,0 Nm)	GB70-85-M6×20 (7,0 Nm)	GB70-85-M6×20 (7,0 Nm)
	Chiave	WH50L	WH50L	WH50L	WH50L	WH50L

Inserto

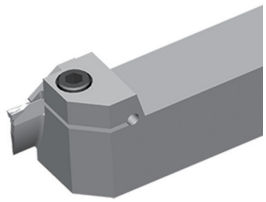
A483	A484	A485	A486	A487	A495	A498

A499

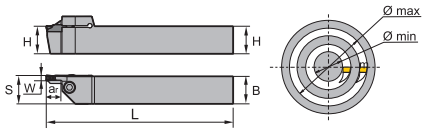
Codice sistema A510 | Scelta gradi A478 | Informazioni tecniche A607 | Dati di taglio A546

Portautensile per scanalatura (assiale)

QF**RR/LL



Versione LL



Articolo	✻	Stock		Dimensioni [mm]						Inserto
		R	L	HxB	L	S	W	ar_{max}	ØD (min-max)	
QFFD2020LL7-74H			○	20x20	150	21	3	7	74-110	Z*FD**
QFFD2020LL10-48H			○	20x20	150	21	3	10	48-66	Z*FD**
QFFD2020RR10-48H		○		20x20	150	21	3	10	48-66	Z*FD**
QFFD2020RR10-60H		○		20x20	150	21	3	10	60-80	Z*FD**
QFFD2020LL10-74H			○	20x20	150	21	3	10	74-110	Z*FD**
QFFD2020RR10-74H		○		20x20	150	21	3	10	74-110	Z*FD**
QFFD2525LL10-48H			●	25x25	150	26	3	10	48-66	Z*FD**
QFFD2525RR10-48H		○		25x25	150	26	3	10	48-66	Z*FD**
QFFD2525LL10-60H			○	25x25	150	26	3	10	60-80	Z*FD**
QFFD2525RR10-60H		○		25x25	150	26	3	10	60-80	Z*FD**
QFFD2525LL10-74H			○	25x25	150	26	3	10	74-110	Z*FD**
QFFD2525RR10-74H		○		25x25	150	26	3	10	74-110	Z*FD**
QFFD2525LL10-100H			○	25x25	150	26	3	10	100-150	Z*FD**
QFFD2525RR10-100H		○		25x25	150	26	3	10	100-150	Z*FD**
QFFD2525LL17-48H			●	25x25	150	26	3	17	48-66	Z*FD**
QFFD2525RR17-48H		○		25x25	150	26	3	17	48-66	Z*FD**
QFFD2525LL17-60H			○	25x25	150	26	3	17	60-80	Z*FD**
QFFD2525RR17-60H		○		25x25	150	26	3	17	60-80	Z*FD**
QFFD2525LL17-74H			○	25x25	150	26	3	17	74-110	Z*FD**
QFFD2525RR17-74H		○		25x25	150	26	3	17	74-110	Z*FD**
QFFD2525LL17-100H			○	25x25	150	26	3	17	100-150	Z*FD**
QFFD2525RR17-100H		○		25x25	150	26	3	17	100-150	Z*FD**
QFGD2020LL10-52H			○	20x20	150	21	4	10	52-72	Z*GD**
QFGD2020RR10-52H		○		20x20	150	21	4	10	52-72	Z*GD**
QFGD2020LL15-52H			○	20x20	150	26	4	15	52-72	Z*GD**
QFGD2020RR15-52H		○		20x20	150	26	4	15	52-72	Z*GD**
QFGD2020LL15-90H			○	20x20	150	26	4	15	90-140	Z*GD**
QFGD2020RR15-90H		○		20x20	150	26	4	15	90-140	Z*GD**
QFGD2020RR15-130H		○		20x20	150	26	4	15	130-230	Z*GD**
QFGD2525RR13-52H		●		25x25	150	21	4	13	52-72	Z*GD**
QFGD2525LL13-64H			●	25x25	150	21	4	13	64-100	Z*GD**
QFGD2525RR13-64H		○		25x25	150	21	4	13	64-100	Z*GD**
QFGD2525RR13-90H		○		25x25	150	21	4	13	90-140	Z*GD**
QFGD2525LL13-130H			●	25x25	150	26	4	13	130-230	Z*GD**
QFGD2525RR13-130H		○		25x25	150	21	4	13	130-230	Z*GD**

Codice sistema A510 | Scelta gradi A478 | Informazioni tecniche A607 | Dati di taglio A546

Scanalature e gole Portautensile

Articolo	✻	Stock R	Stock L	Dimensioni [mm] HxB	L	S	W	ar_{max}	ØD (min-max)	Inserto
QFGD2525LL22-52H			○	25x25	150	26	4	22	52-72	Z*GD**
QFGD2525RR22-52H		○		25x25	150	26	4	22	52-72	Z*GD**
QFGD2525LL22-64H			○	25x25	150	26	4	22	64-100	Z*GD**
QFGD2525RR22-64H		○		25x25	150	26	4	22	64-100	Z*GD**
QFGD2525LL22-90H			○	25x25	150	26	4	22	90-140	Z*GD**
QFGD2525RR22-90H		○		25x25	150	26	4	22	90-140	Z*GD**
QFGD2525LL22-130H			○	25x25	150	26	4	22	130-230	Z*GD**
QFGD2525RR22-130H		●		25x25	150	26	4	22	130-230	Z*GD**
QFHD2525RR13-58H		○		25x25	150	26	5	13	58-96	Z*HD**
QFHD2525LL13-130H			○	25x25	150	26	5	13	130-200	Z*HD**
QFHD2525RR13-130H		○		25x25	150	26	5	13	130-200	Z*HD**
QFHD2525RR13-185H		○		25x25	150	26	5	13	185-400	Z*HD**
QFHD2525LL22-58H			●	25x25	150	26	5	22	58-96	Z*HD**
QFHD2525RR22-58H		●		25x25	150	26	5	22	58-96	Z*HD**
QFHD2525RR22-86H		○		25x25	150	26	5	22	86-140	Z*HD**
QFHD2525LL22-130H			○	25x25	150	26	5	22	130-200	Z*HD**
QFHD2525RR22-130H		●		25x25	150	26	5	22	130-200	Z*HD**
QFHD2525LL22-185H			○	25x25	150	26	5	22	185-400	Z*HD**
QFHD2525RR22-185H		○		25x25	150	26	5	22	185-400	Z*HD**
QFKD2525RR13-60H		○		25x25	150	26	6	13	60-100	Z*KD**
QFKD2525RR13-88H		○		25x25	150	26	6	13	88-180	Z*KD**
QFKD2525RR15-50H		○		25x25	150	26	6	15	50-100	Z*KD**
QFKD2525RR22-60H		○		25x25	150	26	6	22	60-100	Z*KD**
QFKD2525LL22-88H			○	25x25	150	26	6	22	88-180	Z*KD**
QFKD2525RR22-88H		○		25x25	150	26	6	22	88-180	Z*KD**
QFKD2525LL22-160H			●	25x25	150	26	6	22	160-400	Z*KD**
QFKD2525RR22-160H		○		25x25	150	26	6	22	160-400	Z*KD**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	Z*FD**	Z*GD**	Z*HD**	Z*KD**
	H	20-25	20-25	20-32	20-25
	Vite	GB70-85-M6×20 (7,0 Nm)	GB70-85-M6×20 (7,0 Nm)	GB70-85-M6×20 (7,0 Nm)	GB70-85-M6×20 (7,0 Nm)
	Chiave	WH50L	WH50L	WH50L	WH50L

Inserto

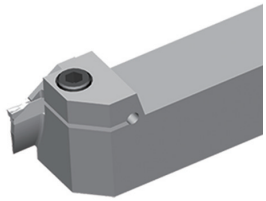
A483	A484	A485	A486	A487	A495	A498

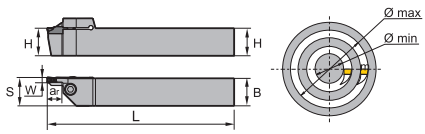
A499

Codice sistema A510 | Scelta gradi A478 | Informazioni tecniche A607 | Dati di taglio A546

Portautensile per scanalatura (assiale)

QF*SRR/LL





Versione LL

Articolo	✻	Stock R	Stock L	Dimensioni [mm] HxB	L	S	W	ar_{max}	ØD (min-max)	Inserto
QFHS2525LL30-185H			●	25x25	150	26	5	30	185-400	Z*HS**
QFHS2525RR30-185H		○		25x25	150	26	5	30	185-400	Z*HS**
QFKS2525RR30-160H		○		25x25	150	26	6	30	160-400	Z*KS**
QFKS2525LL30-160H			○	25x25	150	26	6	30	160-400	ZT*S**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**Z*HS****	**Z*KS****	**ZT*S****
	H	**25**	**25**	**25**
	Vite	GB70-85-M6×20 (7,0 Nm)	GB70-85-M6×20 (7,0 Nm)	GB70-85-M6×20 (7,0 Nm)
	Chiave	WH50L	WH50L	WH50L

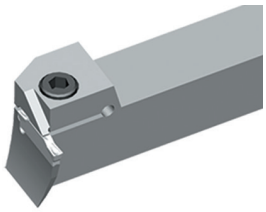
Inserto

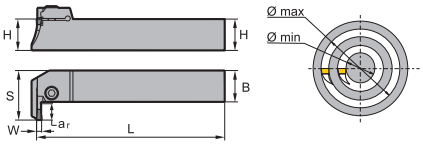
A489	A490	A492	A494

Codice sistema A510 | Scelta gradi A478 | Informazioni tecniche A607 | Dati di taglio A546

Portautensile per scanalatura (assiale)

QF*DR/L





Versione destra

Articolo	✻	Stock R	Stock L	Dimensioni [mm] HxB	L	S	W	ar_{max}	ØD (min-max)	Inserto
QFFD2020R/L10-48L		○	○	20x20	150	31,5	3	10	48-66	Z*FD**
QFGD2020R/L10-52L		○	○	20x20	150	31,5	4	10	52-72	Z*GD**
QFFD2020R/L10-74L		●	○	20x20	150	31,5	3	10	74-110	Z*FD**
QFGD2020R/L10-90L		●	○	20x20	150	31,5	4	10	90-140	Z*GD**
QFFD2020R/L10-100L		○	○	20x20	150	31,5	3	10	100-150	Z*FD**
QFGD2020R/L15-52L		○	○	20x20	150	36,5	4	15	52-72	Z*GD**
QFFD2525R/L10-48L		●	●	25x25	150	36,5	3	10	48-66	Z*FD**
QFFD2525R/L10-60L		●	○	25x25	150	36,5	3	10	60-80	Z*FD**
QFFD2525R/L10-74L		○	○	25x25	150	36,5	3	10	74-110	Z*FD**
QFFD2525R/L10-100L		○	○	25x25	150	36,5	3	10	100-150	Z*FD**
QFGD2525R/L13-52L		○	○	25x25	150	39,5	4	13	52-72	Z*GD**
QFKD2525R/L13-60L		○	○	25x25	150	39,5	6	13	60-100	Z*KD**
QFGD2525R/L13-64L		○	●	25x25	150	39,5	4	13	64-100	Z*GD**
QFGD2525R/L13-90L		○	○	25x25	150	39,5	4	13	90-140	Z*GD**
QFGD2525R/L13-130L		○	○	25x25	150	39,5	4	13	130-230	Z*GD**
QFFD2525R/L17-48L		○	○	25x25	150	43,5	3	17	48-66	Z*FD**
QFFD2525R/L17-60L		○	○	25x25	150	43,5	3	17	60-80	Z*FD**
QFFD2525R/L17-74L		○	○	25x25	150	43,5	3	17	74-110	Z*FD**
QFFD2525R/L17-100L		●	○	25x25	150	43,5	3	17	100-150	Z*FD**
QFGD2525R/L22-52L		○	○	25x25	150	48,5	4	22	52-72	Z*GD**
QFKD2525R/L22-60L		○	●	25x25	150	48,5	6	22	60-100	Z*KD**
QFGD2525R/L22-64L		○	○	25x25	150	48,5	4	22	64-100	Z*GD**
QFKD2525R/L22-88L		○	●	25x25	150	48,5	6	22	88-180	Z*KD**
QFGD2525R/L22-90L		○	○	25x25	150	48,5	4	22	90-140	Z*GD**
QFGD2525R/L22-130L		●	○	25x25	150	48,5	4	22	130-230	Z*GD**
QFFD2020R/L7-74L		○		20x20	150	28,5	3	7	74-110	Z*FD**
QFFD2020R/L10-60L		●		20x20	150	31,5	3	10	60-80	Z*FD**
QFGD2020R/L10-130L		●		20x20	150	31,5	4	10	130-230	Z*GD**
QFGD2020R/L15-64L		○		20x20	150	36,5	4	15	64-100	Z*GD**
QFGD2020R/L15-90L		○		20x20	150	36,5	4	15	90-140	Z*GD**
QFGD2020R/L15-130L		○		20x20	150	36,5	4	15	130-230	Z*GD**
QFHD2525R/L13-58L		○		25x25	150	39,5	5	13	58-96	Z*HD**
QFHD2525R/L13-86L		●		25x25	150	39,5	5	13	86-140	Z*HD**
QFHD2525R/L13-130L		○	○	25x25	150	39,5	5	13	130-200	Z*HD**
QFHD2525R/L13-185L		○	○	25x25	150	39,5	5	13	185-400	Z*HD**
QFHD2525R/L22-58L		○	○	25x25	150	48,5	5	22	58-96	Z*HD**

Codice sistema A510 | Scelta gradi A478 | Informazioni tecniche A607 | Dati di taglio A546

Articolo	✻	Stock		Dimensioni [mm]						Inserto
		R	L	HxB	L	S	W	ar_{max}	ØD (min-max)	
QFHD2525R/L22-86L		○	○	25x25	150	48,5	5	22	86-140	Z*HD**
QFHD2525R/L22-130L		○	○	25x25	150	48,5	5	22	130-200	Z*HD**
QFHD2525R/L22-185L		○	○	25x25	150	48,5	5	22	185-400	Z*HD**
QFKD2525R/L13-88L			○	25x25	150	39,5	6	13	88-180	Z*KD**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**Z*FD****	**Z*GD****	**Z*HD****	**Z*KD****
	H	**20-25**	**20-25**	**20-25**	**20-25**
	Vite	GB70-85-M6×20 (7,0 Nm)	GB70-85-M6×20 (7,0 Nm)	GB70-85-M6×20 (7,0 Nm)	GB70-85-M6×20 (7,0 Nm)
	Chiave	WH50L	WH50L	WH50L	WH50L

Inserto

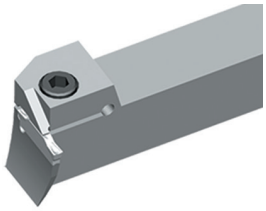
A483	A484	A485	A486	A487	A495	A498

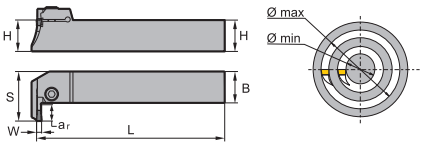
A499

Codice sistema A510 | Scelta gradi A478 | Informazioni tecniche A607 | Dati di taglio A546

Portautensile per scanalatura (assiale)

QFHSDR/L





Versione destra

Articolo	✻	Stock		Dimensioni [mm]						Inserto
		R	L	HxB	L	S	W	ar_{max}	ØD (min-max)	
QFHS2525R/L30-185L		○	○	25x25	150	56,5	5	30	185-400	Z*HS**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**Z*HS****
	H	**25**
	Vite	GB70-85-M6×20 (7,0 Nm)
	Chiave	WH50L

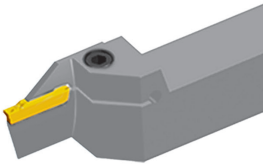
Inserto

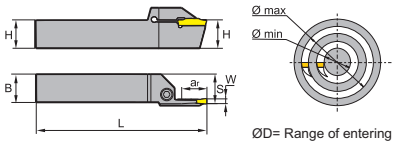
A489	A490	A492	A494

Codice sistema A510 Scelta gradi A478 Informazioni tecniche A607 Dati di taglio A546

Portautensile per scanalatura (assiale)

QF**R/L





Versione sinistra

Articolo	✻	Stock R	Stock L	Dimensioni [mm] HxB	L	S	W	ar_{max}	ØD (min-max)	Inserto
QFHS2525R/L30-185H		●	●	25x25	150	26	5	30	185-400	Z*HS**
QFKS2525R/L30-160H		●	●	25x25	150	26	6	30	160-400	Z*KS**
QFKS2525R/L34-180H			○	25x25	170	26	6	34	180-400	Z*KS**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**Z*HS****	**Z*KS****
	H	**25**	**25**
	Vite	GB70-85-M6×20 (7,0 Nm)	GB70-85-M6×20 (7,0 Nm)
	Chiave	WH50L	WH50L

Inserto

A489	A490	A492	A494

Codice sistema A510 | Scelta gradi A478 | Informazioni tecniche A607 | Dati di taglio A546

Barre alesatrici

C	32	S	–	Q	G	D	R	11	–	44
1	2	3		4	5	6	7	8		9

1 – Sistema di bloccaggio

2 – Diametro [mm]

3 – Lunghezza [mm]

Code	Descrizione
Q	180
R	200
S	250
X	320

4 – Portautensile per scanalatura

5 – Dim. sede inserto [mm]

Larghezza portautensile/tagliente

Code	Descrizione
B	2.0
E	2.5
F	3.0
G	4.0
H	5.0
K	6.0
L	8.0

6 – Numero taglienti

Code	Descrizione
S	Singolo
D	Doppio

7 – Versione

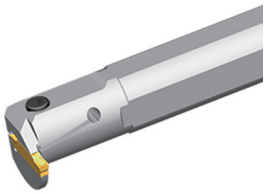
Code	Descrizione
R	Destra
L	Sinistra
N	Destro e sinistro

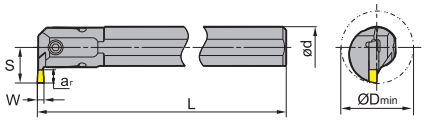
8 – Profondità di taglio max. [mm]

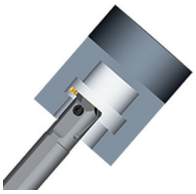
9 – Diametro interno min. del pezzo [mm]

Portautensile per scanalatura (interna)

C***-Q*DR/L







Articolo	✻	Stock		Dimensioni [mm]						Inserto
		R	L	ØDmin	ød	L	S	W	ar_{max}	
C16M-QBDR/L04-20		●	○	20	16	150	12	2	4	Z*BD**
C20Q-QEDR/L05-27		●	●	27	20	180	15,2	2,5	5	Z*ED**
C25R-QEDR/L07-33		●	●	33	25	200	20,3	2,5	7	Z*ED**
C32S-QEDR/L09-42		●	●	42	32	250	25,3	2,5	9	Z*ED**
C20Q-QFDR/L05-27		●	●	27	20	180	15,2	3	5	Z*FD**
C25R-QFDR/L07-33		●	●	33	25	200	20,3	3	7	Z*FD**
C32S-QFDR/L09-42		●	●	42	32	250	25,3	3	9	Z*FD**
C25R-QGDR/L08-35		●	●	35	25	200	21,5	4	8	Z*GD**
C32S-QGDR/L11-44		●	●	44	32	250	27,5	4	11	Z*GD**
C25R-QHDR/L08-35		●	●	35	25	200	21,5	5	8	Z*HD**
C25R-QKDR/L08-35		○	●	35	25	200	21,5	6	8	Z*KD**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**Z*BD****	**Z*ED****	**Z*ED****	**Z*ED****	**Z*FD****	**Z*FD****	**Z*FD****	**Z*GD****	**Z*GD****	**Z*HD****	**Z*KD****
	Ød	**16**	**20**	**25**	**32-40**	**20**	**25**	**32-40**	**25**	**32-40**	**25**	**25**
	Vite	GB70-85-M5×10 (4,0 Nm)	GB70-85-M4×12 (2,6 Nm)	GB70-85-M5×16 (4,0 Nm)	GB70-85-M6×20 (7,0 Nm)	GB70-85-M4×12 (2,6 Nm)	GB70-85-M5×16 (4,0 Nm)	GB70-85-M6×20 (7,0 Nm)	GB70-85-M5×16 (4,0 Nm)	GB70-85-M6×20 (7,0 Nm)	GB70-85-M5×16 (4,0 Nm)	GB70-85-M5×16 (4,0 Nm)
	Chiave	WH40L	WH30L	WH40L	WH50L	WH30L	WH40L	WH50L	WH40L	WH50L	WH40L	WH40L

Inserto

A483	A484	A485	A486	A487	A488	A495

Codice sistema A526 | Scelta gradi A478 | Informazioni tecniche A607 | Dati di taglio A546

A498	A499	A502

Codice sistema A526 Scelta gradi A478 Informazioni tecniche A607 Dati di taglio A546

Note

Lama

Q	E	G	D	32	N	(–1)
1	2	3	4	5	6	7

1 – Lama per scanalatura e troncatura

2 – Applicazione

Code	Descrizione
E	Lavorazione esterna

3 – Dim. sede inserto [mm]

Larghezza portautensile/tagliente

Code	Descrizione
B	2,0
E	2,5
F	3,0
G	4,0
H	5,0
K	6,0
L	8,0

4 – Numero taglienti

Code	Descrizione
S	Singolo
D	Doppio

5 – Altezza lama [mm]

6 – Versione

Code	Descrizione
R	Destra
L	Sinistra
N	Destro e sinistro

7 – Altezza centrale –1 mm

Portautensile

QZ	S	32	32
1	2	3	4

1 – Utensile per scanalatura

2 – Numero taglienti

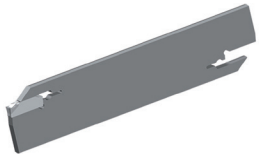
Code	Descrizione
S	Singolo
D	Doppio

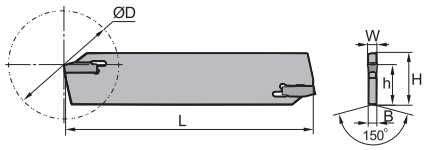
3 – Altezza attacchi [mm]

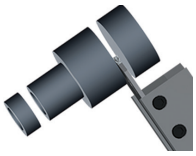
4 – Altezza lama [mm]

Lame per gole per lavorazione esterna

QE*S**N







Articolo	✻	Stock	Dimensioni [mm]						Inserto
			H	L	h	B	W	ØDmax	
QEES26N		●	26	110	19	2	2,5	60	ZPES**
QEES32N		●	32	150	24,6	2	2,5	100	ZPES**
QEFS26N		●	26	110	19	2,4	3	60	ZPFS**
QEFS32N		●	32	150	24,6	2,4	3	100	ZPFS**
QEGS26N		●	26	110	19	3,2	4	70	ZPGS**
QEGS32N		●	32	150	24,6	3,2	4	120	ZPGS**
QEHS26N		●	26	110	19	4	5	70	ZPHS**
QEHS32N		●	32	150	24,6	4	5	120	ZPHS**
QEKS26N		●	26	110	19	5	6	70	ZPKS**
QEKS32N		●	32	150	24,6	5	6	120	ZPKS**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**ZPES****	**ZPFS****	**ZPGS****	**ZPHS****	**ZPKS****
	H	**26-32**	**26-32**	**26-32**	**26-32**	**26-32**
	Chiave	W50RL	W50RL	W50RL	W50RL	W50RL

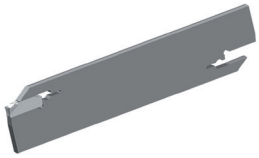
Inserto

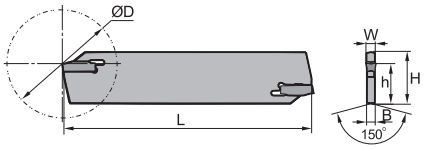
A489	A490	A491	A492	A493	A494

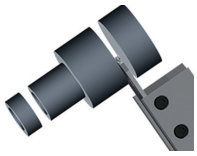
Codice sistema A530 | Scelta gradi A478 | Informazioni tecniche A607 | Dati di taglio A546

Lame per gole per lavorazione esterna

QE*S**N-1







Articolo	✻	Stock	Dimensioni [mm]						Inserto
			H	L	h	B	W	ØDmax	
QEES26N-1		●	26	110	21,4	2	2,5	60	ZPES**
QEES32N-1		●	32	150	25	2	2,5	100	ZPES**
QEFS26N-1		●	26	110	21,4	2,4	3	60	ZPFS**
QEFS32N-1		●	32	150	25	2,4	3	100	ZPFS**
QEGS26N-1		●	26	110	21,4	3,2	4	70	ZPGS**
QEGS32N-1		●	32	150	25	3,2	4	120	ZPGS**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Compatibile solo con i blocchi di serraggio dei sistemi disponibili in commercio di altri produttori.

Parti di ricambio

	Inserto	**ZPES****	**ZPFS****	**ZPGS****
	H	**26-32**	**26-32**	**26-32**
	Chiave	W50X	W50X	W50X

La chiave W50X deve essere ordinata come opzione.

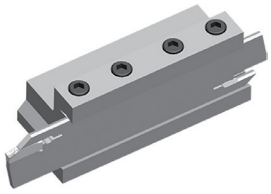
Inserto

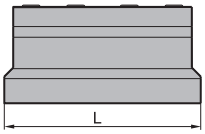
A489	A490	A491	A493	A494

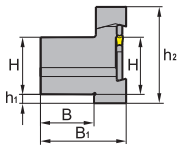
Codice sistema A530 | Scelta gradi A478 | Informazioni tecniche A607 | Dati di taglio A546

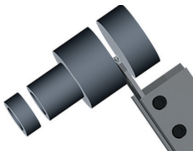
Portautensile (esterna)

QZS*









Articolo	✻	Stock	Dimensioni [mm]						Inserto
			H	L	h_1	h_2	B	B1	
QZS2026		●	20	86	10	46,6	19	38	QE**26
QZS2526		●	25	86	5	46,6	23	42	QE**26
QZS3226		○	32	86	3	51,6	30	48	QE**26
QZS2032		●	20	110	13	50	19	38	QE**32
QZS2532		●	25	110	8	50	23	42	QE**32
QZS3232		●	32	110	5	54	30	48	QE**32

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**QE**26**	**QE**32**
	H	**20-32**	**20-32**
	Staffa	QZC26	QZC32
	Vite	GB70-85-M6×20 (7,0 Nm)	GB70-85-M6×20 (7,0 Nm)
	Chiave	W50RL	W50RL

Codice sistema A530 | Scelta gradi A478 | Informazioni tecniche A607 | Dati di taglio A546

Portautensili esterni

Q	E	G	D	2525	R	22	–	S	C
1	2	3	4	5	6	7		8	9

1 – Portautensili per scanalatura e troncatura

2 – Applicazione

Code	Descrizione
E	Lavorazione esterna

3 – Dim. sede inserto [mm]

Larghezza portautensile/tagliente

Code	Descrizione
B	2,0
E	2,5
F	3,0
G	4,0
H	5,0
K	6,0

4 – Numero taglienti

Code	Descrizione
S	Singolo
D	Doppio

5 – Sezione portautensile [mm] x [mm]

6 – Versione

Code	Descrizione
R	Destra
L	Sinistra

7 – Max. profondità di taglio [mm]

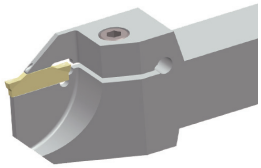
8 – Extra

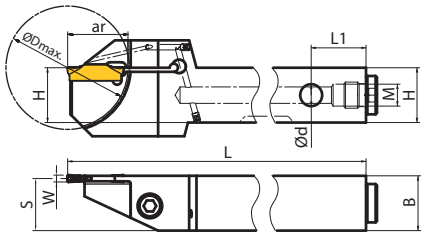
Code	Descrizione
S	Portautensile rinforzato
DG	Portautensile con rinforzo per maggiore profondità di scanalatura
DGS	Portautensile senza rinforzo per maggiore profondità di scanalatura

9 – Con raffreddamento interno

Portautensile per scanalatura (esterna)

QE**R/L-DGC





Articolo	✻	Stock		Dimensioni [mm]									Inserto
		R	L	HxB	ød	L	S	L_1	W	ar_{max}	ØDmax	M	
QEBD1616R/L20-DGC	✻	○	○	16x16	G1/8	96	15	20	2	20	40	G1/8	Z*BD**
QEBD1616R/L30-DGC	✻	●	●	16x16	G1/8	105	15	20	2	30	60	G1/8	Z*BD**
QEBD2020R/L20-DGC	✻	○	○	20x20	G1/8	111	19	20	2	20	40	G1/8	Z*BD**
QEBD2020R/L30-DGC	✻	●	●	20x20	G1/8	120	19	20	2	30	60	G1/8	Z*BD**
QEBD2525R/L20-DGC	✻	○	○	25x25	G1/8	126	24	20	2	20	40	G1/8	Z*BD**
QEBD2525R/L30-DGC	✻	●	●	25x25	G1/8	135	24	20	2	30	60	G1/8	Z*BD**
QEED1616R/L20-DGC	✻	○	○	16x16	G1/8	96	14,75	20	2,5	20	40	G1/8	Z*ED**
QEED1616R/L30-DGC	✻	●	●	16x16	G1/8	105	14,75	20	2,5	30	60	G1/8	Z*ED**
QEED2020R/L20-DGC	✻	○	○	20x20	G1/8	111	18,75	20	2,5	20	40	G1/8	Z*ED**
QEED2020R/L30-DGC	✻	●	○	20x20	G1/8	120	18,75	20	2,5	30	60	G1/8	Z*ED**
QEED2525R/L20-DGC	✻	○	○	25x25	G1/8	126	23,75	20	2,5	20	40	G1/8	Z*ED**
QEED2525R/L30-DGC	✻	○	○	25x25	G1/8	135	23,75	20	2,5	30	60	G1/8	Z*ED**
QEFD1616R/L20-DGC	✻	○	○	16x16	G1/8	96	14,5	20	3	20	40	G1/8	Z*FD**
QEFD1616R/L30-DGC	✻	●	○	16x16	G1/8	105	14,5	20	3	30	60	G1/8	Z*FD**
QEFD2020R/L20-DGC	✻	○	○	20x20	G1/8	111	18,5	20	3	20	40	G1/8	Z*FD**
QEFD2020R/L30-DGC	✻	●	●	20x20	G1/8	120	18,5	20	3	30	60	G1/8	Z*FD**
QEFD2525R/L20-DGC	✻	○	○	25x25	G1/8	126	23,5	20	3	20	40	G1/8	Z*FD**
QEFD2525R/L30-DGC	✻	○	○	25x25	G1/8	135	23,5	20	3	30	60	G1/8	Z*FD**
QEGD1616R/L20-DGC	✻	○	○	16x16	G1/8	96	14	20	4	20	40	G1/8	Z*GD**
QEGD1616R/L30-DGC	✻	●	●	16x16	G1/8	105	14	20	4	30	60	G1/8	Z*GD**
QEGD2020R/L20-DGC	✻	○	○	20x20	G1/8	111	18	20	4	20	40	G1/8	Z*GD**
QEGD2020R/L30-DGC	✻	○	○	20x20	G1/8	120	18	20	4	30	60	G1/8	Z*GD**
QEGD2525R/L20-DGC	✻	○	○	25x25	G1/8	126	23	20	4	20	40	G1/8	Z*GD**
QEGD2525R/L30-DGC	✻	○	○	25x25	G1/8	135	23	20	4	30	60	G1/8	Z*GD**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Codice sistema A534 | Scelta gradi A478 | Informazioni tecniche A607 | Dati di taglio A546

Portautensile per scanalatura (esterna)

Parti di ricambio

	Inserto	Z*BD**	Z*ED**	Z*FD**	Z*GD**
	H	16-25	16-25	16-25	20-25
	Vita senza testa	PT1/8×4	PT1/8×4	PT1/8×4	PT1/8×4
	Vite	GB70-85-M5×20 (4,0 Nm)	GB70-85-M5×20 (4,0 Nm)	GB70-85-M5×20 (4,0 Nm)	GB70-85-M5×20 (4,0 Nm)
	Chiave	WH50L	WH50L	WH50L	WH50L
	Chiave	WH40L	WH40L	WH40L	WH40L

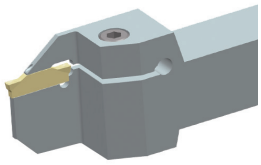
Inserto

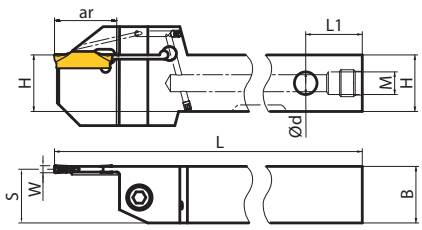
A483	A484	A485	A486	A487	A488	A495

Codice sistema A534 Scelta gradi A478 Informazioni tecniche A607 Dati di taglio A546

Portautensile per scanalatura (esterna)

QE**R/L-DGSC





Articolo	✻	Stock		Dimensioni [mm]								Inserto
		R	L	HxB	ød	L	S	L_1	W	ar_{max}	M	
QEED1616R/L30-DGSC	✻	●	●	16x16	G1/8	105	14,75	20	2,5	30	G1/8	Z*ED**
QEED2020R/L30-DGSC	✻	●	○	20x20	G1/8	120	18,75	20	2,5	30	G1/8	Z*ED**
QEED2525R/L30-DGSC	✻	○	○	25x25	G1/8	135	23,75	20	2,5	30	G1/8	Z*ED**
QEFD1616R/L30-DGSC	✻	●	●	16x16	G1/8	105	14,5	20	3	30	G1/8	Z*FD**
QEFD2020R/L30-DGSC	✻	○	○	20x20	G1/8	120	20,4	20	3	30	G1/8	Z*FD**
QEFD2525R/L30-DGSC	✻	○	○	25x25	G1/8	135	23,5	20	3	30	G1/8	Z*FD**
QEGD1616R/L30-DGSC	✻	○	○	16x16	G1/8	105	14	20	4	30	G1/8	Z*GD**
QEGD2020R/L30-DGSC	✻	○	○	20x20	G1/8	120	18	20	4	30	G1/8	Z*GD**
QEGD2525R/L30-DGSC	✻	○	○	25x25	G1/8	135	23	20	4	30	G1/8	Z*GD**
QEHD2525R/L30-DGSC	✻	○	○	25x25	G1/8	135	22,5	20	5	30	G1/8	Z*HD**
QEKD2525R/L30-DGSC	✻	○	○	25x25	G1/8	135	22	20	6	30	G1/8	Z*KD**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**Z*ED****	**Z*FD****	**Z*GD****	**Z*HD****	**Z*KD****
	H	**16-25**	**16-25**	**20-25**	**20-25**	**20-25**
	Vita senza testa	PT1/8×4	PT1/8×4	PT1/8×4	PT1/8×4	PT1/8×4
	Vite	GB70-85-M5×20 (4,0 Nm)	GB70-85-M5×20 (4,0 Nm)	GB70-85-M5×20 (4,0 Nm)	GB70-85-M6×20 (7,0 Nm)	GB70-85-M6×20 (7,0 Nm)
	Chiave	WH50L	WH50L	WH50L	WH50L	WH50L
	Chiave	WH40L	WH40L	WH40L	WH50L	WH50L

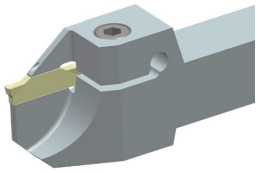
Inserto

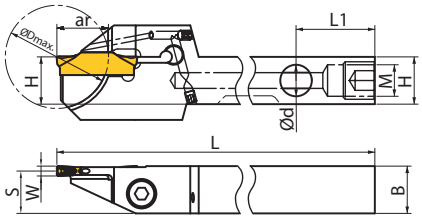
A483	A484	A485	A486	A487	A495

Codice sistema A534 | Scelta gradi A478 | Informazioni tecniche A607 | Dati di taglio A546

Portautensile per scanalatura (esterna)

QE**R/L-SC





Articolo	✻	Stock R	Stock L	Dimensioni [mm] HxB	ød	L	S	L_1	W	ar_{max}	ØDmax	M	Inserto
QEAD1010R/L10-SC	✻	○	○	10x10	G1/16	125	9	20	1,5	10	20	G1/16	Z*AD**
QEAD1212R/L13-SC	✻	○	○	12x12	G1/8	125	12	20	1,5	13	26	G1/8	Z*AD**
QEAD1616R/L13-SC	✻	○	○	16x16	G1/8	125	15	20	1,5	13	26	G1/8	Z*AD**
QEAD2020R/L13-SC	✻	○	○	20x20	G1/8	125	19	20	1,5	13	26	G1/8	Z*AD**
QEBD1010R/L10-SC	✻	○	○	10x10	G1/16	110	9	20	2	10	20	G1/16	Z*BD**
QEBD1212R/L13-SC	✻	●	●	12x12	G1/8	110	11	20	2	13	26	G1/8	Z*BD**
QEBD1616R/L13-SC	✻	●	●	16x16	G1/8	110	15	20	2	13	26	G1/8	Z*BD**
QEBD2020R/L13-SC	✻	○	○	20x20	G1/8	110	19	20	2	13	26	G1/8	Z*BD**
QEED1010R/L10-SC	✻	○	○	10x10	G1/16	110	8,75	20	2,5	10	20	G1/16	Z*ED**
QEED1212R/L13-SC	✻	●	●	12x12	G1/8	110	10,75	20	2,5	13	26	G1/8	Z*ED**
QEED1616R/L17-SC	✻	●	●	16x16	G1/8	110	14,75	20	2,5	17	34	G1/8	Z*ED**
QEED2020R/L17-SC	✻	●	●	20x20	G1/8	110	18,75	20	2,5	17	34	G1/8	Z*ED**
QEFD1212R/L13-SC	✻	●	●	12x12	G1/8	110	10,5	20	3	13	26	G1/8	Z*FD**
QEFD1616R/L17-SC	✻	●	●	16x16	G1/8	110	14,5	20	3	17	34	G1/8	Z*FD**
QEFD2020R/L22-SC	✻	●	●	20x20	G1/8	110	18,5	20	3	22	44	G1/8	Z*FD**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	Z*AD**	Z*AD**	Z*AD**	Z*AD**	Z*BD**	Z*BD**	Z*BD**	Z*ED**	Z*ED**	Z*ED**	Z*FD**	Z*FD**
	H	10	12	16	20	10	12	16-20	10	12	16-20	12	16-20
	Vita senza testa	PT1/16×6	PT1/8×4	PT1/8×4	PT1/8×4	PT1/16×6	PT1/8×4	PT1/8×4	PT1/16×6	PT1/8×4	PT1/8×4	PT1/8×4	PT1/8×4
	Vite	GB70-85-M4×12 (2,6 Nm)	GB70-85-M4×12 (2,6 Nm)	GB70-85-M4×14 (4,5 Nm)	GB70-85-M4×18 (5,0 Nm)	GB70-85-M4×12 (2,6 Nm)	GB70-85-M4×12 (2,6 Nm)	GB70-85-M6×20 (7,0 Nm)	GB70-85-M4×12 (2,6 Nm)	GB70-85-M4×12 (2,6 Nm)	GB70-85-M6×20 (7,0 Nm)	GB70-85-M4×12 (2,6 Nm)	GB70-85-M5×20 (4,0 Nm)
	Chiave	WH40L	WH50L	WH50L	WH50L	WH40L	WH50L	WH50L	WH40L	WH50L	WH50L	WH50L	WH50L
	Chiave	WH30L	WH30L	WH30L	WH30L	WH30L	WH30L	WH40L	WH30L	WH30L	WH40L	WH30L	WH40L

Codice sistema A534 Scelta gradi A478 Informazioni tecniche A607 Dati di taglio A546

Portautensile per scanalatura (esterna)

Inserto					
A483	A484	A485	A486	A488	A495

Codice sistema A534 | Scelta gradi A478 | Informazioni tecniche A607 | Dati di taglio A546

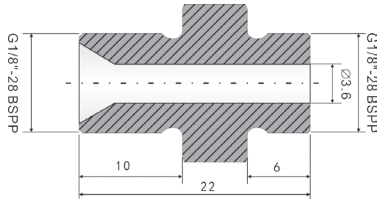
Accessori

Tubo del refrigerante

Articolo	Dimensions [mm]			Stock
	L	Th1	Th2	
HOSE G1/8-7/16/200BS	200	G1/8"-28 BSPP	G1/8"-28 BSPP	○
HOSE G1/8-7/16/300BS	300	G1/8"-28 BSPP	G1/8"-28 BSPP	○
HOSE G1/8-7/16/200BB	200	G1/8"-28 BSPP	G1/8"-28 BSPP	○
HOSE G1/8-7/16/300BB	300	G1/8"-28 BSPP	G1/8"-28 BSPP	○

● In magazzino ○ Su richiesta

Raccordo del refrigerante



Articolo	Stock
NIPPLE G1/8- G1/8	○

● In magazzino ○ Su richiesta

Note

Portautensili esterni – Serie QC

GQC	R	20	20	K	22	–	15
1	2	3	4	5	6		7

Serie
1

Versione	
Code	Descrizione
R	Destra
L	Sinistra

2

Altezza [mm]	
Code	Descrizione
16	16
20	20
25	25

3

Larghezza [mm]	
Code	Descrizione
16	16
20	20
25	25

4

Lunghezza [mm]	
Code	Descrizione
K	125
M	150

5

Lunghezza tagliente [mm]	
Code	I.C
11	6,35
16	9,252
22	12,70

6

Area larghezza scanalatura [mm]		
Code	Dimensioni inserti	
15	0,5≤S<1,8 (QC16***)	1,0≤S<2,3 (QC22***)
25	1,8≤S<3,0 (QC16***)	2,3≤S<3,3 (QC22***)
35	–	3,3≤S≤4,8 (QC22***)

7

Barre alesatrici – Serie QC

S	20	K	–	QC	16	15	R	25
1	2	3		4	5	6	7	8

Versione del codolo	
Code	Pezzo da lavorare
S	Stelo in acciaio
C	Stelo in metallo duro
A	Stello in metallo duro (IK)

1

Diametro [mm]	
Code	Descrizione
16	16
20	20
25	25

2

Lunghezza [mm]	
Code	Descrizione
H	100
K	125
M	150

3

Serie
4

Lunghezza tagliente [mm]	
Code	I.C
11	6,35
16	9,252
22	12,70

5

Area larghezza scanalatura			
Code	Dimensioni dell'inserto		
15	0,5≤S<1,8 (QC11***)	0,5≤S<1,8 (QC16***)	1,0≤S<2,3 (QC22***)
25	1,8≤S<3,0 (QC11***)	1,8≤S<3,0 (QC16***)	2,3≤S<3,3 (QC22***)
35	–	–	3,3≤S≤4,8 (QC22***)

6

Direzione di taglio	
Code	Descrizione
R	Destra
L	Sinistra

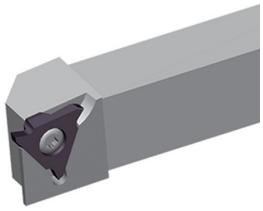
7

Diametro di partenza [mm]			
Code	Ø	Code	Ø
16	16	25	25
20	20	35	35

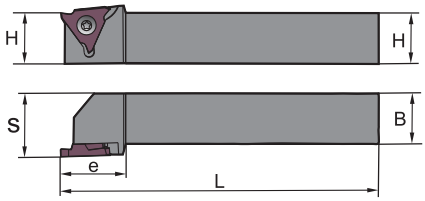
8

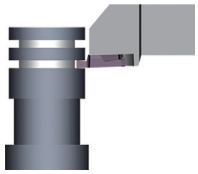
Scanalatura (esterna)

GQC**R/L



Versione destra





Articolo	✻	Stock		Dimensioni [mm]						Inserto
		R	L	H	L	S	e	B	Larghezza	
GQCR/L1212K16-15		○	○	12	125	17	18	12	0,5-1,80	QC16R/L 050-180
GQCR/L1616K16-15		●	●	16	125	21	25,5	16	0.5-1.80	QC16R/L 050-180
GQCR/L2020K16-15		○	●	20	125	25	25,5	20	0.5-1.80	QC16R/L 050-180
GQCR/L2525M16-15		○	●	25	150	30	25,5	25	0.5-1.80	QC16R/L 050-180
GQCR/L2525K22-15			●	25	125	30	25,5	25	1,0-2,3	QC16R/L 100-230
GQCR/L1616K16-25		●	●	16	125	21	25,5	16	1.8-3.0	QC16R/L 180-300
GQCR/L2020K16-25		○	●	20	125	25	25,5	20	1.8-3.0	QC16R/L 180-300
GQCR/L2525M16-25		○	●	25	150	30	25,5	25	1.8-3.0	QC16R/L 180-300
GQCR/L2525K22-25			●	25	125	30	25,5	25	2,3-3,3	QC16R/L 230-330
GQCR/L2020K22-15		○	●	20	125	25	25,5	20	1.0-2.3	QC22R/L 100-230
GQCR/L2525M22-15		○	●	25	150	30	25,5	25	1.0-2.3	QC22R/L 100-230
GQCR/L2020K22-25		○	●	20	125	25	25,5	20	2.3-3.3	QC22R/L 230-330
GQCR/L2525M22-25		○	●	25	150	30	25,5	25	2.3-3.3	QC22R/L 230-330
GQCR/L2020K22-35		●	●	20	125	25	25,5	20	3.3-4.8	QC22R/L 330-480
GQCR/L2525M22-35		●	●	25	150	30	25,5	25	3.3-4.8	QC22R/L 330-480

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**QC16R/L 050-180**	**QC16R/L 100-230**	**QC16R/L 180-300**	**QC16R/L 230-330**	**QC22R/L 100-230**	**QC22R/L 230-330**	**QC22R/L 330-480**
	H	**12-32**	**16-32**	**16-32**	**16-32**	**16-32**	**16-32**	**16-32**
	Vite	I60M3,5×10 (2,7 Nm)	I60M5×13 (6,7 Nm)	I60M3,5×10 (2,7 Nm)	I60M5×13 (6,7 Nm)	I60M5×13 (6,7 Nm)	I60M5×13 (6,7 Nm)	I60M5×13 (6,7 Nm)
	Chiave (sotto-placchetta)	WT15IP	WT20IP	WT15IP	WT20IP	WT20IP	WT20IP	WT20IP

Inserto

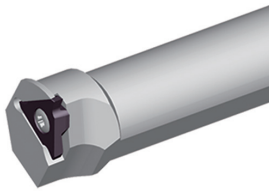
Media Lavor.

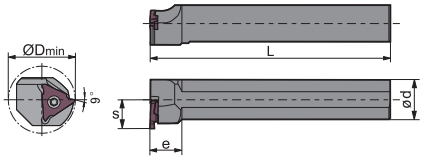
A505
B206

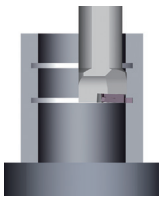
Codice sistema A542 | Scelta gradi A478 | Informazioni tecniche A607 | Dati di taglio A546

S_QCR/L

S*K-QC**R/L







Versione destra

Articolo	✻	Stock R	Stock L	Dimensioni [mm] ØDmin	ød	L	S	e	Larghezza	Inserto
S16H-QC1115R/L20		●	●	21	16	100	11,5	12	0.5-1.80	QC11R/L 050-180
S20K-QC1115R/L16		●	●	16	20	125	11,1	40	0.5-1.80	QC11R/L 050-180
S16H-QC1125R/L20		●	●	21	16	100	11,5	12	1.8-3.0	QC11R/L 180-300
S20K-QC1125R/L16		○	○	16	20	125	11,1	40	1.8-3.0	QC11R/L 180-300
S20M-QC1615R/L25		○	●	26	20	150	12,5	15	0.5-1.80	QC16R/L 050-180
S20M-QC1625R/L25		●	●	26	20	150	12,5	15	1.8-3.0	QC16R/L 180-300
S25M-QC2215R/L35		●	●	35	25	150	18,2	15	1.0-2.3	QC22R/L 100-230
S25M-QC2225R/L35		●	●	35	25	150	18,2	20	2.3-3.3	QC22R/L 230-330
S25M-QC2235R/L35		○	●	35	25	150	18,2	20	3.3-4.8	QC22R/L 330-480

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Versione destra portautensile per versione sinistra inserto di taglio
Versione sinistra portautensile per versione destra inserto di taglio

Parti di ricambio

	Inserto	**QC11R/L 050-180**	**QC11R/L 180-300**	**QC16R/L 050-180**	**QC16R/L 180-300**	**QC22R/L 100-230**	**QC22R/L 230-330**	**QC22R/L 330-480**
	ød	**16-20**	**16-20**	**20**	**20**	**25**	**25**	**25**
	Vite	I60M2,5×6,5 (1,0 Nm)	I60M2,5×6,5 (1,0 Nm)	I60M3,5×10 (2,7 Nm)	I60M3,5×10 (2,7 Nm)	I60M5×13 (6,7 Nm)	I60M5×13 (6,7 Nm)	I60M5×13 (6,7 Nm)
	Chiave (sotto-placchetta)	WT07IP	WT07IP	WT15IP	WT15IP	WT20IP	WT20IP	WT20IP

Inserto

Media Lavor.
A505
B206

Codice sistema A542 | Scelta gradi A478 | Informazioni tecniche A607 | Dati di taglio A546

Note

Inserti per tornitura

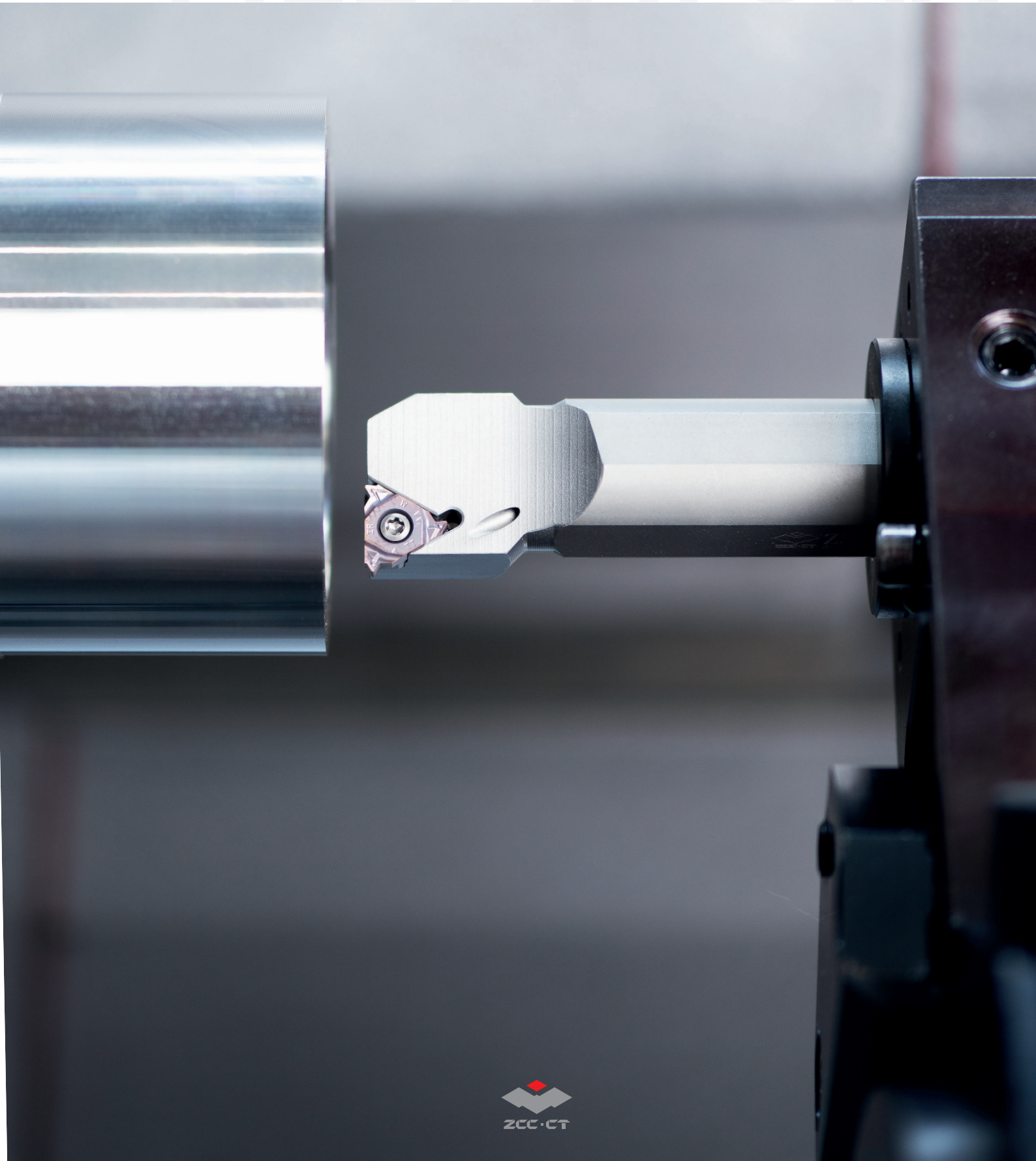
Gruppo materiali		Composizione/Struttura/Trattamento termico		Durezza HB Brinell	Gruppo di sgrossatura	Velocità di taglio v_c [m/min]		
						HC (CVD)	HC (PVD)	
						YBC252	YBG102	YBG105
P	Acciaio non legato	ca. 0,15 % C	Temprato	125	1	190		
		ca. 0,45 % C	Temprato	190	2	175		
		ca. 0,45 % C	pre-temprato	250	3	145		
		ca. 0,75 % C	Temprato	270	4	140		
		ca. 0,75 % C	pre-temprato	300	5	135		
	Acciaio al carbonio		Temprato	180	6	170		
			pre-temprato	275	7	125		
			pre-temprato	300	8	115		
			pre-temprato	350	9	105		
	Acciaio alto legato e acciaio alto legato per utensili		Temprato	200	10	125		
			temprato e rinvenuto	325	11	95		
M	Acciaio inossidabile	ferritico/martensitico	Temprato	200	12	165	165	170
		martensitico	pre-temprato	240	13	135	135	140
		austenitico	quencing	180	14	155	155	160
		austenitico-ferritico		230	15	135	135	140
K	Ghisa grigia	perlitico/ferritico		180	16	240		
		perlitico (martensitico)		260	17	185		
	Ghisa sferodale	ferritico		160	18	220		
		perlitico		250	19	165		
	Ghisa malleabile	ferritico		130	20	175		
		perlitico		230	21	165		
N	Lavorazioni plastiche di leghe di alluminio	non invecchiabile		60	22			
		invecchiabile	indurito	100	23			
	Leghe di alluminio fuso	≤ 12 % Si, non invecchiabile		75	24			
		≤ 12 % Si, invecchiabile	indurito	90	25			
		> 12 % Si, non invecchiabile		130	26			
	Rame e leghe di rame (bronzo/ottone)	Leghe per macchine di tipo multiplo, PB > 1 %		110	27			
		CuZn, CuSnZn		90	28			
		CuSn, rame senza piombo e rame elettrolitico		100	29			
S	Leghe resistenti al calore	Base Fe	Temprato	200	30		95	100
			indurito	280	31		50	50
		Base Ni o Co	Temprato	250	32		80	80
			indurito	350	33		70	70
			fuso	320	34		70	70
	Leghe di titanio	Titanio puro		R_m 400	35		145	150
		Leghe Alpha + Beta	indurito	R_m 1050	36		50	50
H	Acciaio temprato		temprato e rinvenuto	55 HRC	37			
			temprato e rinvenuto	60 HRC	38			
	Ghisa dura		fuso	400	39			
	Ghise temprate		temprato e rinvenuto	55 HRC	40			
X	Materiali non metallici	Termoplastiche			41			
		Termoindurenti			42			
		Vetroresina VTR			43			
		Plastica rinforzata in fibra di carbonio			44			
		Grafite			45			
		Legno			46			

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.
Esempi di materiali per gruppi di taglio sono disponibili a pagina D11.

	Velocità di taglio v_c [m/min]						
	HC (PVD)				HW		
	YB9320	YBG202	YBG205	YBG302	YD101	YD201	
	190	190	190	185			
	175	175	175	170			
	145	145	145	140			
	140	140	140	135			
	135	135	135	130			
	170	170	170	165			
	125	125	125	125			
	115	115	115	115			
	105	105	105	105			
	125	125	125	125			
	95	95	95	95			
	165	165	165	160			
	135	135	135	130			
	155	155	155	150			
	135	135	135	130			
	240	240	240	235			
	185	185	185	180			
	220	220	220	215			
	165	165	165	160			
	175	175	175	170			
	165	165	165	160			
					800	760	
					600	570	
					320	305	
					240	230	
					160	155	
					160	155	
					600	570	
					200	190	
	95	95	95	95	70	65	
	50	50	50	50	35	35	
	80	80	80	75	60	60	
	70	70	70	65	50	50	
	70	70	70	65	50	50	
	145	145	145	140	105	100	
	50	50	50	50	35	35	

HC metallo duro rivestito
HW metallo duro non rivestito, componente principale (WC)

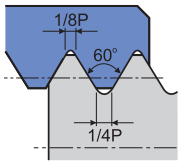
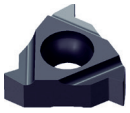
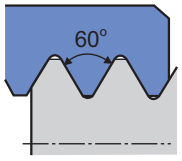
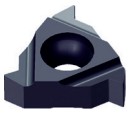
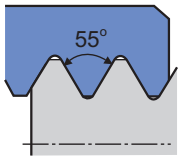
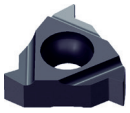
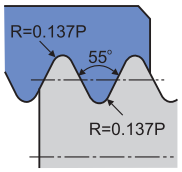
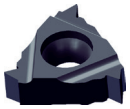
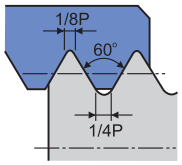
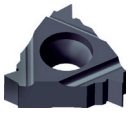
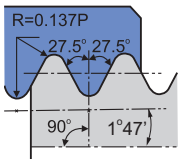
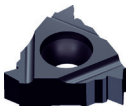
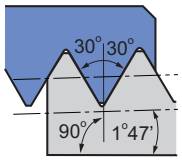
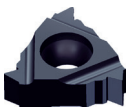
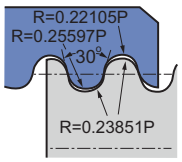
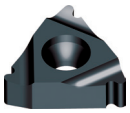
FILETTATURA

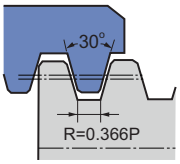
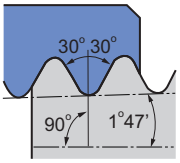
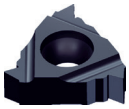
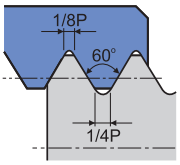
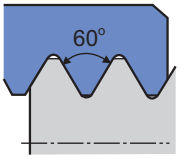
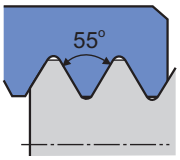
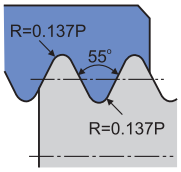
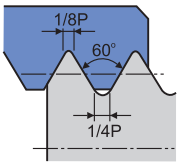
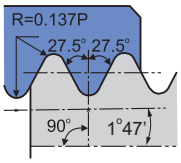


Filettatura

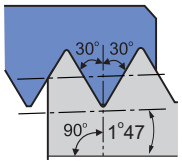
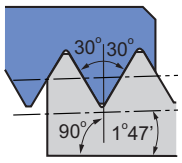
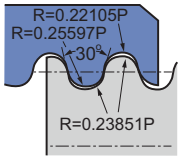
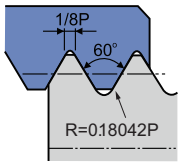
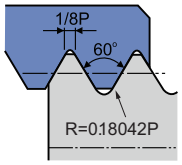
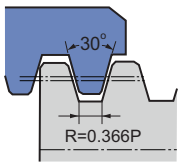
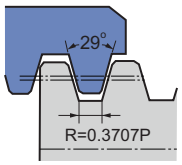
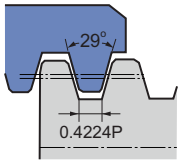
Panoramica sistema	**A550-A555**
Panoramica gradi	**A556**
Campo di applicazione dei gradi	**A557**
Codice sistema – Inserti – zType	**A558**
Inserti – zType	**A559-A571**
Codice sistema – Portautensile – zType	**A572**
Portautensile – zType	**A573-A579**
Codice sistema – Inserti	**A580**
Inserti	**A581-A599**
Codice sistema – portautensili	**A600**
Portautensile	**A601-A605**
Dati di taglio consigliati	**A606**
Misure per la risoluzione dei problemi	**A610**
Informazioni tecniche	**A617-A618**
Gli utensili speciali	**A619**

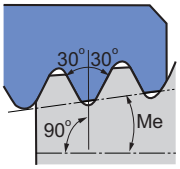
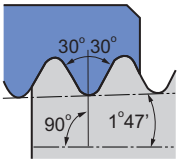
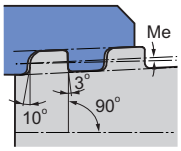
Filettatura Panoramica sistema

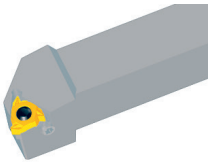
Tipi di filettature	Profilo	Disegno in sezione	Inserto	Filettatura interna Passo mm (TPI)	Filettatura esterna Passo mm (TPI)	Pagina
Filettatura ISO-Metrica standard 60° Profilo completo (zType)	**GM**			1,0-6,0	1,0-6,0	A559
60° Profilo parziale (zType)	**60°**			0,5-5,0 (5-48)	0,5-5,0 (5-48)	A562
55° Profilo parziale (zType)	**55°**			0,5-5,0 (5-48)	0,5-5,0 (5-48)	A563
Whitworth (zType)	**W**			8-19	8-19	A564
Profilo completo UN Americano Filettatura 60° (zType)	**UN**			8-24	8-24	A565
Filettatura BSPT conica per tubi (zType)	**BSPT**			11-28	11-28	A566
Filettatura NPT per tubi (zType)	**NPT**			8-27	8-27	A567
Filettatura tonda R 30° (zType)	**R**			8-10	8-10	A569

Tipi di filettature	Profilo	Disegno in sezione	Inserto	Filettatura interna Passo mm (TPI)	Filettatura esterna Passo mm (TPI)	Pagina
Filettatura metrica ISO trapezoidale TR 30° (zType)	**Tr**			1,5-3,0	1,5-3,0	A570
Filettatura tonda API (zType)	**RD**			8-10	8-10	A568
Filettatura ISO-Metrica standard 60° Profilo completo	**GM**			0,5-6,0	0,5-6,0	A581
60° Profilo parziale	**60°**			0,5-5,0 (5-48)	0,5-5,0 (5-48)	A583
55° Profilo parziale	**55°**			0,5-5,0 (5-48)	0,5-5,0 (5-48)	A584
Whitworth	**W**			8-16	8-16	A585
Profilo completo UN Americano Filettatura 60°	**UN**			8-20	8-20	A586
Filettatura BSPT conica per tubi	**BSPT**			11-28	11-28	A587

Filettatura Panoramica sistema

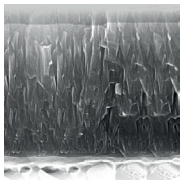
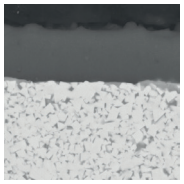
Tipi di filettature	Profilo	Disegno in sezione	Inserto	Filettatura interna Passo mm (TPI)	Filettatura esterna Passo mm (TPI)	Pagina
Filettatura per tubi NPT	**NPT**			8-27	8-27	A588
Filettatura per tubi NTPF autosigillante 60°	**NPTF**			8-27	8-27	A589
Filettatura tonda R 30°	**R**			6-10	6-10	A590
Filettatura MJ per industria aerospaziale	**MJ**			---	1,5-2,0	A591
Filettatura a vite unificato UNJ	**UNJ**			---	8-32	A592
Filettatura metrica ISO trapezoidale TR 30°	**Tr**			1,5-3,0	1,5-3,0	A593
Filettatura americana 29° trapezoidale ACME	**AC**			8-16	8-16	A594
Filettatura americana trapezoidale piatta STUB-ACME	**STAC**			8-16	8-16	A595

Tipi di filettature	Profilo	Disegno in sezione	Inserto	Filettatura interna Passo mm (TPI)	Filettatura esterna Passo mm (TPI)	Pagina
Filettatura API 60°	**AP**			4-5	4-5	A596
Filettatura tonda API	**RD**			8-10	8-10	A597
Filettatura americana a dente di sega API	**BUT**			5	5	A598

Versione	Portautensile	Dimensioni [mm]	Pagina
Portautensili per filettatura esterna (zType)		16×16×80 20×20×100 25×25×125 32×32×125	A573
Portautensili per filettatura interna (zType)		16×125×12 16×150×16 16×150×20 20×150×25 20×180×25 25×150×32 32×200×40 32×250×40 40×300×50	A575
Portautensili per filettatura esterna		16×16×100 20×20×125 25×25×150 32×25×170 32×32×170 40×40×250	A601
Portautensili per filettatura interna		16×125×12 16×150×16 16×150×20 20×150×25 20×180×25 25×150×32 32×200×40 32×250×40 40×300×50 50×350×63	A603

Note

Filettatura

Grado	ISO	Microstruttura	Descrizione gradi
YBG201	P10 - P30 M10 - M30		Grado di metallo duro con rivestimento in PVD P10–P30/M10–M30 per lavorazioni dalla finitura all´asportazione media di acciai inossidabili e acciaio (fresatura). Ottima resistenza all´usura in una vasta gamma di applicazioni.
YBG205	P10 - P30 M20 - M40 S15-S25		Grado di metallo duro P10 - P30/M20 - M40/S15 - S25 con rivestimento in PVD multistrato per lavorazioni che spaziano dalla finitura all'asportazione media di acciaio inossidabile, superleghe e acciaio (fresatura). Resistenza all'usura e resistenza termica ottimali in un ampio campo di applicazione.

Campi di applicazione dei gradi – filettatura

	ISO	HC[1] (CVD)	HC[1] (PVD)	HT	HC[2]	Ceramic	HW	CBN	PCD
P	P01								
	P10		YBG205 YBG201						
	P20								
	P30								
	P40								
M	M01								
	M10		YBG205 YBG201						
	M20								
	M30								
	M40								
K	K01								
	K10								
	K20								
	K30								
N	N01								
	N10								
	N20								
	N30								
S	S01								
	S10		YBG205 YBG201						
	S20								
	S30								
H	H01								
	H10								
	H20								
	H30								

P	Acciaio
M	Acciaio inossidabile
K	Ghisa
N	Metalli non ferrosi
S	Materiali a difficile asportazione
H	Materiali ad elevata durezza

HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Metallo duro non rivestito

Z 16 ER 1.5 ISO PP

1	2	3	4	5	6

Linea di prodotto

1

Dimensioni inserto [mm]	
Code	I.C
11	6,35
16	9,252
22	12,70

2

Tipo lavorazione	
Code	Descrizione
ER	Filettatura esterna
IR	Filettatura interna
EL	Filettatura esterna
IL	Filettatura interna

3

Passo		
Code	Intervallo del passo (profilo parziale)	
A	0,5 – 1,5 mm	48 – 16 (TPI)
AG	0,5 – 3,0 mm	48 – 8 (TPI)
G	1,75 – 3,0 mm	14 – 8 (TPI)
N	3,5 – 5,0 mm	7 – 5 (TPI)

Intervallo del passo [mm] (profilo completo)
0.5 0.75 1.0 1.25 1.5
1.75 2.0 2.5 3.0 3.5
4.0 4.5 5.0 5.5 6.0

Intervallo del passo (TPI) (profilo completo)
4 5 6 8
10 11 11.5 12
14 16 18 19
20 24 27 28

4

Profilo del filetto	
Code	Descrizione
ISO	Filettatura ISO-Metrica standard 60°
60	Profilo parziale 60°
55	Profilo parziale 55°
W	Whitworth
UN	Filettatura UN Americano 60°
BSPT	Filettatura conica per tubi
NPT	Filettatura per tubi
RD	Filettatura tonda API
R	Filettatura tondo 30°
TR	Filettatura metrica ISO trapezoidale 30°

5

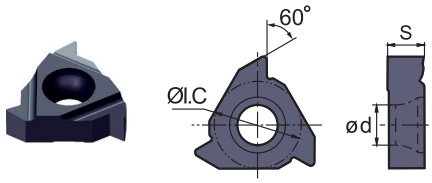
Rompitruciolo

6

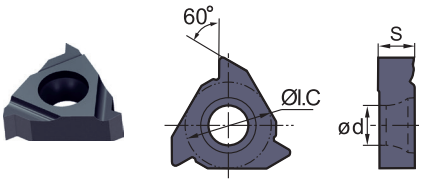
Z	I.C	S	d
11	6,35	3,05	3,2
16	9,525	3,52	4
22	12,7	4,65	5

Inserti per filettatura

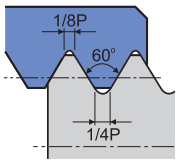
Filettatura ISO-Metrica standard 60° Profilo completo (zType)



Versione destra esterna
Versione sinistra interna



Versione destra interna
Versione sinistra esterna



ISO 965-1980 DIN 13
GB·T 197-2003 Tolleranza: 6g·6H

ISO	Passo (tpi)	Lavorazione esterna	HC[1] (PVD) YBG205	Lavorazione interna	HC[1] (PVD) YBG205
11	1,00	-		**Z11IR1.0ISO**	●
11		-		**Z11IL1.0ISO**	●
11	1,25	-		**Z11IR1.25ISO**	●
11		-		**Z11IL1.25ISO**	●
11	1,50	-		**Z11IR1.5ISO**	●
11		-		**Z11IL1.5ISO**	●
11	1,75	-		**Z11IR1.75ISO**	●
11		-		**Z11IL1.75ISO**	●
11	2,00	-		**Z11IR2.0ISO**	●
11		-		**Z11IL2.0ISO**	●
16	0,50	**Z16ER0.5ISO**	●	**Z16IR0.5ISO**	●
16	0,75	**Z16ER0.75ISO**	●	**Z16IR0.75ISO**	●
16	0,80	**Z16ER0.8ISO**	●	-	
16	1,00	**Z16ER1.0ISO**	●	**Z16IR1.0ISO**	●
16		**Z16ER1.0ISOPP**	●	**Z16IR1.0ISOPP**	●
16		**Z16EL1.0ISO**	●	**Z16IL1.0ISO**	●
16	1,25	**Z16ER1.25ISO**	●	**Z16IR1.25ISO**	●
16		**Z16ER1.25ISOPP**	●	**Z16IR1.25ISOPP**	●
16		**Z16EL1.25ISO**	●	**Z16IL1.25ISO**	●
16	1,50	**Z16ER1.5ISO**	●	**Z16IR1.5ISO**	●
16		**Z16ER1.5ISOPP**	●	**Z16IR1.5ISOPP**	●
16		**Z16EL1.5ISO**	●	**Z16IL1.5ISO**	●
16	1,75	**Z16ER1.75ISO**	●	**Z16IR1.75ISO**	●
16		**Z16ER1.75ISOPP**	●	**Z16IR1.75ISOPP**	●
16		**Z16EL1.75ISO**	●	**Z16IL1.75ISO**	●
16	2,00	**Z16ER2.0ISO**	●	**Z16IR2.0ISO**	●
16		**Z16ER2.0ISOPP**	●	**Z16IR2.0ISOPP**	●

● In magazzino ○ Su richiesta
PP*: Inserti con rompitrucioli

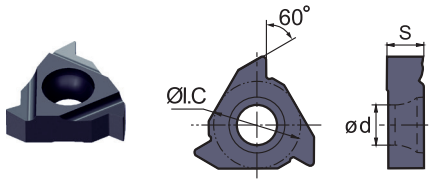
HC[1] Carburo cementato rivestito

Codice sistema A558 | Scelta gradi A557 | Informazioni tecniche A607 | Dati di taglio A606

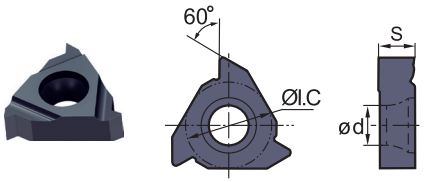
Z	I.C	S	d
11	6,35	3,05	3,2
16	9,525	3,52	4
22	12,7	4,65	5

Inserti per filettatura

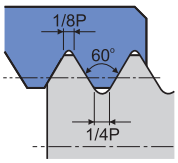
Filettatura ISO-Metrica standard 60° Profilo completo (zType)



Versione destra esterna
Versione sinistra interna



Versione destra interna
Versione sinistra esterna



ISO 965-1980 DIN 13
GB·T 197-2003 Tolleranza: 6g·6H

ISO	Passo (tpi)	Lavorazione esterna	HC[1] (PVD) YBG205	Lavorazione interna	HC[1] (PVD) YBG205
16	2,00	**Z16EL2.0ISO**	●	**Z16IL2.0ISO**	●
16	2,50	**Z16ER2.5ISO**	●	**Z16IR2.5ISO**	●
16		**Z16ER2.5ISOPP**	●	**Z16IR2.5ISOPP**	●
16		**Z16EL2.5ISO**	●	**Z16IL2.5ISO**	●
16	3,00	**Z16ER3.0ISO**	●	**Z16IR3.0ISO**	●
16		**Z16ER3.0ISOPP**	●	**Z16IR3.0ISOPP**	●
16		**Z16EL3.0ISO**	●	**Z16IL3.0ISO**	●
22	3,50	**Z22ER3.5ISO**	●	**Z22IR3.5ISO**	●
22		**Z22EL3.5ISO**	●	-	
22	4,00	**Z22ER4.0ISO**	●	**Z22IR4.0ISO**	●
22		**Z22EL4.0ISO**	○	**Z22IL4.0ISO**	○
22	4,50	**Z22ER4.5ISO**	●	**Z22IR4.5ISO**	●
22		**Z22EL4.5ISO**	○	**Z22IL4.5ISO**	○
22	5,00	**Z22ER5.0ISO**	●	**Z22IR5.0ISO**	●
22		**Z22EL5.0ISO**	●	**Z22IL5.0ISO**	●
22	5,50	**Z22ER5.5ISO**	●	**Z22IR5.5ISO**	●
22		**Z22EL5.5ISO**	●	**Z22IL5.5ISO**	●
22	6,00	**Z22ER6.0ISO**	●	**Z22IR6.0ISO**	●
22		**Z22EL6.0ISO**	○	**Z22IL6.0ISO**	●

● In magazzino ○ Su richiesta
PP*: Inserti con rompitrucioli

HC[1] Carburo cementato rivestito

Codice sistema A558 | Scelta gradi A557 | Informazioni tecniche A607 | Dati di taglio A606

Utensile	
ZSER/L	ZSIR/L
A573-A574	A575-A577

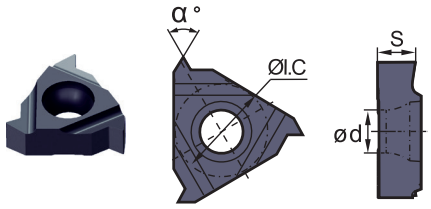
A Tornitura
B Fresatura
C Foratura
D Informazioni tecniche
E Indice

Codice sistema A558 | Scelta gradi A557 | Informazioni tecniche A607 | Dati di taglio A606

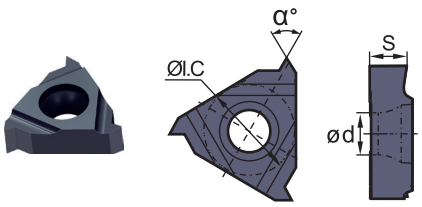
Z	I.C	S	d
11	6,35	3,05	3,2
16	9,525	3,52	4
22	12,7	4,65	5

Inserti per filettatura

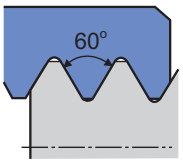
60° Profilo parziale (zType)



Versione destra esterna
Versione sinistra interna



Versione destra interna
Versione sinistra esterna



ISO	Passo (tpi)	Lavorazione esterna	HC[1] (PVD) YBG205	Lavorazione interna	HC[1] (PVD) YBG205
11	0,50 - 1,50	-		**Z11IRA60**	●
11		-		**Z11ILA60**	●
16		**Z16ERA60**	●	**Z16IRA60**	●
16		**Z16ERA60PP**	●	**Z16IRA60PP**	●
16		**Z16ELA60**	●	**Z16ILA60**	●
16	0,50 - 3,00	**Z16ERAG60**	●	**Z16IRAG60**	●
16		**Z16ERAG60PP**	●	**Z16IRAG60PP**	●
16		**Z16ELAG60**	●	**Z16ILAG60**	●
16	1,75 - 3,00	**Z16ERG60**	●	**Z16IRG60**	●
16		**Z16ERG60PP**	●	**Z16IRG60PP**	●
16		**Z16ELG60**	●	**Z16ILG60**	●
22	3,50 - 5,00	**Z22ERN60**	●	**Z22IRN60**	●

● In magazzino ○ Su richiesta
PP*: Inserti con rompitrucioli

HC[1] Carburo cementato rivestito

Utensile

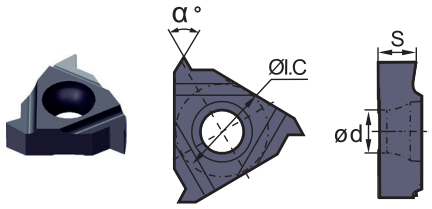
ZSER/L	ZSIR/L
A573-A574	A575-A577

Codice sistema A558 | Scelta gradi A557 | Informazioni tecniche A607 | Dati di taglio A606

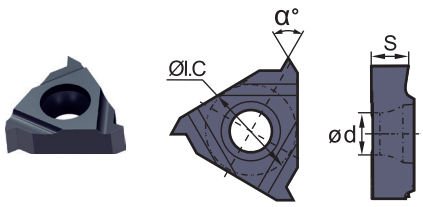
Z	I.C	S	d
11	6,35	3,05	3,2
16	9,525	3,52	4
22	12,7	4,65	5

Inserti per filettatura

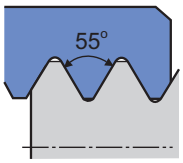
55° Profilo parziale (zType)



Versione destra esterna
Versione sinistra interna



Versione destra interna
Versione sinistra esterna



ISO	Passo (tpi)	Lavorazione esterna	HC[1] (PVD) YBG205	Lavorazione interna	HC[1] (PVD) YBG205
11	0,50 - 1,50	-		**Z11IRA55**	●
11		-		**Z11ILA55**	●
16		-		**Z16IRA55**	●
16		**Z16ERA55PP**	●	**Z16IRA55PP**	●
16		**Z16ELA55**	●	**Z16ILA55**	●
16	0,50 - 3,00	**Z16ERAG55**	●	**Z16IRAG55**	●
16		**Z16ERAG55PP**	●	**Z16IRAG55PP**	●
16		**Z16ELAG55**	●	**Z16ILAG55**	●
16	1,75 - 3,00	**Z16ERG55**	●	**Z16IRG55**	●
16		**Z16ERG55PP**	●	**Z16IRG55PP**	●
16		**Z16ELG55**	●	**Z16ILG55**	●
22	3,50 - 5,00	**Z22ERN55**	●	**Z22IRN55**	●

● In magazzino ○ Su richiesta
PP*: Inserti con rompitrucioli

HC[1] Carburo cementato rivestito

Utensile

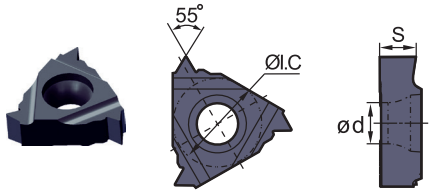
ZSER/L	ZSIR/L
A573-A574	A575-A577

Codice sistema A558 | Scelta gradi A557 | Informazioni tecniche A607 | Dati di taglio A606

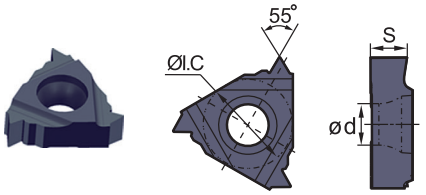
Inserti per filettatura

Z	I.C	S	d
16	9,525	3,52	4

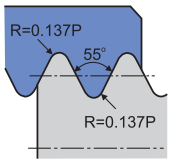
Whitworth (zType)



Versione destra esterna
Versione sinistra interna



Versione destra interna
Versione sinistra esterna



ISO 228·1:1982 DIN 259
B.S.84: 1956 Tolleranza: Classe 1 media

ISO	Passo (tpi)	Lavorazione esterna	HC[1] (PVD) YBG205	Lavorazione interna	HC[1] (PVD) YBG205
16	8,00	**Z16ER8W**	●	**Z16IR8W**	●
16	9,00	**Z16ER9W**	●	**Z16IR9W**	●
16	10,00	**Z16ER10W**	●	**Z16IR10W**	●
16		**Z16EL10W**	●	**Z16IL10W**	●
16	11,00	**Z16ER11W**	●	**Z16IR11W**	●
16		**Z16ER11WPP**	●	**Z16IR11WPP**	●
16		**Z16EL11W**	●	**Z16IL11W**	●
16	12,00	**Z16ER12W**	●	**Z16IR12W**	●
16		**Z16EL12W**	●	**Z16IL12W**	●
16	14,00	**Z16ER14W**	●	**Z16IR14W**	●
16		**Z16ER14WPP**	●	**Z16IR14WPP**	●
16		**Z16EL14W**	●	**Z16IL14W**	●
16	16,00	**Z16ER16W**	●	**Z16IR16W**	●
16		**Z16EL16W**	●	**Z16IL16W**	●
16	18,00	**Z16ER18W**	●	**Z16IR18W**	●
16		**Z16EL18W**	●	**Z16IL18W**	●
16	19,00	**Z16ER19W**	●	**Z16IR19W**	●
16		**Z16ER19WPP**	●	**Z16IR19WPP**	●
16		**Z16EL19W**	●	**Z16IL19W**	●

● In magazzino ○ Su richiesta
PP*: Inserti con rompitrucioli

HC[1] Carburo cementato rivestito

Utensile

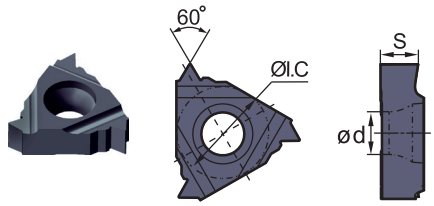
ZSER/L	ZSIR/L
A573-A574	A575-A577

Codice sistema A558 | Scelta gradi A557 | Informazioni tecniche A607 | Dati di taglio A606

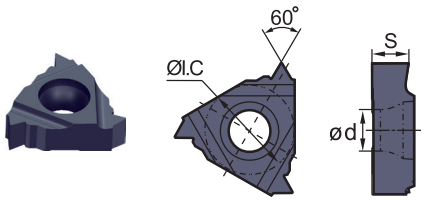
Inserti per filettatura

Z	I.C	S	d
16	9,525	3,52	4

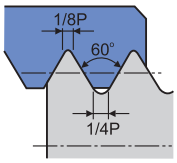
Profilo completo UN Americano Filettatura 60° (zType)



Versione destra esterna
Versione sinistra interna



Versione destra interna
Versione sinistra esterna



ASME B1.1-1989
Tolleranza: 2A·2B

ISO	Passo (tpi)	Lavorazione esterna	HC[1] (PVD) YBG205	Lavorazione interna	HC[1] (PVD) YBG205
16	8,00	**Z16ER8UN**	●	**Z16IR8UN**	●
16		**Z16EL8UN**	●	-	
16	10,00	**Z16ER10UN**	●	**Z16IR10UN**	●
16		**Z16EL10UN**	●	-	
16	12,00	**Z16ER12UN**	●	**Z16IR12UN**	●
16		**Z16ER12UNPP**	●	**Z16IR12UNPP**	●
16		**Z16EL12UN**	●	**Z16IL12UN**	●
16	14,00	**Z16ER14UN**	●	**Z16IR14UN**	●
16		**Z16ER14UNPP**	●	**Z16IR14UNPP**	●
16		**Z16EL14UN**	●	-	
16	16,00	**Z16ER16UN**	●	**Z16IR16UN**	●
16		**Z16ER16UNPP**	●	**Z16IR16UNPP**	●
16		**Z16EL16UN**	●	**Z16IL16UN**	●
16	18,00	**Z16ER18UN**	●	**Z16IR18UN**	●
16		**Z16EL18UN**	●	**Z16IL18UN**	●
16	20,00	**Z16ER20UN**	●	**Z16IR20UN**	●
16		**Z16EL20UN**	●	**Z16IL20UN**	●
16	24,00	**Z16ER24UN**	●	**Z16IR24UN**	●
16		**Z16EL24UN**	●	-	

● In magazzino ○ Su richiesta
PP*: Inserti con rompitrucioli

HC[1] Carburo cementato rivestito

Utensile

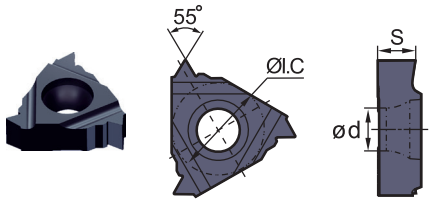
ZSER/L	ZSIR/L
A573-A574	A575-A577

Codice sistema A558 | Scelta gradi A557 | Informazioni tecniche A607 | Dati di taglio A606

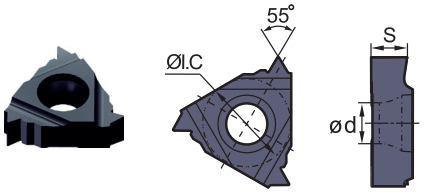
Inserti per filettatura

Z	I.C	S	d
16	9,525	3,52	4

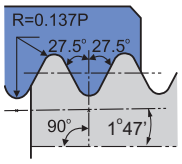
Filettatura BSPT conica per tubi (zType)



Versione destra esterna
Versione sinistra interna



Versione destra interna
Versione sinistra esterna



DIN EN 10226-1
BSPT standard

ISO	Passo (tpi)	Lavorazione esterna	HC[1] (PVD) YBG205	Lavorazione interna	HC[1] (PVD) YBG205
16	11,00	**Z16ER11BSPT**	●	**Z16IR11BSPT**	●
16		**Z16ER11BSPTPP**	●	**Z16IR11BSPTPP**	●
16		**Z16EL11BSPT**	●	-	
16	14,00	**Z16ER14BSPT**	●	**Z16IR14BSPT**	●
16		**Z16ER14BSPTPP**	●	**Z16IR14BSPTPP**	●
16		**Z16EL14BSPT**	●	-	
16	19,00	**Z16ER19BSPT**	●	**Z16IR19BSPT**	●
16		**Z16ER19BSPTPP**	●	**Z16IR19BSPTPP**	●
16		**Z16EL19BSPT**	●	**Z16IL19BSPT**	●
16	28,00	**Z16ER28BSPT**	●	**Z16IR28BSPT**	●
16		**Z16EL28BSPT**	●	-	

● In magazzino ○ Su richiesta
PP*: Inserti con rompitrucioli

HC[1] Carburo cementato rivestito

Utensile

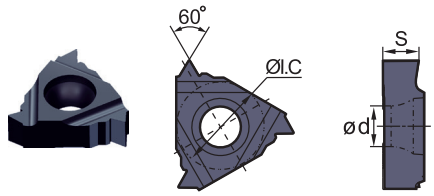
ZSER/L	ZSIR/L
A573-A574	A575-A577

Codice sistema A558 | Scelta gradi A557 | Informazioni tecniche A607 | Dati di taglio A606

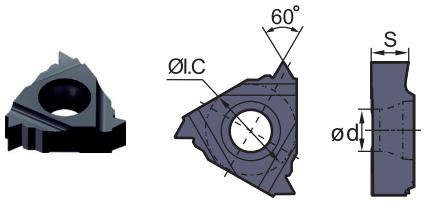
Inserti per filettatura

Z	I.C	S	d
16	9,525	3,52	4

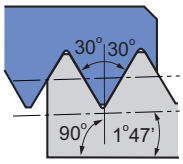
Filettatura NPT per tubi (zType)



Versione destra esterna
Versione sinistra interna



Versione destra interna
Versione sinistra esterna



ANSI B1.20.1-1983
NPT standard

ISO	Passo (tpi)	Lavorazione esterna	HC[1] (PVD) YBG205	Lavorazione interna	HC[1] (PVD) YBG205
16	8,00	**Z16ER8NPT**	●	-	
16		**Z16EL8NPT**	●	-	
16	11,00	**Z16ER11.5NPT**	●	**Z16IR11.5NPT**	●
16		**Z16ER11.5NPTPP**	●	**Z16IR11.5NPTPP**	●
16		**Z16EL11.5NPT**	●	-	
16	14,00	**Z16ER14NPT**	●	**Z16IR14NPT**	●
16		**Z16ER14NPTPP**	●	**Z16IR14NPTPP**	●
16		**Z16EL14NPT**	●	-	
16	18,00	**Z16ER18NPT**	●	**Z16IR18NPT**	●
16		**Z16ER18NPTPP**	●	**Z16IR18NPTPP**	●
16		**Z16EL18NPT**	●	**Z16IL18NPT**	●
16	27,00	**Z16ER27NPT**	●	**Z16IR27NPT**	●
16		**Z16EL27NPT**	●	-	

● In magazzino ○ Su richiesta
PP*: Inserti con rompitrucioli

HC[1] Carburo cementato rivestito

Utensile

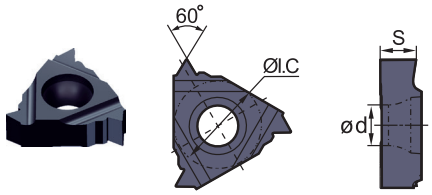
ZSER/L	ZSIR/L
A573-A574	A575-A577

Codice sistema A558 | Scelta gradi A557 | Informazioni tecniche A607 | Dati di taglio A606

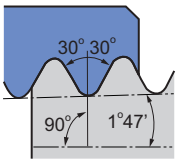
Inserti per filettatura

Z	I.C	S	d
16	9,525	3,52	4

Filettatura tonda API (zType)



Versione destra esterna
Versione sinistra interna



API spec.5B
Tolleranza: API RD

ISO	Passo (tpi)	Lavorazione esterna	HC[1] (PVD)	Lavorazione interna	HC[1] (PVD)
			YBG205		YBG205
16	8,00	**Z16ER8RD**	●	-	
16	10,00	**Z16ER10RD**	●	-	

● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito

Utensile

ZSER/L

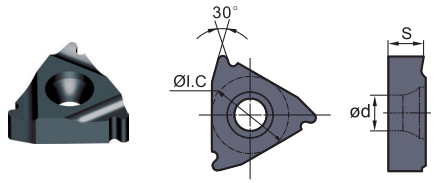
A573

Codice sistema A558 | Scelta gradi A557 | Informazioni tecniche A607 | Dati di taglio A606

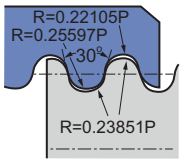
Inserti per filettatura

Z	I.C	S	d
16	9,525	3,52	4

Filettatura tonda R 30° (zType)



Versione destra esterna
Versione sinistra interna



DIN 405
Tolleranza: 7

ISO	Passo (tpi)	Lavorazione esterna	HC[1] (PVD) YBG205	Lavorazione interna	HC[1] (PVD) YBG205
16	8,00	**Z16ER8R**	●	-	
16	10,00	**Z16ER10R**	●	-	

● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito

Utensile

ZSER/L

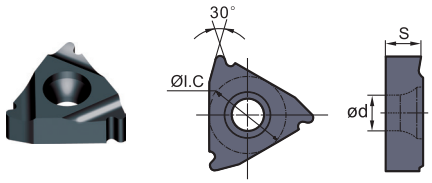
A573

Codice sistema A558 | Scelta gradi A557 | Informazioni tecniche A607 | Dati di taglio A606

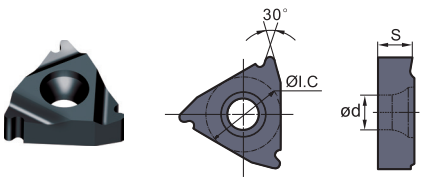
Inserti per filettatura

Z	I.C	S	d
16	9,525	3,52	4

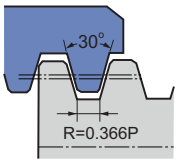
Filettatura metrica ISO trapezoidale TR 30° (zType)



Versione destra esterna
Versione sinistra interna



Versione destra interna
Versione sinistra esterna



DIN 103 ISO 2901
Tolleranza: 7

ISO	Passo (tpi)	Lavorazione esterna	HC[1] (PVD) YBG205	Lavorazione interna	HC[1] (PVD) YBG205
16	2,00	**Z16ER2.0TR**	●	**Z16IR2.0TR**	○
16	3,00	**Z16ER3.0TR**	○	**Z16IR3.0TR**	○

● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito

Utensile

ZSER/L	ZSIR/L
A573	A575

Codice sistema A558 | Scelta gradi A557 | Informazioni tecniche A607 | Dati di taglio A606

Note

Filettatura

Codice sistema – portautensile

Z	S	E	R	20	20	K	16	(C)
1	2	3	4	5	6	7	8	9

Serie

1

Sistema di bloccaggio

Code	Descrizione
S	Bloccaggio a vite
C	Bloccaggio a staffa

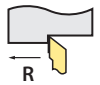
2

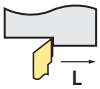
Tipo lavorazione

Code	Descrizione
E	Portautensile filettatura esterna
I	Portautensile filettatura interna

3

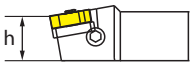
Direzione di taglio





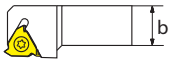
4

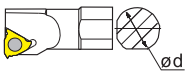
Altezza stelo h [mm]



5

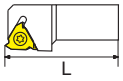
Larghezza stelo b / Diametro bareno [mm]





6

Lunghezza stelo L [mm]



Code	L
F	80
H	100
K	125
M	150
P	170
Q	180
R	200
S	250
T	300

7

Dimensioni inserto [mm]

Code	Altezza
11	6,35
16	9,525
22	12,7

8

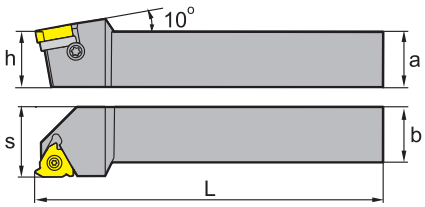
Raffreddamento interno

9

Portautensile per filettatura (esterna)

ZSER/L

Versione destra



Articolo	✻	Stock	Dimensioni [mm]					Inserto
			a	b	L	h	s	
ZSER1616F16C	✻	●	16	16	80	16	20	Z16ER**
ZSER2020H16C	✻	●	20	20	100	20	25	Z16ER**
ZSER2525K16C	✻	●	25	25	125	25	32	Z16ER**
ZSER3232K16C	✻	●	32	32	125	32	32	Z16ER**
ZSER3232M16C	✻	○	32	32	150	32		Z16ER**
ZSER2525K22C	✻	○	25	25	125	25	40	Z22ER**
ZSER3232K22C	✻	○	32	32	125	32	40	Z22ER**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**Z16ER****	**Z22ER****
	h	**12-40**	**25-40**
	Vita senza testa	PT1/8×4	PT1/8×4
	Vite		I60M4×15X (3,4 Nm)
	Vite	I60M3,5×12TT (2,7 Nm)	
	Vite (sottoplacchetta)	SM4×8C (2,6 Nm)	SM5×8,5C (4,0 Nm)
	Sottoplacchetta	MT16-__MN	MT22-__MN
	Chiave (vite)	WT15IP	WT15IP

Inserto

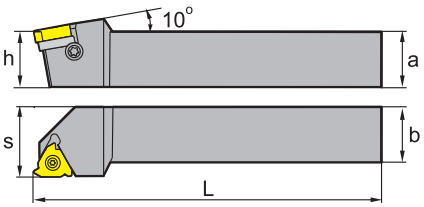
Media Lavor.

A559

Codice sistema A572 | Scelta gradi A557 | Informazioni tecniche A607 | Dati di taglio A606

Portautensile per filettatura (esterna)

ZSER/L



Versione destra

Articolo	✻	Stock	Dimensioni [mm]					Inserto
			a	b	L	h	s	
ZSEL1616F16C	✻	●	16	16	80	16	20	Z16EL**
ZSEL2020H16C	✻	●	20	20	100	20	25	Z16EL**
ZSEL2525K16C	✻	●	25	25	125	25	32	Z16EL**
ZSEL3232K16C	✻	●	32	32	125	32	32	Z16EL**
ZSEL2525K22C	✻	●	25	25	125	25	40	Z22EL**
ZSEL3232K22C	✻	●	32	32	125	32	40	Z22EL**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**Z16EL****	**Z22EL****
	h	**16-32**	**25-40**
	Vita senza testa	PT1/8×4	PT1/8×4
	Vite		I60M5×17 (6,7 Nm)
	Vite	I60M3,5×12TT (2,7 Nm)	
	Vite (sottoplacchetta)	SM4×8C (2,6 Nm)	SM5×8,5C (4,0 Nm)
	Sottoplacchetta	MT16-__MN	MT22-__MN
	Chiave (vite)	WT15IP	WT20IP

Inserto

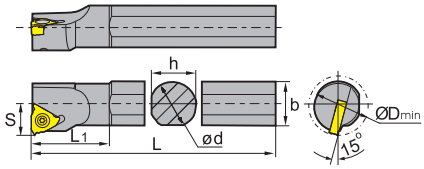
Media Lavor.

A559

Codice sistema A572 | Scelta gradi A557 | Informazioni tecniche A607 | Dati di taglio A606

Portautensile per filettatura (interna)

ZSIR/L



Versione destra

Articolo	✻	Stock	Dimensioni [mm]							Inserto
			ød	b	L	h	s	L_1	D_{min}	
ZSIR0016K11C	✻	○	16	15,5	125	15	10	20,9	12	Z11IR**
ZSIR0016M11C	✻	○	16	16	150	15	10,5	25,9	16	Z11IR**
ZSIR0016M16C	✻	○	16	15,5	150	15	12	27	20	Z16IR**
ZSIR0020M16C	✻	○	20	19	150	18	14	28,7	25	Z16IR**
ZSIR0020Q16C	✻	○	20	19	180	18	14	34	25	Z16IR**
ZSIR0025M16C	✻	●	25	24	150	23	17	28,8	32	Z16IR**
ZSIR0032R16C	✻	○	32	31	200	30	22	30,9	40	Z16IR**
ZSIR0032S16C	✻	○	32	31	250	30	22	30,9	40	Z16IR**
ZSIR0040T16C	✻	●	40	38,5	300	37	27	31,5	50	Z16IR**
ZSIR0020Q22C	✻	○	20	19	180	18	15	35	25	Z22IR**
ZSIR0025R22C	✻	●	25	24	200	23	19	39	32	Z22IR**
ZSIR0032S22C	✻	○	32	31	250	30	22	36,4	40	Z22IR**
ZSIR0040T22C	✻	○	40	38,5	300	37	27	37,2	50	Z22IR**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**Z11IR****	**Z16IR****	**Z16IR****	**Z22IR****	**Z22IR****
	Ød	**11**	**16**	**20-50**	**20**	**25-50**
	Vite	I60M2,5×6,5 (1,0 Nm)			I60M5×13,2 (6,7 Nm)	
	Vite					I60M4×15X (3,4 Nm)
	Vite		I60M3,5×08TT (2,7 Nm)	I60M3,5×12TT (2,7 Nm)		
	Vite (sottoplac-chetta)			SM4×8C (2,6 Nm)		SM5×8,5C (4,0 Nm)
	Sottoplacchetta			MT16-__MN		MT22-__MN
	Chiave (vite)	WT08IP	WT10IP	WT10IP	WT20IP	WT20IP

Codice sistema A572 | Scelta gradi A557 | Informazioni tecniche A607 | Dati di taglio A606

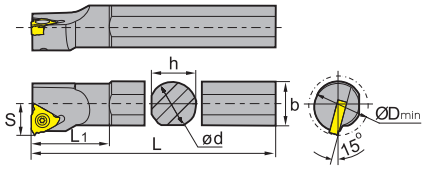
Portautensile per filettatura (interna)

Inserto
Media Lavor.
A559

Codice sistema A572 | Scelta gradi A557 | Informazioni tecniche A607 | Dati di taglio A606

Portautensile per filettatura (interna)

ZSIR/L



Versione destra

Articolo	✻	Stock	Dimensioni [mm]							Inserto
			ød	b	L	h	s	L_1	D_{min}	
ZSIL0016K11C	✻	○	16	15,5	125	15	10	20,9	12	Z11IL**
ZSIL0016M11C	✻	○	16	16	150	15	10,5	25,9	16	Z11IL**
ZSIL0016M16C	✻	○	16	15,5	150	15	12	27	20	Z16IL**
ZSIL0020M16C	✻	○	20	19	150	18	14	28,7	25	Z16IL**
ZSIL0020Q16C	✻	○	20	19	180	18	14	34	25	Z16IL**
ZSIL0025M16C	✻	○	25	24	150	23	17	28,8	32	Z16IL**
ZSIL0032R16C	✻	○	32	31	200	30	22	30,9	40	Z16IL**
ZSIL0032S16C	✻	○	32	31	250	30	22	30,9	40	Z16IL**
ZSIL0040T16C	✻	●	40	38,5	300	37	27	31,5	50	Z16IL**
ZSIL0020Q22C	✻	○	20	19	180	18	15	35	25	Z22IL**
ZSIL0025R22C	✻	●	25	24	200	23	19	39	32	Z22IL**
ZSIL0032S22C	✻	●	32	31	250	30	22	36,4	40	Z22IL**
ZSIL0040T22C	✻	●	40	38,5	300	37	27	37,2	50	Z22IL**

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**Z11IL****	**Z16IL****	**Z16IL****	**Z22IL****	**Z22IL****
	Ød	**11**	**16**	**20-50**	**20**	**25-50**
	Vite	I60M2,5×6,5 (1,0 Nm)			I60M5×13,2 (6,7 Nm)	
	Vite					I60M4×15X (3,4 Nm)
	Vite		I60M3,5×08TT (2,7 Nm)	I60M3,5×12TT (2,7 Nm)		
	Vite (sottoplac-chetta)			SM4×8C (2,6 Nm)		SM5×8,5C (4,0 Nm)
	Sottoplacchetta			MT16-__MN		MT22-__MN
	Chiave (vite)	WT08IP	WT10IP	WT10IP	WT20IP	WT20IP

Codice sistema A572 | Scelta gradi A557 | Informazioni tecniche A607 | Dati di taglio A606

Portautensile per filettatura (interna)

Inserto
Media Lavor.
A559

Codice sistema A572 | Scelta gradi A557 | Informazioni tecniche A607 | Dati di taglio A606

Note

Filettatura Codice sistema - Inserti

R	T	22.	01	W	–	3.50	GM	(P)
1	2	3	4	5		6	7	8

1 Versione

Code	Descrizione
R	Destra
L	Sinistra

2 Forma dell'inserto

T Z Speciale

3 Dimensioni inserto [mm]

Code	I.C
11	6,35
16	9,252
22	12,70

4 Denti per tagliente

Code	Descrizione
01	1
02	2

5 Tipo lavorazione

Code	Descrizione
W	Filettatura esterna
N	Filettatura interna

6 Passo

Code	Intervallo del passo (profilo parziale)	
A	0,5 – 1,5 mm	48 – 16 (TPI)
AG	0,5 – 3,0 mm	48 – 8 (TPI)
G	1,75 – 3,0 mm	14 – 8 (TPI)
N	3,5 – 5,0 mm	7 – 5 (TPI)

Intervallo del passo [mm] (profilo completo)				
0,50	0,75	1,00	1,25	1,50
1,75	2,00	2,50	3,00	3,50
4,00	4,50	5,00	5,50	6,00

Intervallo del passo (TPI) (profilo completo)			
4	5	6	8
10	11	11,5	12
14	16	18	19
20	24	27	28

7 Profilo del filetto

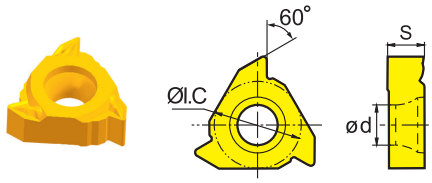
Code	Descrizione
GM	Filettatura ISO-Metrica standard 60°
60	Profilo parziale 60°
55	Profilo parziale 55°
W	Whitworth
UN	Filettatura UN Americano 60°
BSPT	Filettatura conica per tubi
NPT	Filettatura per tubi
NPTF	Filettatura per tubi autosigillante
R	Filettatura tondo 30°
MJ	Filettatura per industria aerospaziale
UNJ	Filettatura a vite unificato UNJ
TR	Filettatura metrica ISO trapezoidale
AC	Filettatura americana trapezoidale
STAC	Filettatura americana trapezoidale piatta
AP	Filettatura API 60°
RD	Filettatura tonda API
BUT	Filettatura americana a dente di sega

8 Rompitruciolo

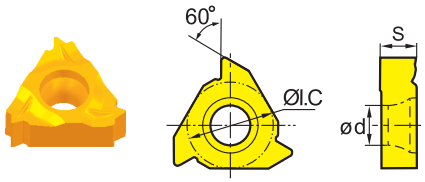
R/LT**N/W	I.C	S	d
11	6,35	3,18	2,8
16	9,525	3,97	4,4
22	12,7	5,56	5,5

Inserti per filettatura

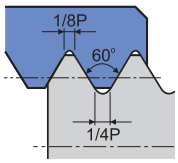
Filettatura ISO-Metrica standard 60° Profilo completo



Versione destra esterna
Versione sinistra interna



Versione destra interna
Versione sinistra esterna



ISO 965-1980 DIN 13
GB·T 197-2003 Tolleranza: 6g·6H

ISO	Passo (tpi)	Lavorazione esterna	HC[1] (PVD) YBG201	HC[1] (PVD) YBG205	Lavorazione interna	HC[1] (PVD) YBG201	HC[1] (PVD) YBG205
11	0,50	-			RT11.01N-0.50GM	○	
11		-			LT11.01N-0.50GM	○	
11	0,75	-			RT11.01N-0.75GM	○	
11		-			LT11.01N-0.75GM	○	
11	1,00	-			RT11.01N-1.00GM	●	
11		-			LT11.01N-1.00GM	○	
11	1,25	-			RT11.01N-1.25GM	○	
11		-			LT11.01N-1.25GM	○	
11	1,50	-			RT11.01N-1.50GM	●	
11		-			LT11.01N-1.50GM	○	
11	1,75	-			RT11.01N-1.75GM	○	
11		-			LT11.01N-1.75GM	○	
11	2,00	-			RT11.01N-2.00GM	●	
11		-			LT11.01N-2.00GM	○	
16	0,50	RT16.01W-0.50GM	○		RT16.01N-0.50GM	○	
16		LT16.01W-0.50GM	○		LT16.01N-0.50GM	○	
16	0,75	RT16.01W-0.75GM	○		RT16.01N-0.75GM	○	
16		LT16.01W-0.75GM	○		-		
16	1,00	RT16.01W-1.00GM	●		RT16.01N-1.00GM	○	
16		LT16.01W-1.00GM	○		LT16.01N-1.00GM	○	
16	1,25	RT16.01W-1.25GM	●		RT16.01N-1.25GM	○	
16		LT16.01W-1.25GM	○		LT16.01N-1.25GM	○	
16	1,50	RT16.01W-1.50GM	●		RT16.01N-1.50GM	●	
16		LT16.01W-1.50GM	○		LT16.01N-1.50GM	○	
16	1,75	RT16.01W-1.75GM	○	●	RT16.01N-1.75GM	○	
16		LT16.01W-1.75GM	○		LT16.01N-1.75GM	○	
16	2,00	RT16.01W-2.00GM	●		RT16.01N-2.00GM	●	

● In magazzino ○ Su richiesta

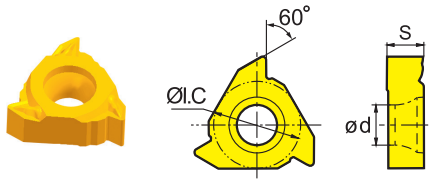
HC[1] Carburo cementato rivestito

Codice sistema A580 | Scelta gradi A557 | Informazioni tecniche A607 | Dati di taglio A606

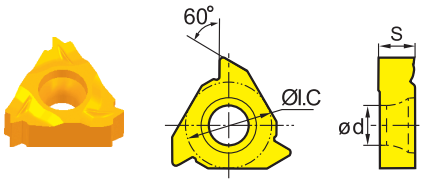
R/LT**N/W	I.C	S	d
11	6,35	3,18	2,8
16	9,525	3,97	4,4
22	12,7	5,56	5,5

Inserti per filettatura

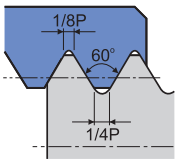
Filettatura ISO-Metrica standard 60° Profilo completo



Versione destra esterna
Versione sinistra interna



Versione destra interna
Versione sinistra esterna



ISO 965-1980 DIN 13
GB·T 197-2003 Tolleranza: 6g·6H

ISO	Passo (tpi)	Lavorazione esterna	HC[1] (PVD) YBG201	HC[1] (PVD) YBG205	Lavorazione interna	HC[1] (PVD) YBG201	HC[1] (PVD) YBG205
16	2,00	**LT16.01W-2.00GM**	○		**LT16.01N-2.00GM**	○	
16	2,50	**RT16.01W-2.50GM**	●		**RT16.01N-2.50GM**	●	
16		**LT16.01W-2.50GM**	○		**LT16.01N-2.50GM**	○	
16	3,00	**RT16.01W-3.00GM**	●		**RT16.01N-3.00GM**	●	
16		**LT16.01W-3.00GM**	○		**LT16.01N-3.00GM**	○	
22	3,50	**RT22.01W-3.50GM**	○		**RT22.01N-3.50GM**	●	
22		**LT22.01W-3.50GM**	○		**LT22.01N-3.50GM**	○	
22	4,00	**RT22.01W-4.00GM**	○	●	**RT22.01N-4.00GM**	●	
22		**LT22.01W-4.00GM**	○		**LT22.01N-4.00GM**	○	
22	4,50	**RT22.01W-4.50GM**	○		**RT22.01N-4.50GM**	●	
22		**LT22.01W-4.50GM**	○		**LT22.01N-4.50GM**	○	
22	5,00	**RT22.01W-5.00GM**	○		**RT22.01N-5.00GM**	○	●
22		**LT22.01W-5.00GM**	○		**LT22.01N-5.00GM**	○	
22	5,50	**RT22.01W-5.50GM**	○		**RT22.01N-5.50GM**	○	●
22		**LT22.01W-5.50GM**	○		**LT22.01N-5.50GM**	○	
22	6,00	**RT22.01W-6.00GM**	●		**RT22.01N-6.00GM**	●	
22		**LT22.01W-6.00GM**	●		**LT22.01N-6.00GM**	○	

● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito

Utensile

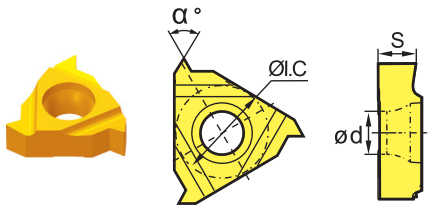
SWR/L	SNR/L
A601-A602	A603-A605

Codice sistema A580 Scelta gradi A557 Informazioni tecniche A607 Dati di taglio A606

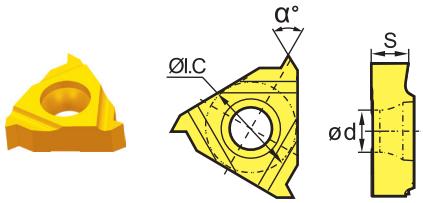
R/LT**N/W	I.C	S	d
16	9,525	3,97	4,4
22	12,7	5,56	5,5

Inserti per filettatura

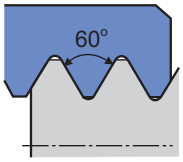
60° Profilo parziale



Versione destra esterna
Versione sinistra interna



Versione destra interna
Versione sinistra esterna

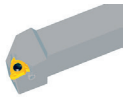


ISO	Passo (tpi)	Lavorazione esterna	HC[1] (PVD) YBG201	HC[1] (PVD) YBG205	Lavorazione interna	HC[1] (PVD) YBG201	HC[1] (PVD) YBG205
16	0,50 - 1,50	**RT16.01W-A60**	●		**RT16.01N-A60**	○	
16		**LT16.01W-A60**	○		**LT16.01N-A60**	○	
16	0,50 - 3,00	**RT16.01W-AG60**	●		**RT16.01N-AG60**	○	
16		**LT16.01W-AG60**	○		**LT16.01N-AG60**	○	○
16	1,75 - 3,00	**RT16.01W-G60**	○		**RT16.01N-G60**	○	
16		**LT16.01W-G60**	○		**LT16.01N-G60**	○	
16		**LT16.01W-G60P**	○		**LT16.01N-G60P**	○	
16		**RT16.01W-G60P***	○		**RT16.01N-G60P***	○	
22	3,50 - 5,00	**LT22.01W-N60P**	○		-		
22		**RT22.01W-N60P***	●		**RT22.01N-N60P***	●	
22		-			**LT22.01N-N60P***	○	

● In magazzino ○ Su richiesta
P*: Inserti con rompitrucioli

HC[1] Carburo cementato rivestito

Utensile

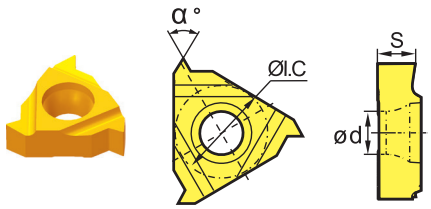
SWR/L	SNR/L
	
A601-A602	A603-A605

Codice sistema A580 | Scelta gradi A557 | Informazioni tecniche A607 | Dati di taglio A606

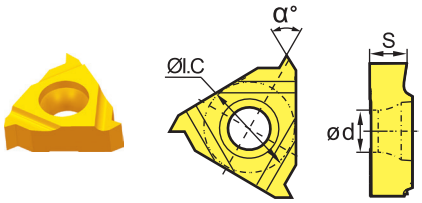
Inserti per filettatura

R/LT**N/W	I.C	S	d
16	9,525	3,97	4,4
22	12,7	5,56	5,5

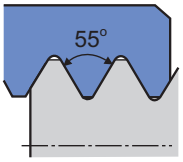
55° Profilo parziale



Versione destra esterna
Versione sinistra interna



Versione destra interna
Versione sinistra esterna

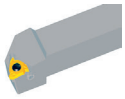


ISO	Passo (tpi)	Lavorazione esterna	HC[1] (PVD) YBG201	HC[1] (PVD) YBG205	Lavorazione interna	HC[1] (PVD) YBG201	HC[1] (PVD) YBG205
16	0,50 - 1,50	**RT16.01W-A55**	○		**RT16.01N-A55**	○	
16		**LT16.01W-A55**	○		**LT16.01N-A55**	○	
16	0,50 - 3,00	**RT16.01W-AG55**	○	●	**RT16.01N-AG55**	○	●
16		**LT16.01W-AG55**	○		**LT16.01N-AG55**	○	
16	1,75 - 3,00	**RT16.01W-G55**	○		**RT16.01N-G55**	○	
16		**LT16.01W-G55**	○		**LT16.01N-G55**	○	
16		**LT16.01W-G55P**	○		**LT16.01N-G55P**	○	
16		**RT16.01W-G55P***	○		**RT16.01N-G55P***	○	
22	3,50 - 5,00	**RT22.01W-N55P**	○		**RT22.01N-N55P**	○	
22		**LT22.01W-N55**			**LT22.01N-N55**	○	

● In magazzino ○ Su richiesta
P*: Inserti con rompitrucioli

HC[1] Carburo cementato rivestito

Utensile

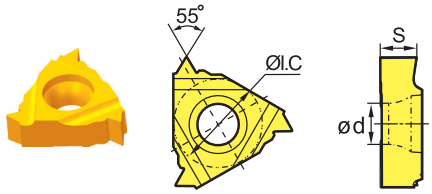
SWR/L	SNR/L
	
A601-A602	A603-A605

Codice sistema A580 | Scelta gradi A557 | Informazioni tecniche A607 | Dati di taglio A606

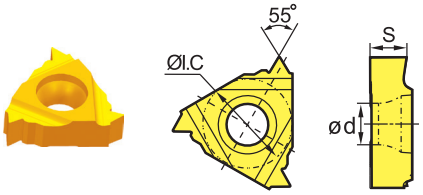
R/LT**N/W	I.C	S	d
11	6,35	3,18	2,8
16	9,525	3,97	4,4

Inserti per filettatura

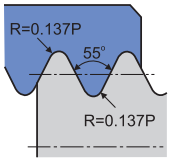
Whitworth



Versione destra esterna
Versione sinistra interna



Versione destra interna
Versione sinistra esterna



ISO 228·1:1982 DIN 259
B.S.84: 1956 Tolleranza: Classe 1 media

ISO	Passo (tpi)	Lavorazione esterna	HC[1] (PVD) YBG201	HC[1] (PVD) YBG205	Lavorazione interna	HC[1] (PVD) YBG201	HC[1] (PVD) YBG205
11	14,00	-			**RT11.01N-14W**	●	
11	19,00	-			**RT11.01N-19W**	●	
16	8,00	**RT16.01W-8W**	○		**RT16.01N-8W**	○	
16		**LT16.01W-8W**	○		**LT16.01N-8W**	○	
16	9,00	**RT16.01W-9W**	○		**RT16.01N-9W**	○	
16		**LT16.01W-9W**	○		**LT16.01N-9W**	○	
16	10,00	**RT16.01W-10W**	○		**RT16.01N-10W**	○	
16		**LT16.01W-10W**	○		**LT16.01N-10W**	○	
16	11,00	**RT16.01W-11W**	●		**RT16.01N-11W**	●	
16		**LT16.01W-11W**	○		**LT16.01N-11W**	○	
16	12,00	**RT16.01W-12W**	○		**RT16.01N-12W**	○	
16		**LT16.01W-12W**	○		**LT16.01N-12W**	○	
16	14,00	**RT16.01W-14W**	○	●	**RT16.01N-14W**	○	●
16		**LT16.01W-14W**	○		**LT16.01N-14W**	○	
16	16,00	**RT16.01W-16W**	○	●	**RT16.01N-16W**	○	●
16		**LT16.01W-16W**	○		**LT16.01N-16W**	○	

● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito

Utensile

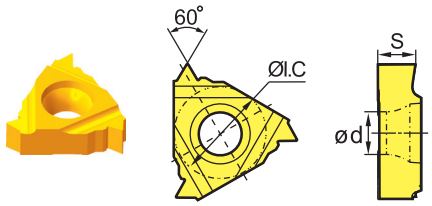
SWR/L	SNR/L
A601-A602	A603-A605

Codice sistema A580 | Scelta gradi A557 | Informazioni tecniche A607 | Dati di taglio A606

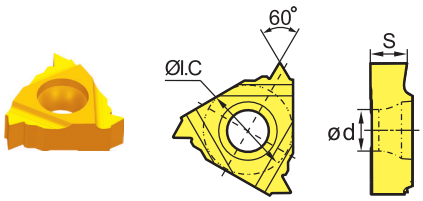
Inserti per filettatura

R/LT**N/W	I.C	S	d
16	9,525	3,97	4,4

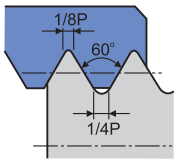
Profilo completo UN Americano Filettatura 60°



Versione destra esterna
Versione sinistra interna



Versione destra interna
Versione sinistra esterna



ASME B1.1-1989
Tolleranza: 2A·2B

ISO	Passo (tpi)	Lavorazione esterna	HC[1] (PVD) YBG201	HC[1] (PVD) YBG205	Lavorazione interna	HC[1] (PVD) YBG201	HC[1] (PVD) YBG205
16	8,00	**RT16.01W-8UN**	○		**RT16.01N-8UN**	○	
16		**LT16.01W-8UN**	○		**LT16.01N-8UN**	○	
16	10,00	**RT16.01W-10UN**	○		**RT16.01N-10UN**	○	
16		**LT16.01W-10UN**	○		**LT16.01N-10UN**	○	
16	12,00	**RT16.01W-12UN**	○		**RT16.01N-12UN**	○	
16		**LT16.01W-12UN**	○		**LT16.01N-12UN**	○	
16	14,00	-			**RT16.01N-14UN**	○	
16		**LT16.01W-14UN**	○		**LT16.01N-14UN**	○	
16	16,00	**RT16.01W-16UN**	○		**RT16.01N-16UN**	○	
16		**LT16.01W-16UN**	○		**LT16.01N-16UN**	○	
16	18,00	**RT16.01W-18UN**	○		**RT16.01N-18UN**	○	
16		**LT16.01W-18UN**	○		**LT16.01N-18UN**	○	
16	20,00	**RT16.01W-20UN**	○		**RT16.01N-20UN**	○	
16		**LT16.01W-20UN**	○		**LT16.01N-20UN**	○	
16	24,00	**RT16.01W-24UN**	○		-		
16		**LT16.01W-24UN**	○		**LT16.01N-24UN**	○	

● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito

Utensile

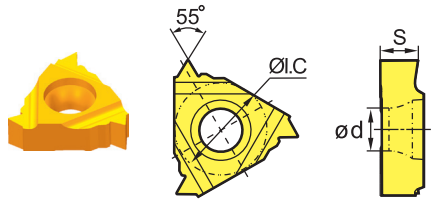
SWR/L	SNR/L
A601-A602	A603-A605

Codice sistema A580 | Scelta gradi A557 | Informazioni tecniche A607 | Dati di taglio A606

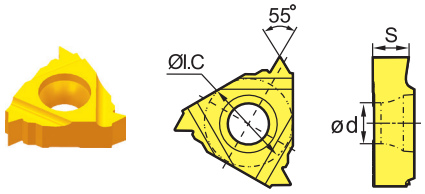
Inserti per filettatura

R/LT**N/W	I.C	S	d
16	9,525	3,97	4,4

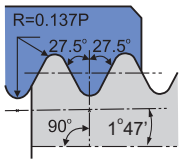
Filettatura BSPT conica per tubi



Versione destra esterna
Versione sinistra interna



Versione destra interna
Versione sinistra esterna



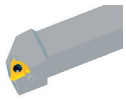
DIN EN 10226-1
BSPT standard

ISO	Passo (tpi)	Lavorazione esterna	HC[1] (PVD) YBG201	HC[1] (PVD) YBG205	Lavorazione interna	HC[1] (PVD) YBG201	HC[1] (PVD) YBG205
16	11,00	**RT16.01W-11BSPT**	○		**RT16.01N-11BSPT**	○	
16		**LT16.01W-11BSPT**	○		**LT16.01N-11BSPT**	○	
16	14,00	**RT16.01W-14BSPT**	○		**RT16.01N-14BSPT**	○	
16		**LT16.01W-14BSPT**	○		**LT16.01N-14BSPT**	○	
16	19,00	**RT16.01W-19BSPT**	○		**RT16.01N-19BSPT**	○	
16		**LT16.01W-19BSPT**	○		**LT16.01N-19BSPT**	○	
16	28,00	**RT16.01W-28BSPT**	○		-		
16		**LT16.01W-28BSPT**	○		**LT16.01N-28BSPT**	○	

● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito

Utensile

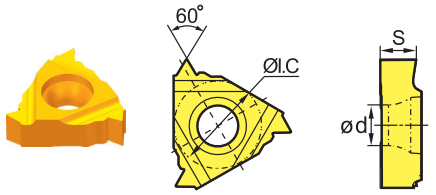
SWR/L	SNR/L
	
A601-A602	A603-A605

Codice sistema A580 | Scelta gradi A557 | Informazioni tecniche A607 | Dati di taglio A606

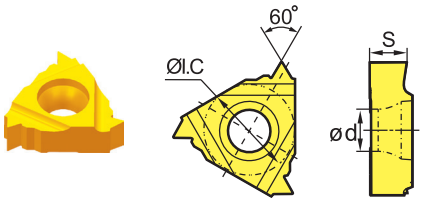
Inserti per filettatura

R/LT**N/W	I.C	S	d
16	9,525	3,97	4,4

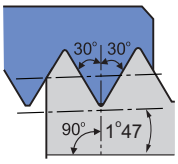
Filettatura per tubi NPT



Versione destra esterna
Versione sinistra interna



Versione destra interna
Versione sinistra esterna



ANSI B1.20.1-1983
NPT standard

ISO	Passo (tpi)	Lavorazione esterna	HC[1] (PVD) YBG201	HC[1] (PVD) YBG205	Lavorazione interna	HC[1] (PVD) YBG201	HC[1] (PVD) YBG205
16	8,00	**RT16.01W-8NPT**	○		**RT16.01N-8NPT**	○	
16		**LT16.01W-8NPT**	○		**LT16.01N-8NPT**	○	
16	11,50	**RT16.01W-11.5NPT**	○		**RT16.01N-11.5NPT**	○	
16		**LT16.01W-11.5NPT**	○		**LT16.01N-11.5NPT**	○	
16	14,00	**RT16.01W-14NPT**	○	○	**RT16.01N-14NPT**	○	
16		**LT16.01W-14NPT**	○		**LT16.01N-14NPT**	○	
16	18,00	**RT16.01W-18NPT**	○		**RT16.01N-18NPT**	○	
16		**LT16.01W-18NPT**	○		**LT16.01N-18NPT**	○	
16	27,00	**RT16.01W-27NPT**	○		**RT16.01N-27NPT**	○	
16		**LT16.01W-27NPT**	○		**LT16.01N-27NPT**	○	

● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito

Utensile

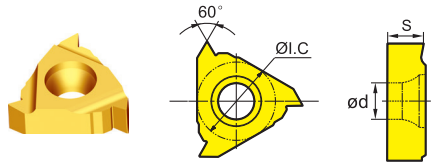
SWR/L	SNR/L
A601-A602	A603-A605

Codice sistema A580 | Scelta gradi A557 | Informazioni tecniche A607 | Dati di taglio A606

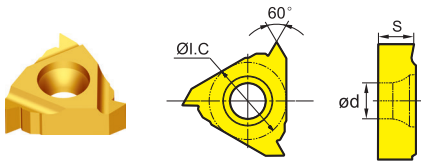
Inserti per filettatura

R/LT**N/W	I.C	S	d
16	9,525	3,97	4,4

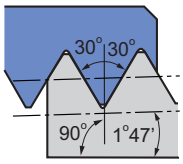
Filettatura per tubi NTPF autosigillante 60°



Versione destra esterna
Versione sinistra interna



Versione destra interna
Versione sinistra esterna



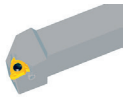
ASME B1.20.1-1983
Tolleranza: 2

ISO	Passo (tpi)	Lavorazione esterna	HC[1] (PVD)		Lavorazione interna	HC[1] (PVD)	
			YBG201	YBG205		YBG201	YBG205
16	8,00	-			**RT16.01N-8NPTF**	○	
16	11,50	**RT16.01W-11.5NPTF**	○		-		
16	14,00	-			**RT16.01N-14NPTF**	○	
16	18,00	**RT16.01W-18NPTF**	○		**RT16.01N-18NPTF**	○	
16	27,00	-			**RT16.01N-27NPTF**	○	

● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito

Utensile

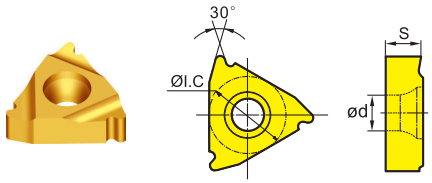
SWR/L	SNR/L
	
A601	A603

Codice sistema A580 | Scelta gradi A557 | Informazioni tecniche A607 | Dati di taglio A606

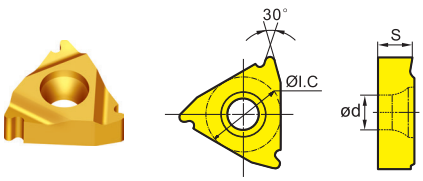
Inserti per filettatura

R/LT**N/W	I.C	S	d
16	9,525	3,97	4,4

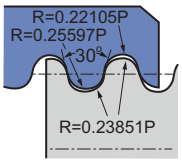
Filettatura tonda R 30°



Versione destra esterna
Versione sinistra interna



Versione destra interna
Versione sinistra esterna



DIN 405
Tolleranza: 7

ISO	Passo (tpi)	Lavorazione esterna	HC[1] (PVD)		Lavorazione interna	HC[1] (PVD)	
			YBG201	YBG205		YBG201	YBG205
16	6,00	**RT16.01W-6R**	○		**RT16.01N-6R**	○	○
16	8,00	-			**RT16.01N-8R**	○	
16	10,00	**RT16.01W-10R**	○		**RT16.01N-10R**	●	

● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito

Utensile

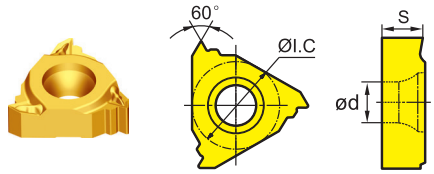
SWR/L	SNR/L
A601	A603

Codice sistema A580 | Scelta gradi A557 | Informazioni tecniche A607 | Dati di taglio A606

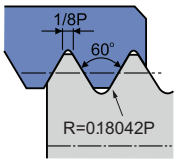
Inserti per filettatura

R/LT**N/W	I.C	S	d
16	9,525	3,97	4,4

Filettatura MJ per industria aerospaziale



Versione destra esterna
Versione sinistra interna



ISO 5855-1999
Tolleranza: 4

ISO	Passo (tpi)	Lavorazione esterna	HC[1] (PVD)		Lavorazione interna	HC[1] (PVD)	
			YBG201	YBG205		YBG201	YBG205
16	1,50	**RT16.01W-1.50MJ**	○		-		
16	2,00	**RT16.01W-2.00MJ**	○		-		

● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito

Utensile

SWR/L

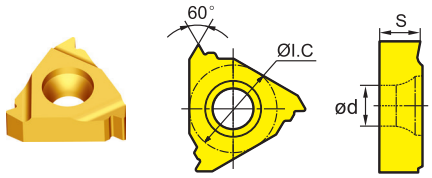
A601

Codice sistema A580 | Scelta gradi A557 | Informazioni tecniche A607 | Dati di taglio A606

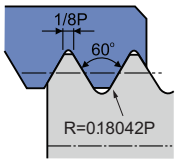
Inserti per filettatura

R/LT**N/W	I.C	S	d
16	9,525	3,97	4,4

Filettatura a vite unificato UNJ



Versione destra esterna
Versione sinistra interna

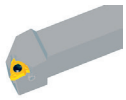


ISO 3161-1999
Tolleranza: 3A

ISO	Passo (tpi)	Lavorazione esterna	HC[1] (PVD)		Lavorazione interna	HC[1] (PVD)	
			YBG201	YBG205		YBG201	YBG205
16	10,00	**RT16.01W-10UNJ**	○		-		
16	12,00	**RT16.01W-12UNJ**	○		-		
16	14,00	**RT16.01W-14UNJ**	○		-		
16	18,00	**RT16.01W-18UNJ**	○		-		
16	20,00	**RT16.01W-20UNJ**	○		-		
16	24,00	**RT16.01W-24UNJ**	○		-		
16	28,00	**RT16.01W-28UNJ**	○		-		
16	32,00	**RT16.01W-32UNJ**	○		-		

● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito

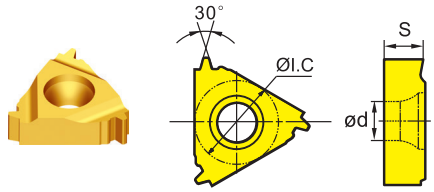
Utensile
SWR/L

A601

Codice sistema A580 | Scelta gradi A557 | Informazioni tecniche A607 | Dati di taglio A606

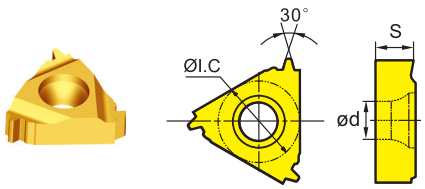
Inserti per filettatura

R/LT**N/W	I.C	S	d
16	9,525	3,97	4,4

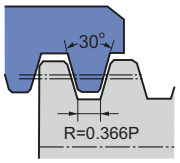
Filettatura metrica ISO trapezoidale TR 30°



Versione destra esterna
Versione sinistra interna



Versione destra interna
Versione sinistra esterna



DIN 103 ISO 2901
Tolleranza: 7

ISO	Passo (tpi)	Lavorazione esterna	HC[1] (PVD) YBG201	HC[1] (PVD) YBG205	Lavorazione interna	HC[1] (PVD) YBG201	HC[1] (PVD) YBG205
16	1,50	**RT16.01W-1.50TR**	●		**RT16.01N-1.50TR**	●	
16	2,00	**RT16.01W-2.00TR**	○		**RT16.01N-2.00TR**	●	
16	3,00	**RT16.01W-3.00TR**	○	○	**RT16.01N-3.00TR**	●	

● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito

Utensile

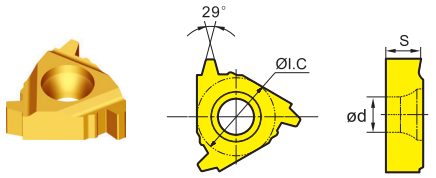
SWR/L	SNR/L
A601	A603

Codice sistema A580 | Scelta gradi A557 | Informazioni tecniche A607 | Dati di taglio A606

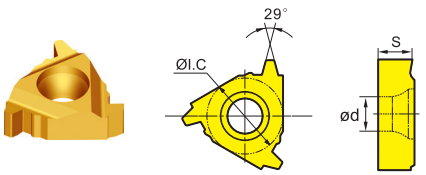
Inserti per filettatura

R/LT**N/W	I.C	S	d
16	9,525	3,97	4,4

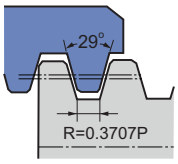
Filettatura americana 29° trapezoidale ACME



Versione destra esterna
Versione sinistra interna



Versione destra interna
Versione sinistra esterna



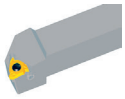
ANSI B1.5-1988
Tolleranza: 2G

ISO	Passo (tpi)	Lavorazione esterna	HC[1] (PVD)		Lavorazione interna	HC[1] (PVD)	
			YBG201	YBG205		YBG201	YBG205
16	8,00	**RT16.01W-8AC**	○		**RT16.01N-8AC**	○	
16	10,00	**RT16.01W-10AC**	○		**RT16.01N-10AC**	○	
16	12,00	**RT16.01W-12AC**	○		**RT16.01N-12AC**	○	
16	14,00	**RT16.01W-14AC**	○		**RT16.01N-14AC**	○	
16	16,00	**RT16.01W-16AC**	○		**RT16.01N-16AC**	○	

● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito

Utensile

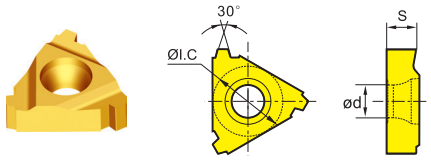
SWR/L	SNR/L
	
A601	A603

Codice sistema A580 | Scelta gradi A557 | Informazioni tecniche A607 | Dati di taglio A606

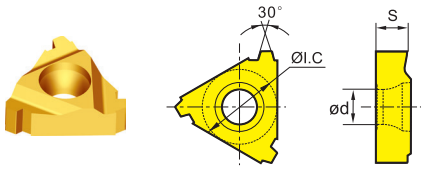
Inserti per filettatura

R/LT**N/W	I.C	S	d
16	9,525	3,97	4,4

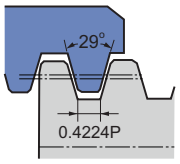
Filettatura americana trapezoidale piatta STUB-ACME



Versione destra esterna
Versione sinistra interna



Versione destra interna
Versione sinistra esterna



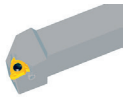
ANSI B1.8-1988
Tolleranza: Standard API

ISO	Passo (tpi)	Lavorazione esterna	HC[1] (PVD) YBG201	HC[1] (PVD) YBG205	Lavorazione interna	HC[1] (PVD) YBG201	HC[1] (PVD) YBG205
16	8,00	**RT16.01W-8STAC**	○		**RT16.01N-8STAC**	○	
16	10,00	**RT16.01W-10STAC**	○		-		
16	12,00	**RT16.01W-12STAC**	○		**RT16.01N-12STAC**	○	
16	14,00	**RT16.01W-14STAC**	○		**RT16.01N-14STAC**	○	
16	16,00	**RT16.01W-16STAC**	○		**RT16.01N-16STAC**	○	

● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito

Utensile

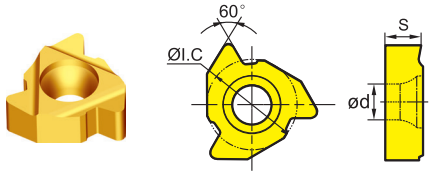
SWR/L	SNR/L
	
A601	A603

Codice sistema A580 | Scelta gradi A557 | Informazioni tecniche A607 | Dati di taglio A606

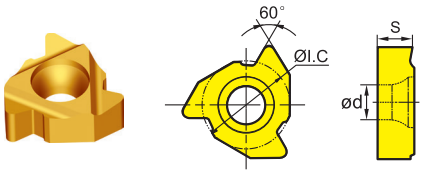
Inserti per filettatura

R/LT**N/W	I.C	S	d
22	12,7	5,56	5,5

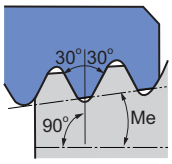
Filettatura API 60°



Versione destra esterna
Versione sinistra interna



Versione destra interna
Versione sinistra esterna



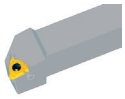
Me = conico, 2i.p.f-4°46', 3i.p.f-7°01'
API SPEC7:1990 Tolleranza: Standard API

ISO	Passo (tpi)	Lavorazione esterna	HC[1] (PVD) YBG201	HC[1] (PVD) YBG205	Lavorazione interna	HC[1] (PVD) YBG201	HC[1] (PVD) YBG205
22	4,00	**RT22.01W-4AP382**	○		**RT22.01N-4AP382**	○	
22		**RT22.01W-4AP383**	○		**RT22.01N-4AP383**	○	
22		**RT22.01W-4AP502**	○		**RT22.01N-4AP502**	○	
22		**RT22.01W-4AP503**	○		**RT22.01N-4AP503**	○	
22	5,00	**RT22.01W-5AP403**	○		**RT22.01N-5AP403**	○	

● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito

Utensile

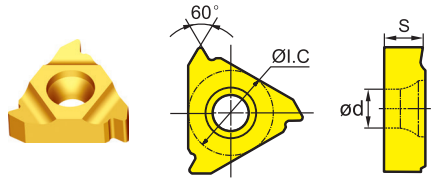
SWR/L	SNR/L
	
A601	A603

Codice sistema A580 | Scelta gradi A557 | Informazioni tecniche A607 | Dati di taglio A606

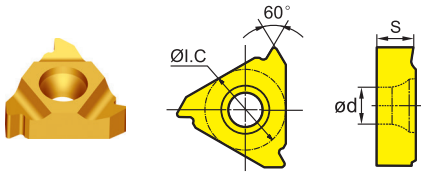
R/LT**N/W	I.C	S	d
16	9,525	3,97	4,4
22	12,7	5,56	5,5

Inserti per filettatura

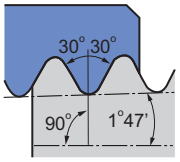
Filettatura tonda API



Versione destra esterna
Versione sinistra interna



Versione destra interna
Versione sinistra esterna



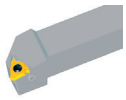
API spec.5B
Tolleranza: API RD

ISO	Passo (tpi)	Lavorazione esterna	HC[1] (PVD)		Lavorazione interna	HC[1] (PVD)	
			YBG201	YBG205		YBG201	YBG205
16	8,00	**RT16.01W-8RD**	○		**RT16.01N-8RD**	○	
16	10,00	**RT16.01W-10RD**	○		**RT16.01N-10RD**	○	
22	8,00	**RT22.01W-8RD**	○		**RT22.01N-8RD**	○	
22	10,00	**RT22.01W-10RD**	○		**RT22.01N-10RD**	○	

● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito

Utensile

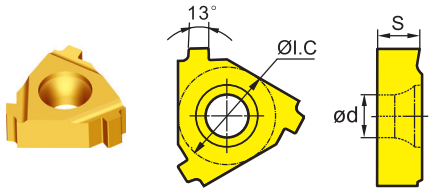
SWR/L	SNR/L
	
A601	A603

Codice sistema A580 | Scelta gradi A557 | Informazioni tecniche A607 | Dati di taglio A606

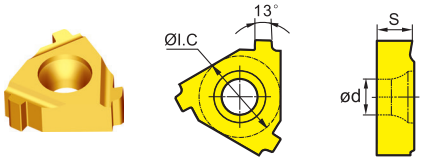
Inserti per filettatura

R/LT**N/W	I.C	S	d
22	12,7	5,56	5,5

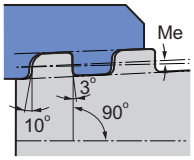
Filettatura americana a dente di sega API



Versione destra esterna
Versione sinistra interna



Versione destra interna
Versione sinistra esterna



Me=conico 3/4i.p.f-1°47'-1°47' per Ø 4 1/2-13 3/8
1 i.p.f--2°23' per Ø16 SEPC.5B.1979 Tol.: Std. API

ISO	Passo (tpi)	Lavorazione esterna	HC[1] (PVD)								Lavorazione interna	HC[1] (PVD)								
			YBG201	YBG205								YBG201	YBG205							
22	5,00	**RT22.01W-5BUT**	○								**RT22.01N-5BUT**	○								

● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito

Utensile

SWR/L	SNR/L
A601	A603

Codice sistema A580 | Scelta gradi A557 | Informazioni tecniche A607 | Dati di taglio A606

Note

Filettatura Codice sistema - Portautensile

S	W	R	20	20	K	16
1	2	3	4	5	6	7

Sistema di bloccaggio

Code	Descrizione
S	Bloccaggio a vite
C	Bloccaggio a staffa

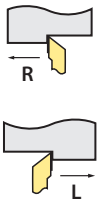
1

Tipo lavorazione

Code	Descrizione
W	Portautensile filettatura esterna
N	Portautensile filettatura interna

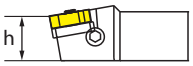
2

Direzione di taglio



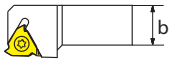
3

Altezza stelo h [mm]



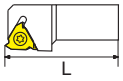
4

Larghezza stelo b [mm]



5

Lunghezza stelo L [mm]



Code	L
H	100
K	125
M	150
P	170
Q	180
R	200
S	250
T	300

6

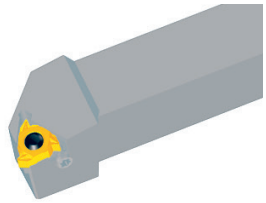
Dimensioni inserto [mm]

Code	Altezza
11	6,35
16	9,525
22	12,7

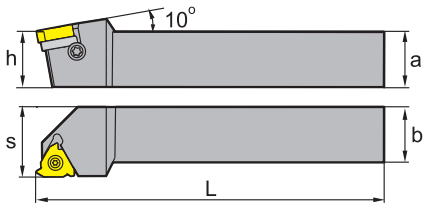
7

Portautensile per filettatura (esterna)

SWR/L



Versione destra



Articolo	✻	Stock	Dimensioni [mm]					Inserto
			a	b	L	h	s	
SWR1616H16		●	16	16	100	16	20	RT16.01W-****
SWR2020K16		●	20	20	125	20	25	RT16.01W-****
SWR2525M16		●	25	25	150	25	32	RT16.01W-****
SWR3225P16		●	32	25	170	32	32	RT16.01W-****
SWR3232P16		●	32	32	170	32	40	RT16.01W-****
SWR2525M22		●	25	25	150	25	32	RT22.01W-****
SWR3225P22		●	32	25	170	32	32	RT22.01W-****
SWR3232P22		●	32	32	170	32	40	RT22.01W-****
SWR4040S22		○	40	40	250	40	50	RT22.01W-****

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**RT16.01W-******	**RT22.01W-******
	h	**16-32**	**25-40**
	Vite	I60M3,5×12 (2,7 Nm)	I60M5×17 (6,7 Nm)
	Vite (sottoplacchetta)	SM4×8C	SM5×8.5C
	Sottoplacchetta	MT16-__M	MT22-__M
	Chiave (vite)	WT15IP	WT20IP

Inserto

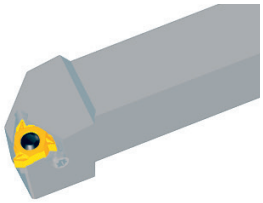
Media Lavor.

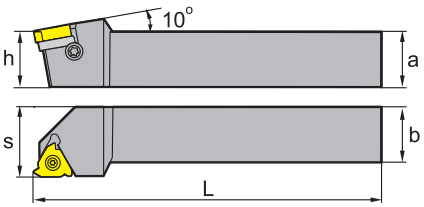
A581

Codice sistema A600 | Scelta gradi A557 | Informazioni tecniche A607 | Dati di taglio A606

Portautensile per filettatura (esterna)

SWR/L





Versione destra

Articolo	✻	Stock	Dimensioni [mm]					Inserto
			a	b	L	h	s	
SWL1616H16		●	16	16	100	16	20	LT16.01W-****
SWL2020K16		●	20	20	125	20	25	LT16.01W-****
SWL2525M16		●	25	25	150	25	32	LT16.01W-****
SWL3225P16		●	32	25	170	32	32	LT16.01W-****
SWL3232P16		○	32	32	170	32	40	LT16.01W-****
SWL2525M22		●	25	25	150	25	32	LT22.01W-****
SWL3225P22		○	32	25	170	32	32	LT22.01W-****
SWL3232P22		●	32	32	170	32	40	LT22.01W-****
SWL4040S22		○	40	40	250	40	50	LT22.01W-****

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**LT16.01W-******	**LT22.01W-******
	h	**16-32**	**25-40**
	Vite	I60M3,5×12 (2,7 Nm)	I60M5×17 (6,7 Nm)
	Vite (sottoplacchetta)	SM4×8C	SM5×8.5C
	Sottoplacchetta	MT16-__M	MT22-__M
	Chiave (vite)	WT15IP	WT20IP

Inserto

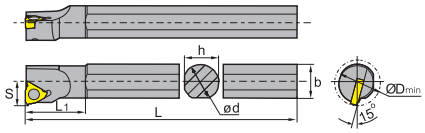
Media Lavor.

A581

Codice sistema A600 | Scelta gradi A557 | Informazioni tecniche A607 | Dati di taglio A606

Portautensile per filettatura (interna)

SNR/L



Versione destra

Articolo	✻	Stock	Dimensioni [mm]							Inserto
			ød	b	L	h	s	L_1	D_{min}	
SNR0016K11		●	16	16	125	15	10	20,9	12	RT11.01N-****
SNR0016M11		●	16	15,5	150	15	10,5	25,9	16	RT11.01N-****
SNR0016M16		●	16	15,5	150	15	12	27	20	RT16.01N-****
SNR0020M16		●	20	19	150	18	14	28,7	25	RT16.01N-****
SNR0020Q16		●	20	19	180	18	14	34	25	RT16.01N-****
SNR0025M16		●	25	24	150	23	17	28,8	32	RT16.01N-****
SNR/L0032Q16		●	32	31	180	30	22	30,9	40	RT16.01N-****
SNR0032R16		●	32	31	200	30	22	30,9	40	RT16.01N-****
SNR0032S16		●	32	31	250	30	22	30,9	40	RT16.01N-****
SNR0040T16		●	40	38,5	300	37	27	31,5	50	RT16.01N-****
SNR0050U16		○	50	49,5	350	49	35	40,2	63	RT16.01N-****
SNR0020Q22		●	20	21,5	180	18	15	35	25	RT22.01N-****
SNR0025R22		●	25	24	200	23	19	39	32	RT22.01N-****
SNR0032S22		●	32	31	250	30	22	36,4	40	RT22.01N-****
SNR0040T22		●	40	38,5	300	37	27	37,2	50	RT22.01N-****
SNR0050U22		●	50	48,5	350	47	35	42,6	63	RT22.01N-****

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**RT11.01N-******	**RT16.01N-******	**RT16.01N-******	**RT22.01N-******	**RT22.01N-******
	ød	**16**	**16**	**20-50**	**20**	**25-50**
	Vite	I60M2,5×6,5 (1,0 Nm)	I60M3,5×8 (2,7 Nm)	I60M3,5×12 (2,7 Nm)	I60M5×10 (6,7 Nm)	I60M5×17 (6,7 Nm)
	Vite (sottoplac-chetta)			SM4×8C		SM5×8.5C
	Sottoplacchetta			MT16-__M		MT22-__M
	Chiave (vite)	WT07IP	WT15IP	WT15IP	WT20IP	WT20IP

Codice sistema A600 | Scelta gradi A557 | Informazioni tecniche A607 | Dati di taglio A606

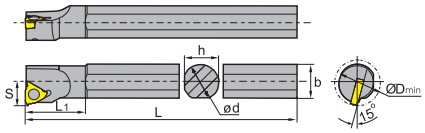
Portautensile per filettatura (interna)

Inserto
Media Lavor.
A581

Codice sistema A600 | Scelta gradi A557 | Informazioni tecniche A607 | Dati di taglio A606

Portautensile per filettatura (interna)

SNR/L



Versione destra

Articolo	✻	Stock	Dimensioni [mm]							Inserto
			ød	b	L	h	s	L_1	D_{min}	
SNL0016K11		●	16	16	125	15	10	20,9	12	LT11.01N-****
SNL0016M11		●	16	15,5	150	15	10,5	25,9	16	LT11.01N-****
SNL0016M16		●	16	15,5	150	15	12	27	20	LT16.01N-****
SNL0020M16		○	20	19	150	18	14	28,7	25	LT16.01N-****
SNL0020Q16		●	20	19	180	18	14	34	25	LT16.01N-****
SNL0025M16		●	25	24	150	23	17	28,8	32	LT16.01N-****
SNL0032R16		●	32	31	200	30	22	30,9	40	LT16.01N-****
SNL0032S16		○	32	31	250	30	22	30,9	40	LT16.01N-****
SNL0040T16		●	40	38,5	300	37	27	31,5	50	LT16.01N-****
SNL0050U16		○	50	49,5	350	49	35	40,2	63	LT16.01N-****
SNL0020Q22		●	20	21,5	180	18	15	35	25	LT22.01N-****
SNL0025R22		○	25	24	200	23	19	39	32	LT22.01N-****
SNL0032S22		●	32	31	250	30	22	36,4	40	LT22.01N-****
SNL0040T22		●	40	38,5	300	37	27	37,2	50	LT22.01N-****
SNL0050U22		●	50	48,5	350	47	35	42,6	63	LT22.01N-****

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**LT11.01N-******	**LT16.01N-******	**LT16.01N-******	**LT22.01N-******	**LT22.01N-******
	ød	**16**	**16**	**20-50**	**20**	**25-50**
	Vite	I60M2,5×6,5 (1,0 Nm)	I60M3,5×8 (2,7 Nm)	I60M3,5×12 (2,7 Nm)	I60M5×10 (6,7 Nm)	I60M5×17 (6,7 Nm)
	Vite (sottoplacchetta)			SM4×8C		SM5×8.5C
	Sottoplacchetta			MT16-__M		MT16-__M
	Chiave (vite)	WT07IP	WT15IP	WT15IP	WT20IP	WT20IP

Inserto

Media Lavor.

A581

Codice sistema A600 | Scelta gradi A557 | Informazioni tecniche A607 | Dati di taglio A606

Inserti per filettatura

Gruppo materiali		Composizione/Struttura/Trattamento termico		Durezza HB Brinell	Gruppo di sgrossatura	Velocità di taglio v_c [m/min] HC (PVD) YBG201	YBG205	
P	Acciaio non legato	ca. 0,15 % C	Temprato	125	1	190	190	
		ca. 0,45 % C	Temprato	190	2	175	175	
		ca. 0,45 % C	pre-temprato	250	3	145	145	
		ca. 0,75 % C	Temprato	270	4	140	140	
		ca. 0,75 % C	pre-temprato	300	5	135	135	
	Acciaio al carbonio		Temprato	180	6	170	170	
			pre-temprato	275	7	125	125	
			pre-temprato	300	8	115	115	
			pre-temprato	350	9	105	105	
	Acciaio alto legato e acciaio alto legato per utensili		Temprato	200	10	125	125	
			temprato e rinvenuto	325	11	95	95	
M	Acciaio inossidabile	ferritico/martensitico	Temprato	200	12	165	165	
		martensitico	pre-temprato	240	13	135	135	
		austenitico	quencing	180	14	155	155	
		austenitico-ferritico		230	15	135	135	
K	Ghisa grigia	perlitico/ferritico		180	16	240	240	
		perlitico (martensitico)		260	17	185	185	
	Ghisa sferodale	ferritico		160	18	220	220	
		perlitico		250	19	165	165	
	Ghisa malleabile	ferritico		130	20	175	175	
		perlitico		230	21	165	165	
N	Lavorazioni plastiche di leghe di alluminio	non invecchiabile		60	22	800	800	
		invecchiabile	indurito	100	23	600	600	
	Leghe di alluminio fuso	≤ 12 % Si, non invecchiabile		75	24	320	320	
		≤ 12 % Si, invecchiabile	indurito	90	25	240	240	
		> 12 % Si, non invecchiabile		130	26	160	160	
	Rame e leghe di rame (bronzo/ottone)	Leghe per macchine di tipo multiplo,	PB > 1 %	110	27	160	160	
		CuZn, CuSnZn		90	28	600	600	
		CuSn, rame senza piombo e rame elettrolitico		100	29	200	200	
S	Leghe resistenti al calore	Base Fe	Temprato	200	30	95	95	
			indurito	280	31	50	50	
		Base Ni o Co	Temprato	250	32	80	80	
			indurito	350	33	70	70	
			fuso	320	34	70	70	
	Leghe di titanio	Titanio puro		R_m 400	35	145	145	
		Leghe Alpha + Beta	indurito	R_m 1050	36	50	50	
H	Acciaio temprato		temprato e rinvenuto	55 HRC	37			
			temprato e rinvenuto	60 HRC	38			
	Ghisa dura		fuso	400	39			
	Ghise temprate		temprato e rinvenuto	55 HRC	40			
X	Materiali non metallici	Termoplastiche			41			
		Termoindurenti			42			
		Vetroresina VTR			43			
		Plastica rinforzata in fibra di carbonio			44			
		Grafite			45			
		Legno			46			

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.
Esempi di materiali per gruppi di taglio sono disponibili a pagina D11.

HC metallo duro rivestito

Informazioni tecniche

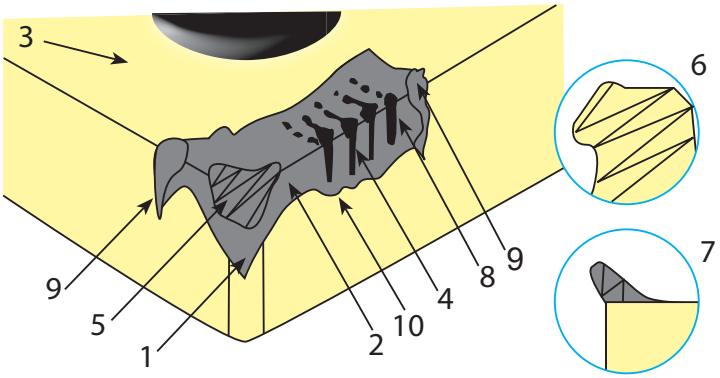
Misure per la risoluzione dei problemi – Tornitura **A608-A610**

Informazioni tecniche – Tornitura **A611-A618**

Gli utensili speciali – tornitura **A619**

Misure per la risoluzione dei problemi – generali tornitura

vedi fig.	Tipo di usura	Effetti	Causa	Contromisura
1+2	Usura sul fianco	– Scarsa qualità superficiale e dimensioni inconsistenti – Aumento della forza di taglio	– Grado con resistenza all'usura insufficiente – Velocità di taglio troppo elevata – Angolo di spoglia inferiore troppo piccolo – Velocità di avanzamento troppo bassa	– Grado con maggiore resistenza all'usura – Ridurre la velocità di taglio – Aumentare l'angolo di spoglia – Ridurre la velocità di avanzamento
3	Craterizzazione	– Qualità superficiale e controllo del truciolo scarsi	– Grado con resistenza all'usura insufficiente – Velocità di taglio troppo elevata – Velocità di avanzamento troppo alta	– Grado con maggiore resistenza all'usura – Ridurre la velocità di taglio – Ridurre la velocità di avanzamento
4	Scheggiatura	– Durata utensile non stabile – Rottura improvvisa del tagliente	– Grado troppo duro – Velocità di avanzamento troppo alta – Stabilità tagliente Stabilità del portautensile o bloccaggio insufficienti	– Grado con maggiore tenacità – Ridurre la velocità di avanzamento – Cambiare l'arrotondamento del tagliente – Utilizzare un portautensile con maggiore stabilità
5	Rottura	– Aumento della forza di taglio – Scarsa qualità superficiale e dimensioni inconsistenti	– Grado troppo duro – Velocità di avanzamento troppo alta – Stabilità del tagliente insufficiente – Stabilità del portautensile o bloccaggio insufficienti	– Grado con maggiore tenacità – Ridurre la velocità di avanzamento – Cambiare l'arrotondamento del tagliente – Utilizzare un portautensile con maggiore stabilità
6	Deformazione plastica	– Dimensioni inconsistenti – Danneggiamento del tagliente	– Grado con resistenza all'usura insufficiente – Velocità di taglio troppo elevata – Profondità e/o velocità di taglio troppo alta – Temperatura sul tagliente troppo alta	– Grado con maggiore resistenza all'usura – Ridurre la velocità di taglio – Ridurre la profondità di taglio e la velocità di avanzamento – Grado con maggiore resistenza al calore
7	Tagliente di riporto	– Aumento della forza di taglio – Pessima finitura superficiale	– Velocità di taglio troppo bassa – Tagliente non sufficientemente affilato – Grado non adatto	– Aumentare la velocità di taglio – Aumentare l'angolo di spoglia – Selezionare un grado adatto
8	Termica usura	– Rottura per interazione termica, soprattutto in caso di taglio interrotto (fresatura)	– Variazioni di temperatura della lavorazione – Grado troppo duro	– Taglio a secco – Grado con maggiore tenacità
9	Intagliatura	– Bave – Aumento della forza di taglio	– Danneggiamento dovuto ai trucioli (rompitruciolo sfilacciato) – Avanzamento e velocità di taglio troppo alte	– Grado con maggiore resistenza all'usura – Aumentare l'angolo di spoglia per ottenere un tagliente più affilato – Ridurre la velocità di taglio
10	Sfaldamento (rivestimento)	– Soprattutto durante la lavorazione di materiali più duri o quando si verificano vibrazioni	– Adesioni sul tagliente e scheggiature – Scarso deflusso del truciolo	– Aumentare l'angolo di spoglia per ottenere un tagliente più affilato – Rompitruciolo con gola più grande



Misure per la risoluzione dei problemi – PCBN& PCD

Tipo di usura	Contromisura	
	Geometria	Condizioni di taglio
Usura sul fianco	– Tagliente più affilato per una forza di taglio minore – Fase negativa più piccola – Utilizzare inserti positivi	– Ridurre la velocità di taglio – Aumentare la velocità di avanzamento per ridurre la durata del taglio
Intagliatura	– Raggio maggiore	– Utilizzare il metodo della velocità di avanzamento variabile
Craterizzazione/Rottura dovuta a craterizzazione	– Tagliente più affilato per una forza di taglio minore	– Ridurre la velocità di taglio – Aumentare la velocità di avanzamento per ridurre la durata del contatto ed aumentare la distanza tra tagliente e cratere
Scheggiature dovute a impatti o vibrazioni	– Angolo di fase negativa maggiore/o onatura	– Aumentare la velocità di avanzamento per diminuire il numero degli impatti
Sfaldamento	– Tagliente più affilato per una forza di taglio minore – Fase negativa più piccola – Utilizzare inserti positivi	– Aumentare la velocità di avanzamento per ridurre la durata del taglio
Incrinatura/Rottura	– Tagliente più affilato per una forza di taglio minore – Fase negativa più piccola – Utilizzare inserti positivi	– Diminuire velocità di taglio, velocità di avanzamento e profondità di taglio – Taglio a secco
Scheggiature	– Fase negativa maggiore	– Aumentare la velocità di taglio per ridurre la forza di taglio

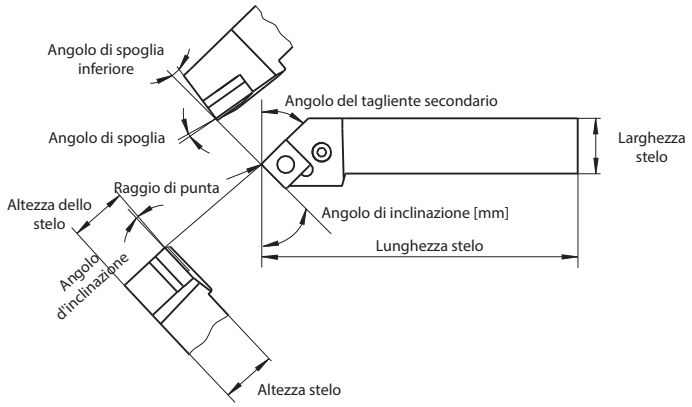
Per un'analisi dettagliata, vi preghiamo di inviarci gli inserti usati. Se il problema è la rottura, si prega di utilizzare inserti solo per l'80-90 % della durata dell'utensile prevista, poiché gli inserti rotti non contengono più alcuna informazione.

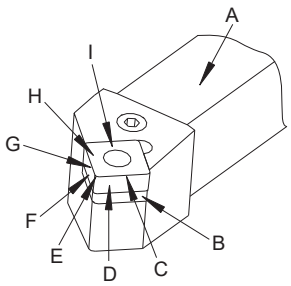
Misure per la risoluzione dei problemi – filettatura

Problema	Causa	Soluzione
Ampia usura sul fianco	– Velocità di taglio troppo elevata	– Ridurre la velocità di taglio
	– Incremento troppo basso	– Diminuire il numero degli incrementi
	– Inserto sopra/sotto centro di rotazione	– Correggere l'altezza dell'inserto
Segni di usura sul lato destro e sinistro differenti	– Incremento laterale non ottimale	– Correggere il metodo d'incremento laterale
	– L'angolo d'inclinazione e quello principale non corrispondono	– Cambiare lo spessore per ottenere un angolo corretto
Rottura	– Velocità di taglio troppo bassa	– Aumentare la velocità di taglio
	– Forza di taglio troppo elevata	– Aumentare il numero degli incrementi – Diminuire la dimensione dell'incremento
	– Condizioni instabili	– Migliorare il bloccaggio del pezzo e la sporgenza, per evitare vibrazioni
	– Scarso controllo del truciolo	– Aumentare la pressione del refrigerante per migliorare l'asportazione del truciolo
Deformazione plastica	– Velocità di taglio e temperatura troppo elevate	– Ridurre la velocità di taglio – Aumentare il numero degli incrementi – Diminuire la profondità dell'incremento
	– Scarsa alimentazione di refrigerante	– Migliorare l'alimentazione del refrigerante
Qualità superficiale della filettatura insufficiente	– Velocità di taglio troppo bassa	– Aumentare la velocità di taglio
	– L'inserto si trova oltre il centro	– Correggere l'altezza dell'inserto
	– Scarso controllo del truciolo	– Cambiare velocità di avanzamento e/o incremento
Profilo della filettatura errato	– Altezza dell'inserto errata	– Modificare l'altezza dell'inserto
	– Il portautensile non si trova ad un angolo di 90°	– Allineare di nuovo il portautensile
	– Passo errato nella macchina	– Allineare di nuovo la macchina
Profilo del filetto non sufficientemente profondo	– Altezza dell'inserto errata	– Modificare l'altezza dell'inserto
	– Rottura del tagliente	– Sostituzione dell'inserto
	– Usura troppo elevata	– Sostituzione dell'inserto
Formazione tagliente di riporto	– Temperatura sul tagliente troppo bassa	– Aumentare la velocità di taglio
	– Soprattutto durante la lavorazione di acciaio al carbonio o acciaio inossidabile	– Utilizzare un grado con sufficiente tenacità (rivestito PVD)
Vibrazioni	– Parametri di taglio errati	– Aumentare o ridurre fortemente la velocità di taglio
	– Altezza dell'inserto errata	– Modificare l'altezza dell'inserto
	– Bloccaggio del pezzo insufficiente	– Migliorare il sistema di bloccaggio e minimizzare la sporgenza dell'utensile

Tornitura generale

Geometria del tagliente





A Portautensile
B Spessore
C Tagliente principale
D Lato del fianco
E Raggio di punta
G Tagliente secondario
H Superficie di spoglia
I Inserto

Angolo di spoglia

Un aumento dell'angolo di spoglia riduce le forze di taglio, in quanto il truciolo viene leggermente deviato dalla sua direzione di flusso. Questo sistema di taglio è nel complesso più affilato e produce così un carico inferiore del bordo, minori sollecitazioni termiche. In generale l'usura del fianco è inferiore e quindi la prestazione di taglio superiore. Questo significa anche un indebolimento del cuneo di taglio, un aumento del carico sul tagliente e quindi un incremento del rischio di scheggiatura del tagliente.

Angolo di spoglia	Applicazioni
Piccolo	Lavorazione di materiali duri e fragili, sgrossatura, taglio interrotto
Dimensione	Lavorazione di materiali morbidi e resistenti, lavorazione di precisione

Angolo di spoglia inferiore

Un aumento dell'angolo di spoglia inferiore produce una riduzione dell'attrito tra pezzo ed utensile. Le forze di taglio sono complessivamente inferiori ed è possibile ottenere finiture superficiali migliori. Tuttavia, un angolo di spoglia inferiore troppo grande indebolisce la stabilità del tagliente. A seconda dell'applicazione, l'angolo di spoglia inferiore è compreso tra 3° e 12°.

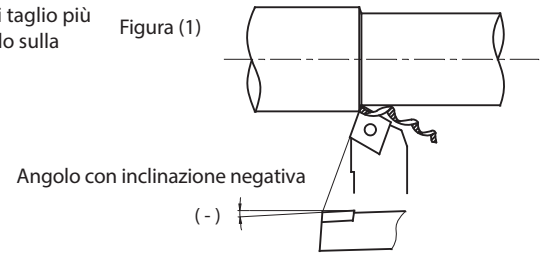
Spoglia superiore	Applicazioni
Piccolo	Lavorazione di materiali duri e fragili, sgrossatura con tagliente stabile
Dimensione	Lavorazione di materiali che tendono a rapidamente a cambiamenti nella microstruttura, lavorazioni di precisione con basse forze di taglio

Angolo d'inclinazione

Un angolo d'inclinazione positivo o negativo del tagliente ha una notevole influenza sulla direzione del flusso dei trucioli e sulla stabilità del tagliante e del punto di taglio. Questo viene incrementato per un angolo negativo e protegge in questo modo l'utensile dallo stress da impatto es. nella sgrossatura o nella lavorazione a taglio interrotto. In questo modo viene pero aumentata anche la forza di reazione, che può causare vibrazioni. Un angolo positivo del tagliente è vantaggioso nella finitura, in quanto i trucioli vengono portati via dalla superficie già lavorata.

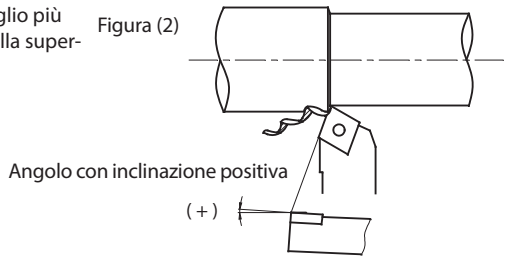
Come illustrato nella figura (1), un angolo negativo del tagliente, grazie al punto di taglio più basso rispetto alla superficie del portautensili, provoca uno scorrimento del truciolo sulla superficie già lavorata del pezzo.

Figura (1)



Come illustrato nella figura (2), un angolo positivo del tagliente, grazie al punto di taglio più alto rispetto alla superficie del portautensili, provoca uno scorrimento del truciolo sulla superficie non lavorata del pezzo.

Figura (2)

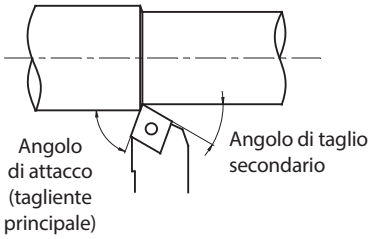


Tornitura generale

Angolo di attacco (tagliente principale)

Una riduzione dell'angolo di attacco aumenta la stabilità del tagliente. La percentuale del tagliente per la formazione del truciolo viene allargata, migliorano la distribuzione del carico per il tagliente e la dissipazione del calore. Un angolo piccolo di attacco ha un effetto positivo sulla durata. Un angolo grande di attacco di 90° viene usato nella lavorazione di alberi lunghi e sottili per evitare flessioni del pezzo.

Inclinazione [mm]	Applicazioni
Piccolo	Per materiali con elevata resistenza alla trazione, elevata durezza e superficie indurita
Dimensione	Per macchine con bassa stabilità



Angolo del tagliente secondario

La grandezza dell'angolo del tagliente secondario influisce sulla qualità della superficie del pezzo e sulla stabilità tagliente. Se l'angolo è troppo piccolo possono verificarsi vibrazioni.
Per la sgrossatura dovrebbe essere utilizzato un angolo piccolo, poiché il tagliente ha una maggiore stabilità. L'angolo più grande dovrebbe essere scelto per la lavorazione di precisione, al fine di ottenere finiture superficiali di elevata qualità.

Raggio di punta

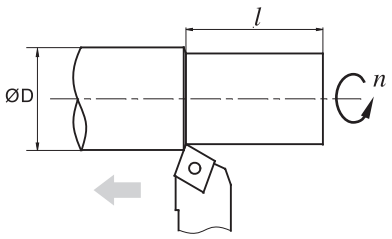
Il raggio di punta influenza la stabilità del tagliente e la finitura superficiale e i dati di taglio.
Con un grande raggio di punta migliora la superficie e aumenta la stabilità del tagliente. I lati del fianco e l'usura della superficie di spoglia si riducono.
Un incremento del raggio aumenta anche la pressione di taglio. Se è troppo grande, possono verificarsi vibrazioni che hanno un effetto negativo sul controllo del truciolo.

Raggio	Applicazioni
Piccolo	Finitura con piccole profondità di taglio Lavorazione di alberi lunghi e sottili Bassa stabilità della macchina o bloccaggio
Dimensione	Sgrossatura con elevata stabilità del tagliente Lavorazioni a taglio interrotto o materiali duri Elevata stabilità della macchina

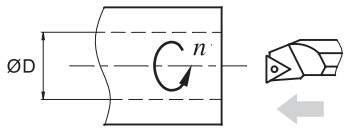
Tornitura generale

Velocità di taglio V_c

$$V_C = \frac{\pi \times D \times n}{1000} \text{ [m/min]}$$



Tornitura esterna



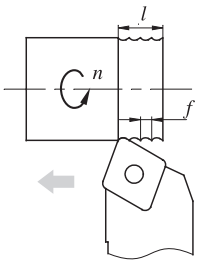
Tornitura interna

V_C: Velocità di taglio [m/min]
n: Numero di giri [1/min]
f: Avanzamento per rotazione [mm]

Esempio: n = 250 1/min, f = 0,2 mm,
l = 150 mm
Risultato: [Inserisci valori nella formula V_C]

Velocità di avanzamento F

$$f = \frac{l}{n} \text{ [mm/rev]}$$



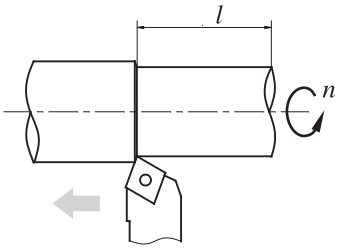
f: Avanzamento per rotazione [mm]
l: Lunghezza del taglio per minuto [mm]
n: Numero di giri [1/min]

Esempio: n = 500 1/min, l = 100 mm/min
Risultato: [Inserisci valori nella formula f]

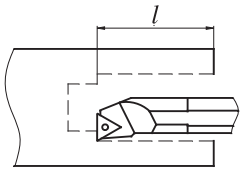
$$f = \frac{l}{n} = \frac{100}{500} = 0{,}2 \text{ mm}$$

Durata di taglio

$$T_C = \frac{l}{f \times n} \text{ [min]}$$



Tornitura esterna



Tornitura interna

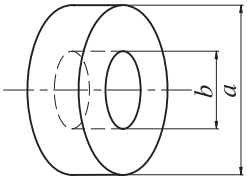
Tc: Durata di taglio [min]
l: Lunghezza del taglio per minuto [mm]
f: Avanzamento per rotazione [mm]
n: Numero di giri [1/min]

Esempio: n = 250 1/min, f = 0,2 mm,
l = 150 mm
Risultato: [Inserisci i valori nella formula T_C]

Tornitura generale

Durata di taglio per la spianatura

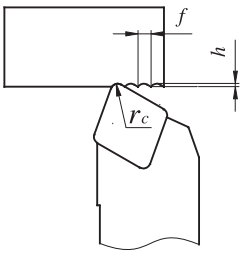
$$T_C = \frac{\pi \times (a^2 - b^2)}{4000 \times V_C \times f} \text{ [min]}$$



T_C: Durata di taglio [min]
V_C: Velocità di taglio [m/min]
f: Avanzamento per rotazione [mm]

Rugosità superficiale teorica R

$$R = \frac{f^2}{8r_c} \times 1000 \text{ [µm]}$$



R: Rugosità superficiale [µm]
f: Avanzamento per rotazione [mm]
r_C: Raggio dell'inserto [mm]

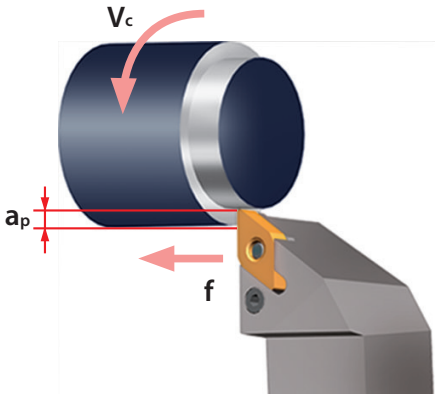
Esempio: f = 0,2 mm, r_C = 0,4 mm

Tornitura generale

Effetto dei tre parametri di taglio sulla tornitura

I requisiti attuali per gli strumenti di taglio moderni sono in prima istanza: cicli di lavorazione brevi, lunga durata dell'utensile ed elevata precisione di lavorazione.

In funzione della potenza della macchina, del materiale, della forma e della durezza del pezzo, la scelta degli strumenti e soprattutto dei parametri di taglio corretti sono il prerequisito per una lavorazione economica. Ciò che chiamiamo "Effetto dei tre parametri di taglio nella tornitura".



1. Velocità di taglio [V_C]

Un aumento dell'angolo di spoglia riduce le forze di taglio, in quanto il truciolo viene leggermente deviato dalla sua direzione di flusso. Questo sistema di taglio è nel complesso più affilato e produce così un carico inferiore del bordo, minori sollecitazioni termiche. In generale l'usura del fianco è inferiore e quindi la prestazione di taglio superiore. Questo significa anche un indebolimento del cuneo di taglio, un aumento del carico sul tagliente e quindi un incremento del rischio di scheggiatura del tagliente.

Effetto della velocità di taglio: La velocità di taglio è uno dei parametri più importanti nella lavorazione, poiché influenza in maniera decisiva il tempo di produzione. La scelta della velocità di taglio dipende principalmente dalla composizione e resistenza del materiale da lavorare, dalla tenacità e durezza del materiale di taglio utilizzato come anche dalla precisione dimensionale e dalla finitura superficiale desiderata. Influenza significativamente l'usura e la vita dell'utensile, a causa dell'aumento parabolico della temperatura del tagliente con la velocità di taglio. La velocità di taglio deve quindi essere scelta in modo da ottenere un rapporto tra il tempo di produzione e durata del taglio e il tempo necessario per la rimessa in servizio (sostituzione dell'inserto) dell'utensile e della macchina.
Un aumento della velocità di taglio del 20% dimezza la durata dell'utensile. Un aumento del 50% della velocità di taglio riduce la durata a circa 1/5 della durata dell'utensile originale. Un avanzamento minore causa vibrazioni e riduce la vita dell'utensile.

2. Avanzamento [f]

Nella tornitura l'avanzamento rappresenta la distanza percorsa dal portautensile per ogni giro del pezzo. L'unità di misura dell'avanzamento è millimetri per giro [mm/giro].

Effetto dell'avanzamento: Una riduzione dell'avanzamento incrementa allo stesso tempo l'usura del fianco e riduce la vita utile dell'utensile. Un aumento dell'avanzamento aumenta da un lato l'economicità della lavorazione, ma dall'altro lato anche la temperatura di taglio e l'usura.

3. Profondità di taglio [ap]

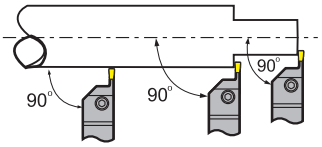
La profondità di taglio è la metà della differenza tra il diametro del pezzo grezzo e il diametro del pezzo finito. L'unità di misura della profondità di taglio è il millimetro [mm].

Effetto della profondità di taglio: La modifica della profondità di taglio non un grande effetto sulla durata dell'utensile. Quando si lavorano materiali con una superficie dura, una profondità di taglio troppo bassa comporta una minore durata dell'utensile. Quando si lavora su superfici non lavorate o materiali colati, è necessario selezionare la profondità massima di taglio in base alle prestazioni della macchina in modo che il tagliente e il raggio dell'angolo siano più profondi rispetto allo strato rigido. Questo aiuta a prevenire un usura eccessiva.

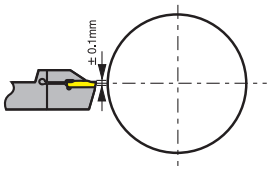
Scanalature e gole

Impostazione dell'altezza del tagliente per scanalature e gole

- Il portautensile in maniera tale che si trovi a 90° rispetto all'asse centrale del pezzo. In questo modo si ottiene una migliore qualità della superficie e si riduce il rischio di oscillazioni.



- Si prega di montare il portautensile in modo tale che durante la realizzazione di scanalature e gole l'area di tolleranza sia nell'intervallo di ± 0,1 mm rispetto all'asse centrale, in particolare per pezzi con diametri piccoli. In questo modo si ottiene una maggiore durata, si riducono le forze di taglio e la formazione di bave.

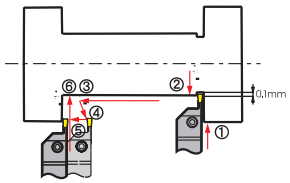


Troncatura

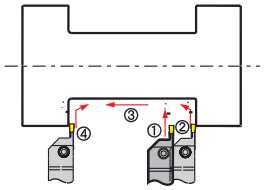
- Una riduzione della velocità di avanzamento del 30 % in avvicinamento alla lama all'asse centrale del pezzo prolunga la durata dell'inserto.
- Selezionare il portautensile con la sporgenza più piccola possibile per evitare vibrazioni e la deformazione dell'utensile.

Tornitura longitudinale e contornatura

- Sequenza di lavorazione 0,5 mm:
  1. Avanzamento radiale alla profondità richiesta di taglio (circa max. 0,75 x larghezza inserto)
  2. Tornare indietro radialmente di 0,1 mm
  3. Tornitura longitudinale sulla spalla opposta
  4. Tornare indietro diagonalmente di 0,5mm verso l'esterno fino al punto di partenza
  5. Avanzamento radiale alla profondità richiesta di taglio.

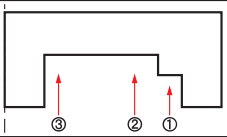


- Durante la tornitura del fondo della scanalatura o dello smusso, seguire i passaggi adiacenti. Questo riduce la flessione dell'utensile ed impedisce la scheggiatura del tagliente.

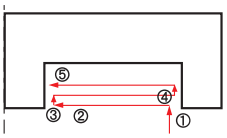


Scanalatura assiale

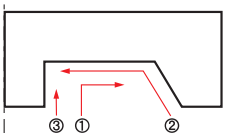
- Sgrossatura:
  Lavorazione dal diametro più grande verso l'asse. Durante il ritorno dell'utensile si raccomanda di piegarlo leggermente.



- Scanalature interne:
  Profondità di taglio per avanzamento assiale inferiore a 0,75 x S (larghezza dell'inserto). Quando la larghezza della camera è maggiore della profondità, seguire i passaggi indicati. Quando la profondità della camera è maggiore della larghezza, si consiglia in ogni passaggio l'asportazione del diametro richiesto.

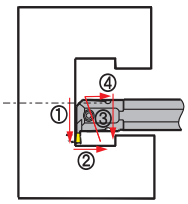


- Finitura:
  Per la finitura, realizzare prima il diametro esterno e il fondo. Infine realizzare il diametro interno fino alla dimensione richiesta.



Lavorazione interna

- Sequenza di lavorazione come da figura. Per la lavorazione di fori ciechi, è consigliato lavorare dall'interno verso l'esterno per una migliore rimozione del truciolo.



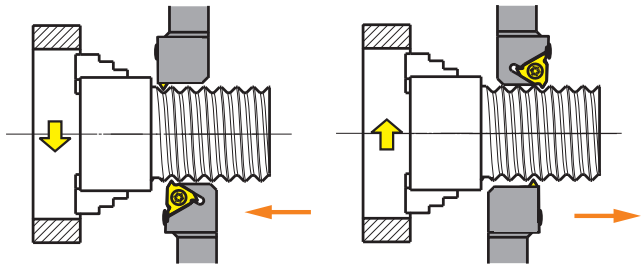
Filettatura

Sequenza di lavorazione per i migliori risultati di filettatura

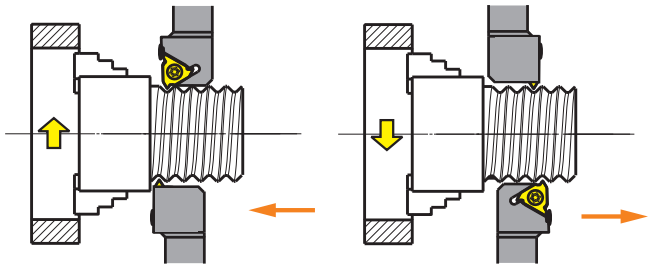
1. Selezione del metodo di filettatura
2. Scelta dell'angolo e dello spessore
3. Scelta del portautensile e degli inserti
4. Scelta dei parametri di taglio
5. Scelta della direzione di taglio

Metodo di filettatura

Lavorazione esterna

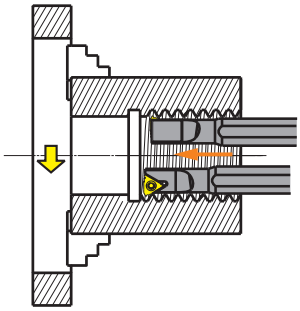


Versione destra

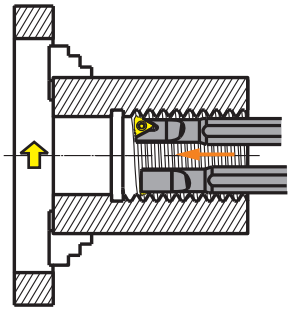


Versione sinistra

Lavorazione interna



Versione destra



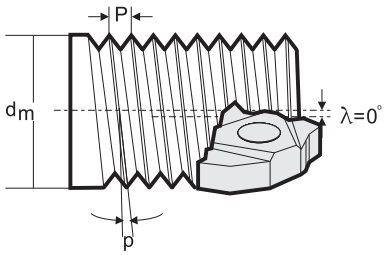
Versione sinistra

Scelta dell'angolo e dello spessore

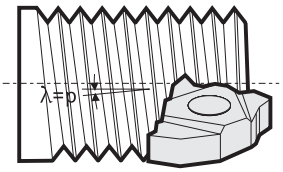
Selezione dell'inclinazione

Gli angoli di spoglia del fianco del profilo della filettatura dipendono dall'angolo di passo della filettatura. L'angolo di passo della filettatura deve essere per quanto possibile coincidere con l'angolo di inclinazione dell'inserto, al fine di ottenere un profilo accurato, per evitare l'usura irregolare sul fianco dell'inserto e per garantire una maggiore durata.

$$\lambda = \arctan \frac{p}{d_2 \times \pi}$$



Angolo di passo (p)



Angolo d'inclinazione (λ)

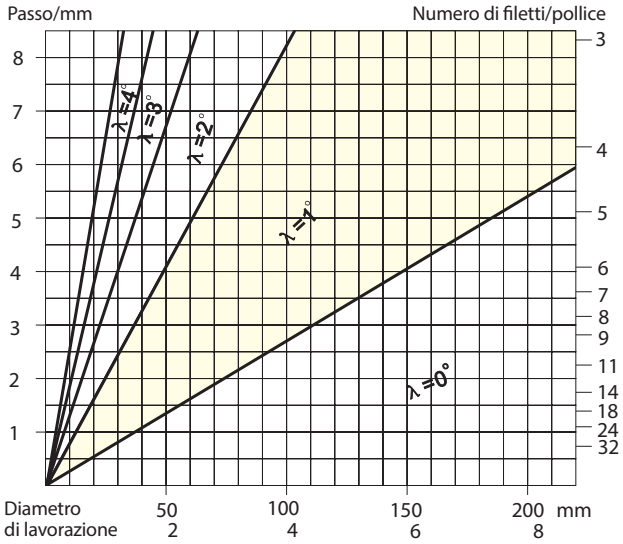
p Passo
d_2 Diametro del fianco
λ Angolo d'inclinazione

Selezione dello spessore corretto

Passo	Dimensioni	Inclinazione	Sottoplacchetta
0,5–3,0 mm	16 mm	0°	MT16-00M(N)
		1°	MT16-01M(N)
		2°	MT16-02M(N)
		3°	MT16-03M(N)
3,5–6,0 mm	22 mm	0°	MT22-00M(N)
		1°	MT22-01M(N)
		2°	MT22-02M(N)
		3°	MT22-03M(N)

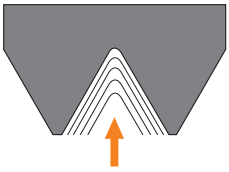
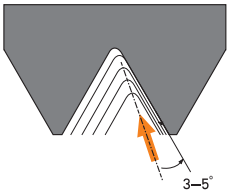
MT-**M** Sottoplacchette per inserti per filettare RT e LT (da pagina A581)
MT-**MN** Sottoplacchette per inserti per filettare tipo z (da pagina A559)

Lo spessore per λ =1° viene consegnato insieme al portautensili.



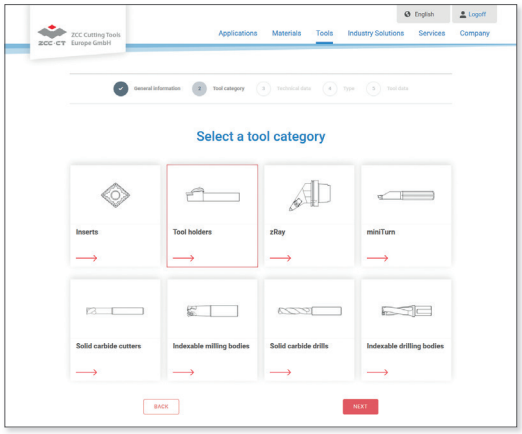
Modalità d'incremento nella filettatura

Il numero di passaggi e di incremento sono i punti chiave della filettatura. I dati consigliati sono da considerarsi come valori di partenza. Nel caso di una maggiore usura, consultare pagina A447 (risoluzione dei problemi).

Incremento radiale	Incremento sul fianco modificato	Incremento alternato
		
L'incremento radiale richiede una profondità di taglio bassa, un tagliente affilato e un grado duro.	Incremento al di sotto di un angolo di 3-5° rispetto al fianco della filettatura. Adatto per materiali a truciolo lungo e filettatura interna. Buona asportazione del truciolo.	Incremento alternato lungo entrambi i fianchi. Applicazione per ampi passi e materiali a truciolo lungo. Usura uniforme del fianco su entrambi i bordi di taglio.

Andate direttamente all’utensile speciale personalizzato per operazioni di tornitura

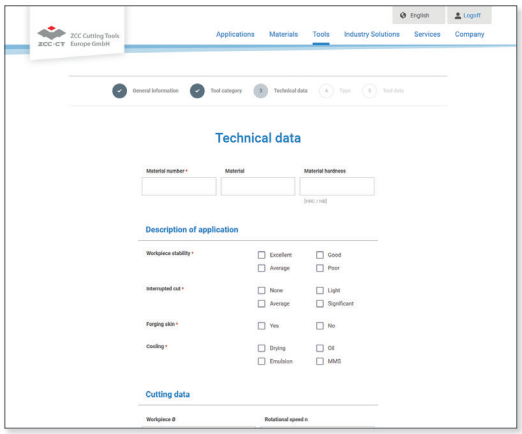
Lavorate con cicli di tornitura per cui è possibile ottenere vantaggi in termini commerciali, tecnici, logistici o di processo impiegando utensili ottimizzati su misura e specifici per le vostre esigenze? ZCC Cutting Tools Europe vi offre consulenza e supporto personali nella programmazione, implementazione e ordinazione dei prodotti. Con il nostro innovativo Onlinetool dedicato alle richieste di utensili speciali, riceverete la vostra offerta personalizzata con pochi semplici passaggi (https://www.zccct-europe.com/it/gli-utensili/gli-utensili-speciali).



Home page “Strumento online per utensili speciali” con Selezione della categoria dell’utensile

Selezione della categoria dell’utensile

Scansionando il codice QR presente nella pagina, sarete reindirizzati alla home page del nostro strumento online per la richiesta di utensili speciali e qui potrete iniziare subito con la categoria precedentemente selezionata. È semplicissimo.



Definizione dei parametri pertinenti dell’utensile

Definizione dei parametri dell’utensile

Successivamente potrete seguire comodamente la procedura. Potrete inoltre caricare parti di disegni, bozze e modelli 3D già esistenti in tutta sicurezza.

Con noi, il vostro utensile speciale è a portata di mano.
ZCC Cutting Tools Europe GmbH.

Effettuate subito l’accesso al nostro sito web per visualizzare il nuovo **Modulo per utensili speciali**.

INSERTI PER FRESATURA

ZCC·CT

Inserti per fresatura

Panoramica prodotti	**B2-B5**
Panoramica sistema	**B6-B25**
Panoramica rompitrucioli	**B26**
Panoramica gradi	**B27-B30**
Campo di applicazione dei gradi	**B31**
Codice sistema – Corpi fresa	**B32-B33**
Codice ISO – Inserti	**B34-B35**
Codice sistema – Frese a disco	**B36**
Codice sistema – Serie QCH	**B37-B38**
Fresa a spianare	**B39-B138**
Fresa per spallamento	**B139-B178**
Fresa profilata	**B179-B196**
Frese a disco	**B197-B214**
Frese ad alto avanzamento	**B215-B232**
Frese a forare	**B233-B234**
Frese per scanalature a T	**B235-B236**
Frese elicoidali	**B237-B242**
Frese a smusso	**B243-B254**
Serie QCH	**B255-B301**
Indicazioni generali Inserti per fresatura	**B302-B311**
Dati di taglio consigliati	**B312-B347**
Misure per la risoluzione dei problemi	**B618**
Informazioni tecniche	**B619-B632**
Gli utensili speciali	**B633**

B

Inserti per fresatura

	ANGX-GM	ANGX-LH	APKT-ALH	APKT-APF	APKT-APL	APKT-APM	APKT-LH	APKT-NM	
Lunghezza tagl.	11 15	11 15	11 16	07 11 16	11 16	07 11 16	11 16	11	
Pagina	B165, B167, B169, B171, B173	B165, B167, B169, B171, B173	B140, B143, B147, B150, B152, B267, B288	B140, B143, B147, B150, B152, B267, B288	B140, B143, B147, B150, B152, B267, B288	B140, B143, B147, B150, B152, B267, B288	B140, B143, B147, B150, B152, B267, B288	B140, B143, B147, B150, B152, B267, B288	

	APKT-PF	APKT-PM	APKT-PR	CNE-A/B	ENMX-GM	HNEX-DR	HNGX-HDR	HNGX-MR	
Lunghezza tagl.	11 16	11 15 16	11	12	12	09	09	09	
Pagina	B140, B143, B147, B150, B152, B267, B288	B140, B143, B147, B150, B152, B267, B288	B140, B143, B147, B150, B152, B267, B288	B234	B229, B231, B284	B71	B302	B302	

	LNCX	LNE32.534	LNGX-GM	LNKT-GL	LNKT-GM	LNKT-ZR	MPHT-DM	MPHT-LH	
Lunghezza tagl.	18		08 10 14	08 12 16	08 12 16	12 15 20 25	06 08 12	06	
Pagina	B304	B303	B210, B213	B158, B161, B163, B272	B158, B161, B163, B272	B73, B80, B90	B202, B204, B236	B202, B204, B236	

	ODHT-GH	ODHT-GL	ODHT-GM	ODHT-LH	ODMT-GM	OFKR-DM	OFKR-LH	OFKR-PM	
Lunghezza tagl.	06	06	06	06	06	07	07	07	
Pagina	B53	B53	B53	B53	B53	B51	B51	B51	

	OFKT-DF	OFKT-DM	OFKT-LH	ONHU-GH	ONHU-GL	ONHU-GM	ONMU-GH	ONMU-GM	
Lunghezza tagl.	05	05	05	06 09	06 09	06 09	06 09	06 09	
Pagina	B49	B49	B49	B59	B59	B59	B60	B60	

	PNEG-CF	PNEG-CM	PNEG-CR	PNEG-PF	PNEG-PM	PNEG-PR	RCKT-DM	RCKT-DR	
Lunghezza tagl.	11	11	11	11	11	11	10 12 16 20	12 16 20	
Pagina	B66, B68	B66, B68	B66, B68	B65, B68	B65, B68	B65, B68	B107, B111	B107, B111	

	RCKT-ER	RCKT-NM	RDHT-LH	RDKT-MM	RDKT-NM	RDKW	RDMT-M	RDMT-MM	
Lunghezza tagl.	12 16 20	10 12 16 20	07 10 12 16	10 12	10	07 08 10 12 16 20	10 12	10 12	
Pagina	B107, B111	B107, B111	B117, B119, B124, B260	B114, B121, B256	B114, B256	B114, B121, B256, B286	B130, B135, B257, B262	B130, B135, B257, B262	

Inserti per fresatura

	RDMW-H	ROHX	RPKT-MM	RPMT-M	RPMT-MM	RPMW-H	SDMT	SDMT-DM	
Lunghezza tagl.	10 12	12 16 20	10 12	10 12 16	10 12 16	10 12	09	06 09 12 15	
Pagina	B130, B135, B262	B183	B133, B138, B265	B132, B137, B264	B132, B137, B264	B132, B137, B264	B181	B216, B218, B221, B280, B295	

	SDMT-NM	SDMT-PM	SEEN	SEET-APF	SEET-APM	SEET-APR	SEET-CF	SEET-CM	
Lunghezza tagl.	06 09 12	06 09 12 15	12	09 12	09 12	09 12	12	12	
Pagina	B216, B218, B221, B280, B295	B216, B218, B221, B280, B295	B47	B88	B88	B88	B41, B43	B41, B43	

	SEET-CR	SEET-DF	SEET-DM	SEET-DR	SEET-EF	SEET-EM	SEET-LH	SEET-PF	
Lunghezza tagl.	12	12	12 18	12	12	12 18	12	09 12	
Pagina	B41, B43	B41, B43	B41, B43	B41, B43	B41, B43	B41, B43	B41, B43	B88	

	SEET-PM	SEET-PR	SEET-W	SEKN	SEKR	SNCU-CF	SNCU-CM	SNEG-E	
Lunghezza tagl.	09 12	09 12	12 18	12 15	12	12	12	15	
Pagina	B88	B88	B40, B43	B46	B47	B91, B94	B91, B94	B56	

	SNEG-GM	SNEG-GR	SNEG-HGR	SNEG-W	SNGX-ANN-GH	SNGX-ANN-GL	SNGX-ANN-GM	SNGX-ANN-LH	
Lunghezza tagl.	12 15	12 15 19	12 15	12 15	12	12	12	12	
Pagina	B56	B56	B56	B57	B62	B62	B62	B62	

	SNGX-ANN-W	SNGX-GH	SNGX--ENN-GL	SNGX--ENN-GM	SNGX-ENN-W	SNGX-PNN-GH	SNGX-PNN-GL	SNGX-PNN-GM	
Lunghezza tagl.	12	12	12	12	12	12	12	12	
Pagina	B63	B83	B83	B83	B83	B100	B100	B100	

	SNGX-PNN-W	SNKN	SNMX-GH	SNMX-GM	SPCN	SPGN	SPKN	SPKR	
Lunghezza tagl.	12	12 15	12	12	12 15	12	12 15	12	
Pagina	B101	B305	B63, B82, B101	B63, B82, B101	B306	B309	B77	B78	

Inserti per fresatura

	SPKR-GM	SPKT	SPKW	SPMR	SPMT	SPMT-HT	SPMT-KT	SPMT-PM	
	12 15	12	12	12	06 09 12	09 12	06	12	Lunghezza tagl.
	B78	B75	B75	B307	B181, B244, B246, B248, B250, B252, B254	B308	B181	B238, B240, B242	Pagina

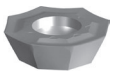
	SPUN	TPKN	TPMR	TPUN	VPGT-LP	WNHU-LH	WPGT	WPGT-PM	
	12 15	16 22	11 16 22	11 16 22	22	08	05 06 08 09	05 06 08 09	Lunghezza tagl.
	B309	B84, B310	B311	B311	B175, B177, B274	B96	B223, B225, B227, B282, B297	B223, B225, B227, B282, B297	Pagina

	XEEC	XPHT-GM	XSEQ	ZDET	ZDET-PM	ZOHX-GF	ZOHX-GM	ZOHX-HM	
	12	16 20 25 30 32 40 50	12	08 11	13	12 16 20 25 30 32	12 16 20 25 30 32	12 16 20 25 30 32	Lunghezza tagl.
	B105	B185, B187, B189, B191, B276, B291	B198, B200	B180	B180	B193, B195, B278, B293	B193, B195, B278, B293	B193, B195, B278, B293	Pagina

	ZPNT	
	22	Lunghezza tagl.
	B180	Pagina

Note

Frese a spianare

Serie	Corpi fresa	Inserto	Kr	Applicazione P	M	K	N	S	H	Caratteristiche	Pagina
FMA01		SEET12T3 SEET18T6	45°	✔	✔	✔	✔	✔		• Intervallo diametro Ø50 – 315 mm • Per acciaio, acciaio inossidabile, ghise, metalli non ferrosi e materiali a difficile asportazione • Fresa a taglio morbido con geometria del tagliente grande e positiva • Inserti raschianti per una migliore f	B39
FMA02		SEET12T3	45°	✔	✔	✔	✔	✔		• Intervallo diametro Ø50 – 125 mm • Per acciaio, acciaio inossidabile, ghise, metalli non ferrosi e materiali a difficile asportazione • Fresa a taglio morbido con geometria del tagliente grande e positiva • Passo lungo	B42
FMA03		SEEN1203 SEKN1203 SEKR1203 SEKN1504 SEKR1504	45°	✔	✔	✔	✔			• Intervallo diametro Ø80 – 315 mm • Per acciaio, acciaio inossidabile e ghise • Fresa a taglio morbido con geometria del tagliente grande e positiva • Bloccaggio a cuneo	B45
FMA04		 OFKT05T3	45°	✔	✔	✔	✔			• Intervallo diametro Ø50 – 160 mm • Per acciaio, acciaio inossidabile, ghise e metalli non ferrosi • Inserti con otto taglienti • Bloccaggio a vite	B48
FMA04		OFKR0704	45°	✔	✔	✔	✔			• Intervallo diametro Ø125 – 315 mm • Per acciaio, acciaio inossidabile, ghise e metalli non ferrosi • Inserti con otto taglienti • Bloccaggio a cuneo	B50
FMA04		OD*T0605**	45°	✔	✔	✔	✔			• Intervallo diametro Ø50 – 160 mm • Per acciaio, acciaio inossidabile, ghise e metalli non ferrosi • Inserti con otto taglienti • Bloccaggio a vite	B52

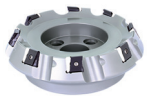
✔ Molto adatto ✔ Adatto

Frese a spianare

Serie	Corpi fresa	Inserto	Kr	Applicazione						Caratteristiche	Pagina
				P	M	K	N	S	H		
FMA11		SNEG1205 SNEG1506 SNEG1907	45°	✔	✔	✔		✔		• Intervallo diametro Ø63 – 315 mm • Per acciaio, acciaio inossidabile e ghise • Inserti con otto taglienti • Inserto bilaterale extra spesso per un´elevata resistenza alla frattura e grande profondità di taglio • Inserti Wiper, per una miglio	B54
FMA12		 ON*U0604** ON*U09T5**	45°	✔	✔	✔		✔		• Intervallo diametro Ø63 – 315 mm • Per acciaio, acciaio, acciaio inossidabile e ghise • Inserti con 16 taglienti< BR>	B58
FMA17		 SNGX1205	45°							• Intervallo diametro Ø50 - 400 mm • Per acciaio, acciaio inossidabile e ghisa • Il versatile sistema di fresatura a 45° con INSERTi negativi garantisce stabilità di taglio • INSERTi con otto taglienti	B61
FMD02		 PNEG1105	67°	✔	✔	✔				• Intervallo diametro Ø50 – 315 mm • Per acciaio, acciaio, acciaio inossidabile e ghise • Inserti con dieci taglienti • Bloccaggio a cuneo o a vite • Passo normale e stretto	B64
FMD02		 PNEG1105	67°			✔				• Intervallo diametro Ø50 – 315 mm • Per acciaio, acciaio, acciaio inossidabile e ghise • Inserti con dieci taglienti • Bloccaggio a cuneo o a vite • Passo normale e stretto	B67
FMD02		 HNEX0905	55°			✔				• Intervallo diametro Ø80 – 315 mm • Per ghise • Bloccaggio a cuneo • Inserti con dodici taglienti	B70

✔ Molto adatto ✔ Adatto

Frese a spianare

Serie	Corpi fresa	Inserto	Kr	Applicazione P	M	K	N	S	H	Caratteristiche	Pagina
FMD03		LNKT2007-ZR LNKT2510-ZR	60°	✔		✔				• Intervallo diametro Ø100 – 400 mm • Per acciaio e ghise • Inserto tangenziale con quattro taglienti • Asportazione pesante con profondità di taglio elevate • Bloccaggio a vite	B72
FME02		SPKT1204 SPKW1204	75°	✔	✔	✔				• Intervallo diametro Ø50 – 125 mm • Per acciaio, ghise e acciaio inossidabile • Bloccaggio a vite	B74
FME03		SPKN1203 SPKR1203 SPEX1203 SPKN1504 SPKR1504 SPEX1504	75°	✔	✔	✔				• Intervallo diametro Ø80 – 400 mm • Per acciaio, ghise e acciaio inossidabile • Bloccaggio a cuneo	B76
FME04		LNKT1506-ZR	75°	✔		✔				• Intervallo diametro Ø125 – 315 mm • Per acciaio e ghise • Inserto tangenziale con quattro taglienti • Asportazione pesante con profondità di taglio elevate • Bloccaggio a vite	B79
FME17		SNGX1205ENN	75°	✔	✔	✔				• Gamma di diametri Ø50 - 400 mm • Per acciaio, acciaio inox e ghisa • Sistema di fresatura negativa • Sistema versatile a 75° per la lavorazione produttiva di superfici • Inserti con otto taglienti	B81
FMP01		TPKN2204	90°	✔	✔	✔		✔		• Intervallo diametro Ø80 – 315 mm • Per acciaio, acciaio inossidabile e ghise • Fresa a taglio morbido con geometria del tagliente grande e positiva • Bloccaggio a cuneo	B84

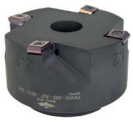
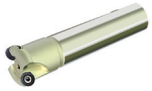
✔ Molto adatto ✔ Adatto

Frese a spianare

Serie	Corpi fresa	Inserto	Kr	Applicazione						Caratteristiche	Pagina
				P	M	K	N	S	H		
FMP02		SEET09T3 SEET1203	90°	✔	✔	✔	✔	✔		• Intervallo diametro Ø50 – 315 mm • Per acciaio, acciaio inossidabile, ghise e metalli non ferrosi • Bloccaggio a vite	B86
FMP03		LNKT120608-ZR LNKT1506EN-ZR LNKT2007DN-ZR LNKT2510-ZR	89°	✔		✔				• Intervallo diametro Ø50 – 315 mm • Per acciaio e ghise • Inserto tangenziale con quattro taglienti • Bloccaggio a vite	B89
FMP06		SN**1204	88°	✔		✔				• Gamma di diametri Ø50 - 160 mm • Per acciaio, acciaio inox e ghisa • Sistema di fresatura negativa • Fresatura senza interferenze con i contorni grazie all'angolo di regolazione di 88° • Inserti con otto taglienti • Bloccaggio a vite, uso dell'inserto indicizzabile con foro	B91
FMP06		SN**1204	88°	✔		✔				• Gamma di diametri Ø63 - 250 mm • Per acciaio, acciaio inox e ghisa • Sistema di fresatura negativa • Fresatura senza interferenze con i contorni grazie all'angolo di regolazione di 88° • Inserti con otto taglienti • Bloccaggio a cuneo, uso dell'inserto con e senza foro	B93
FMP12		WNHU0604 WNHU0806	90°	✔		✔				• Intervallo diametro Ø50 – 315 mm • Per acciaio e ghise • Inserto tangenziale con quattro taglienti • Bloccaggio a vite	B95
FMP12		WNHU0604	90°	✔		✔				• Intervallo diametro Ø50 – 315 mm • Per acciaio e ghise • Inserto tangenziale con quattro taglienti • Bloccaggio a vite	B97

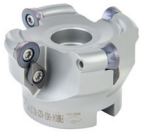
✔ Molto adatto ✔ Adatto

Frese a spianare

Serie	Corpi fresa	Inserto	Kr	Applicazione P	M	K	N	S	H	Caratteristiche	Pagina
FMP17		SNGX1205	88°	✔	✔	✔				• Intervallo diametro Ø50 - 400 mm • Per acciaio, acciaio inossidabile e ghisa • Il sistema di fresatura a 88° con INSERTi negativi garantisce stabilità di taglio • INSERTi con otto taglienti	B99
FMWX		XEEC1209		✔		✔				• Diametro Ø50 – 125 mm • Frese di finitura ad alto avanzamento per materiali in acciaio e ghisa • Inserto con quattro taglienti • Sedi di riserva degli inserti per una maggiore durata • Corpo fresa dotato esclusivamente di due inserti contrapposti	B104
FMR01		RCKT10T3 RCKT1204 RCGX1204		✔	✔	✔	✔	✔		• Intervallo diametro Ø25 – 63 mm • Per acciaio, acciaio inossidabile, ghise, metalli non ferrosi e materiali a difficile asportazione • Bloccaggio a vite	B106
FMR02		RCGX1204 RCKT1204 RCMW1204 RCKT1606 RCKT2006		✔	✔	✔	✔	✔		• Intervallo diametro Ø50 – 250 mm • Per acciaio, acciaio inossidabile, ghise, metalli non ferrosi e materiali a difficile asportazione • Bloccaggio a vite	B109
FMR03		RD**0803 RD**10T3 RD**1204		✔	✔	✔			✔	• Intervallo diametro Ø15 – 50 mm • Per acciaio, acciaio inossidabile e ghise • Bloccaggio a vite • Forme e stampe	B113
FMR03		RDKW0702 RDKW1003		✔	✔	✔			✔	• Diametro Ø15 – 50 mm • Per acciaio, acciaio inossidabile e ghisa • Serraggio a vite • Produzione di forme e stampi	B118

✔ Molto adatto ✔ Adatto

Frese a spianare

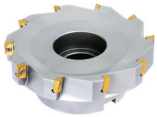
Serie	Corpi fresa	Inserto	Kr	Applicazione P	M	K	N	S	H	Caratteristiche	Pagina
FMR03		RDKW0702 RDKW1003		✔	✔	✔			✔	• Intervallo diametro Ø15 – 50 mm • Per acciaio, acciaio inossidabile e ghise • Bloccaggio a vite • Forme e stampe	B115
FMR04		RD**1204 RD**1605 RD**2006		✔	✔	✔			✔	• Intervallo diametro Ø50 – 200 mm • Per acciaio, acciaio inossidabile e ghise • Bloccaggio a vite • Forme e stampe	B120
FMR04		RDKW1003 RDKW12T3 RDKW1604		✔	✔	✔			✔	• Intervallo diametro Ø42 – 200 mm • Per acciaio, acciaio inossidabile e ghise • Bloccaggio a vite • Forme e stampe	B122
FMR06		RNGN0903 RNGN0904 RNGN1204 RNGN1207						✔	✔	• Gamma di diametri Ø50 - 125 mm • Massima stabilità durante la lavorazione frontale • Sistema di fresatura per inserti in CBN e ceramica • Movimentazione facile e sicura grazie al bloccaggio a cuneo • Raffreddamento ad aria (AC) per una rimozione ottimale dei trucioli	B127
FMR11		RD**10T3 RD**1204		✔	✔	✔		✔	✔	• Intervallo diametro Ø40 - 80 mm • Per acciaio, acciaio inossidabile e ghisa • Prima scelta per condizioni di taglio difficili e taglio interrotto • L'indicizzazione dell'INSERTo agevola il corretto posizionamento nel corpo fresa • Asportazione ottimale grazie alla rimozione del serraggio a staffa	B129
FMR11		RP**10T3 RP**1204 RP**1605		✔	✔	✔		✔		• Intervallo diametro Ø40 - 80 mm • Per acciaio, acciaio inossidabile e ghisa • Prima scelta per condizioni di taglio difficili e taglio interrotto • L'indicizzazione dell'INSERTo agevola il corretto posizionamento nel corpo fresa • Asportazione ottimale grazie alla rimozione del serraggio a staffa	B131

✔ Molto adatto ✔ Adatto

Frese a spianare

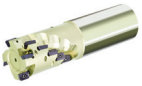
Serie	Corpi fresa	Inserto	Kr	Applicazione P	M	K	N	S	H	Caratteristiche	Pagina
FMR11		RD**10T3 RD**1204		✔	✔	✔		✔		• Intervallo diametro Ø32 - 40 mm • Per acciaio, acciaio inossidabile e ghisa • Prima scelta per condizioni di taglio difficili e taglio interrotto • L'indicizzazione dell'INSERTo agevola il corretto posizionamento nel corpo fresa Asportazione ottimale grazie alla rimozione del serraggio a staffa	B134
FMR11		RP**10T3 RP**1204		✔	✔	✔		✔		• Diametro Ø32 - 40 mm • Per acciaio, materiali inossidabili e ghisa, la prima scelta in caso di condizioni di taglio difficili e nel taglio interrotto. • L'indicizzazione dell'inserto facilita il posizionamento preciso nei corpi fresa • Asportazione ottimale dei trucioli grazie all'eliminazione della staffa di serraggio	B136

Frese a spallamento retto

EMP01		APKT0702 APKT11T3 APKT1604	90°	✔	✔	✔	✔	✔		• Intervallo diametro Ø12 – 63 mm • Per acciaio, acciaio inossidabile, ghise, metalli non ferrosi e materiali a difficile asportazione • Codolo cilindrico • Per fresatura ad angolo, a scanalatura, a tuffo • Fresa a taglio morbido con geometria	B139
EMP01		APKT11T3 APKT0702 APKT1604	90°	✔	✔	✔	✔	✔		• Intervallo diametro Ø12 – 63 mm • Per acciaio, acciaio inossidabile, ghise, metalli non ferrosi e materiali a difficile asportazione • Codolo cilindrico • Per fresatura ad angolo, a scanalatura, a tuffo • Fresa a taglio morbido con geometria	B142
EMP02		APKT0702 APKT11T3 APKT1604	90°	✔	✔	✔	✔	✔		• Intervallo diametro Ø40 - 250 mm • Per acciaio, acciaio inossidabile, ghise, metalli non ferrosi e materiali a difficile asportazione • Per fresatura a 90°, a scanalatura e a tuffo • Fresa a taglio morbido con geometria del tagliente grande e positiva • INSERTi con due taglienti	B145

✔ Molto adatto ✔ Adatto

Frese a spallamento retto

Serie	Corpi fresa	Inserto	Kr	Applicazione						Caratteristiche	Pagina
				P	M	K	N	S	H		
EMP03		APKT11T3	90°	✔	✔	✔	✔			• Intervallo diametro Ø50 - 100 mm • Per acciaio, acciaio inossidabile, ghise, metalli non ferrosi e materiali a difficile asportazione • Per fresatura a 90°, a scanalatura e a tuffo • Fresa a taglio morbido con geometria del tagliente grande e positiva • INSERTi con due taglienti	B149
EMP04		APKT11T3	90°	✔	✔	✔	✔			• Intervallo diametro Ø20 - 40 mm • Per acciaio, acciaio inossidabile, ghise, metalli non ferrosi e materiali a difficile asportazione • Per fresatura a 90°, a scanalatura e a tuffo • Fresa a taglio morbido con geometria del tagliente grande e positiva • INSERTi con due taglienti	B151
EMP05		ADKT0803L & ADKT0903R ADKT1003L & ADKT1003R ADKT12T3L & ADKT12T3R ADKT1605L & ADKT1505R	90°	✔	✔	✔				• Intervallo diametro Ø16 – 50 mm • Per acciaio, acciaio inossidabile e ghisa • Codolo cilindrico • Doppia configurazione di inserti per scanalature profonde • Inserto ADKT con tagliente destro e sinistro	B153
EMP05		ADKT0803L & ADKT0903R ADKT1003L & ADKT1003R ADKT12T3L & ADKT12T3R ADKT1605L & ADKT1505R	90°	✔	✔	✔				• Intervallo diametro Ø16 – 50 mm • Per acciaio, acciaio inossidabile e ghisa • Codolo cilindrico • Inserto ADKT con tagliente destro e sinistro	B155
EMP09		LNKT0804PNR** LNKT1206PNR** LNKT1607PNR**	90°	✔	✔	✔				• Intervallo diametro Ø40 – 125 mm • Geometria del tagliente affilata combinata con robusti inserti tangenziali • Prima scelta per grandi profondità di taglio ad alte velocità di avanzamento • Taglienti appositamente progettati con elevato contro	B157
EMP09		LNKT0804PNR-GM LNKT1206PNR-GM	90°	✔	✔	✔				• Intervallo diametro Ø40 – 80 mm • Geometria del tagliente affilata combinata con robusti inserti tangenziali • Prima scelta per grandi profondità di taglio ad alte velocità di avanzamento • Taglienti appositamente progettati con elevato contro	B160

✔ Molto adatto ✔ Adatto

Frese a spallamento retto

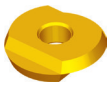
Serie	Corpi fresa	Inserto	Kr	Applicazione P	M	K	N	S	H	Caratteristiche	Pagina
EMP09		LNKT0804PNR** LNKT1206PNR**	90°	✔	✔	✔				• Diametro Ø32 – ??? mm • Geometria del tagliente affilata combinata con robusti inserti tangenziali • Prima scelta per grandi profondità di taglio con elevati avanzamenti • Taglienti appositamente sviluppati con controllo di alta precisione per una fresatura ad angolo a 90° di alta qualità	B162
EMP13		ANGX1105 ANGX1506	90°	✔	✔	✔	✔			• Intervallo diametro Ø40 – 250 mm • Per acciaio, acciaio inossidabile, ghise e materiali a difficile • Inserto bilaterale extra spesso per un´elevata resistenza alla frattura e grande profondità di taglio • Inserti con quattro taglienti	B164
EMP13		ANGX1105 ANGX1506	90°	✔	✔	✔	✔			• Intervallo diametro Ø25 – 40 mm • Per acciaio, acciaio inossidabile e metalli non ferrosi • Inserto bilaterale extra spesso per un´elevata resistenza alla frattura e grande profondità di taglio • Inserti con quattro taglienti	B166
EMP13		ANGX1105 ANGX1506	90°	✔	✔	✔	✔			• Intervallo diametro Ø25 – 40 mm • Per acciaio, acciaio inossidabile e metalli non ferrosi • Inserto bilaterale extra spesso per un´elevata resistenza alla frattura e grande profondità di taglio • Inserti con quattro taglienti	B168
EMP13		ANGX1105 ANGX1506	90°	✔	✔	✔	✔			• Intervallo diametro Ø50 – 80 mm • Per acciaio, acciaio inossidabile e metalli non ferrosi • Inserto bilaterale extra spesso per un´elevata resistenza alla frattura e grande profondità di taglio • Inserti con quattro taglienti	B170
EMP13		ANGX1105 ANGX1506	90°	✔	✔	✔	✔			• Intervallo diametro Ø25 – 40 mm • Per acciaio, acciaio inossidabile e metalli non ferrosi • Inserto bilaterale extra spesso per un´elevata resistenza alla frattura e grande profondità di taglio • Inserti con quattro taglienti	B172

✔ Molto adatto ✔ Adatto

Frese a spallamento retto

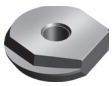
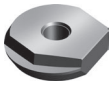
Serie	Corpi fresa	Inserto	Kr	Applicazione						Caratteristiche	Pagina
				P	M	K	N	S	H		
EMP14		VPGT2205	90°				✔			• Diametro Ø40 - 125 mm • Per metalli non ferrosi • Inserti lappati e rettificati con precisione per un angolo esatto di 90°. • Ampia scelta di diversi raggi di punta disponibili • Inserti con due taglienti	B174
EMP14		VPGT2205	90°				✔			• Diametro Ø32 mm • Per metalli non ferrosi • Inserti lappati e rettificati con precisione per un angolo esatto di 90°. • Ampia scelta di diversi raggi di punta disponibili • Inserti con due taglienti	B176

Frese profilate

BMR01		ZDET08T2 & SPMT0603 ZDET1103 & SPMT0603 ZDET13T2 & SDMT0903 ZPNT2204 & SPMT1204		✔	✔	✔				• Intervallo diametro Ø20 – 63 mm • Per acciaio, acciaio inossidabile e ghise • Particolarmente adatta per la sgrossatura di forme grandi • Inserti con tre taglienti	B179
BMR02		 ROHX1203 ROHX1604 ROHX2005		✔	✔	✔				• Intervallo diametro Ø12 – 20 mm • Per acciaio, acciaio inossidabile e ghise • Particolarmente adatta per la finitura di forme e stampe • Inserto con due taglienti	B182
BMR03		XPHT16 XPHT20 XPHT25 XPHT30 XPHT32 XPHT40		✔	✔	✔				• Intervallo diametro Ø16 – 40 mm • Per acciaio e ghise • Particolarmente adatta per la sgrossatura di forme e stampe • Corpo dell´utensile con alta stabilità	B184

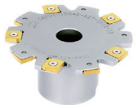
✔ Molto adatto ✔ Adatto

Frese profilate

Serie	Corpi fresa	Inserto	Kr	Applicazione P	M	K	N	S	H	Caratteristiche	Pagina
BMR03		XPHT16 XPHT20 XPHT25 XPHT30 XPHT32 XPHT40 XPHT50		✔✔	✔	✔✔				• Intervallo diametro Ø16 – 40 mm • Per acciaio e ghise • Particolarmente adatta per la sgrossatura di forme e stampe • Corpo dell´utensile con alta stabilità	B186
BMR03		XPHT20 XPHT25 XPHT30 XPHT32 XPHT40 XPHT50		✔✔	✔	✔✔				• Intervallo diametro Ø16 – 40 mm • Per acciaio e ghise • Particolarmente adatta per la sgrossatura di forme e stampe • Corpo dell´utensile con alta stabilità	B188
BMR03		XPHT40		✔✔	✔	✔✔				• Intervallo diametro Ø16 – 40 mm • Per acciaio e ghise • Particolarmente adatta per la sgrossatura di forme e stampe • Corpo dell´utensile con alta stabilità	B190
BMR04		 ZOHX12 ZOHX16 ZOHX20 ZOHX25 ZOHX30 ZOHX32		✔✔	✔	✔✔				• Intervallo diametro Ø12 – 32 mm • Per acciaio, acciaio inossidabile e ghise • Particolarmente adatta per la finitura di forme e stampe • Inserto con due taglienti	B192
BMR04		 ZOHX12 ZOHX16 ZOHX20 ZOHX25 ZOHX30 ZOHX32		✔✔	✔	✔✔				• Intervallo diametro Ø12 – 32 mm • Per acciaio, acciaio inossidabile e ghise • Particolarmente adatta per la finitura di forme e stampe • Inserto con due taglienti	B194

✔✔ Molto adatto ✔ Adatto

Frese a disco

Serie	Corpi fresa	Inserto	Kr	Applicazione						Caratteristiche	Pagina
				P	M	K	N	S	H		
SMP01		 XSEQ1202 XSEQ1203 XSEQ12T3 XSEQ1204 XSEQ12T4	90°	✔	✔	✔				• Intervallo diametro Ø100 – 250 mm • Per acciaio, acciaio inossidabile e ghise • Foro per taglio con attacco • Larghezza scanalature 4, 5 , 6, 7, 8 mm	B197
SMP01		 XSEQ1202 XSEQ1203 XSEQ12T3 XSEQ1204 XSEQ12T4	90°	✔	✔	✔				• Intervallo diametro Ø63 – 160 mm • Per acciaio, acciaio inossidabile e ghise • Larghezza scanalature 4, 5 , 6, 7, 8 mm	B199
SMP03		 MPHT0603 MPHT0803 MPHT1204	90°	✔	✔	✔				• Intervallo diametro Ø80 – 200 mm • Per acciaio, acciaio inossidabile e ghise • Foro per taglio con attacco • Larghezza scanalature 8, 10, 12, 16, 18, 20 mm	B201
SMP03		 MPHT0603 MPHT0803 MPHT1204	90°	✔	✔	✔				• Intervallo diametro Ø80 – 200 mm • Per acciaio, acciaio inossidabile e ghise • Larghezza scanalature 8, 10, 12, 16, 18, 20 mm	B203
SMP05		 QC16L QC22L	90°	✔	✔	✔				• Intervallo diametro Ø25 – 44 mm • Per acciaio, acciaio inossidabile e ghise • Intervallo larghezza scanalature 1,1 – 4,8 mm	B205

✔ Molto adatto ✔ Adatto

Frese a disco

Serie	Corpi fresa	Inserto	Kr	Applicazione P	M	K	N	S	H	Caratteristiche	Pagina
SMP09		LNGX0804* LNGX1005** LNGX1407**	90°	✔	✔	✔				• Diametro Ø80 – 250 mm • Per acciaio, acciaio inossidabile e ghisa • Intervallo di larghezza della scanalatura 10 - 20 mm	B208
SMP09		LNGX0804* LNGX1005** LNGX1407**	90°	✔	✔	✔				• Diametro Ø80– 315 mm • Per acciaio, acciaio inossidabile e ghisa • Intervallo di larghezza della scanalatura 10 - 20 mm	B211

Frese ad alto avanzamento

XMR01		SDMT06T2 SDMT09T3 SDMT1204 SDMT1505	15°	✔	✔	✔				• Intervallo diametro Ø20 – 40 mm • Per acciaio, acciaio inossidabile e ghise • Inserti con quattro taglienti • Fresatura a tuffo possibile• Doppio sistema di bloccaggio per inserti	B215
XMR01		SDMT09T3 SDMT1204	15°	✔	✔	✔				• Diametro Ø20 – 40 mm • Per acciaio, acciaio inossidabile e ghisa • Inserto con quattro taglienti • Possibilità di fresatura a tuffo • Sistema di bloccaggio doppio per inserti	B217
XMR01		SDMT06T2 SDMT09T3 SDMT1204 SDMT1505	15°	✔	✔	✔				• Intervallo diametro Ø40 – 125 mm • Per acciaio, acciaio inossidabile e ghise • Inserti con quattro taglienti • Fresatura a tuffo possibile • Doppio sistema di bloccaggio per inserti	B219

✔ Molto adatto ✔ Adatto

Frese ad alto avanzamento

Serie	Corpi fresa	Inserto	Kr	Applicazione						Caratteristiche	Pagina
				P	M	K	N	S	H		
XMR01		WPGT0503 WPGT0604	11°- 22°	✔	✔	✔				• Intervallo diametro Ø20 – 40 mm • Per acciaio, acciaio inossidabile e ghise • Inserti con quattro taglienti • Fresatura a tuffo possibile• Doppio sistema di bloccaggio per inserti	B222
XMR01		WPGT0503 WPGT0604	11°- 22°	✔	✔	✔				• Diametro Ø20 – 40 mm • Per acciaio, acciaio inossidabile e ghisa • Inserto con tre taglienti • Possibilità di fresatura a tuffo • Sistema di bloccaggio doppio per inserti	B224
XMR01		WPGT0604 WPGT0806 WPGT0907	11°- 22°	✔	✔	✔				• Intervallo diametro Ø42 – 160 mm • Per acciaio, acciaio inossidabile e ghise • Inserti con tre taglienti • Fresatura a tuffo possibile • Doppio sistema di bloccaggio per inserti	B226
XMR12		ENMX1206**	18°	✔	✔	✔				• Diametro Ø40 – 63mm • Per acciaio, acciaio inox e ghisa • Inserto con quattro taglienti • Possibilità di fresatura a tuffo	B228
XMR12		ENMX1206**	18°	✔	✔	✔				• Diametro Ø16 – 35 mm • Per acciaio, acciaio inox e ghisa • Inserto con quattro taglienti • Possibilità di fresatura a tuffo	B230

✔ Molto adatto ✔ Adatto

Frese a forare

Serie	Corpi fresa	Inserto	Kr	Applicazione P	M	K	N	S	H	Caratteristiche	Pagina
XMP01		CNE12	90°	✔	✔	✔				• Intervallo diametro Ø80 – 400 mm • Per acciaio, acciaio inossidabile e ghise • Adatto anche per fresatura a spianare e ad angolo	B233

Frese per scanalature a T

TMP01		MPHT0603 MPHT0803 MPHT1204	90°	✔	✔	✔				• Intervallo diametro Ø21 – 60 mm • Per ghise • Larghezza scanalature 9, 11, 14, 18, 22, 28 mm	B235

Frese elicoidali

HMP01		APKT1504 & SPMT1204	90°	✔	✔	✔				• Intervallo diametro Ø40 – 50 mm • Per acciaio e ghise • Con codolo Weldon	B237
HMP01		APKT1504 & SPMT1204	90°	✔	✔	✔				• Intervallo diametro Ø50 – 80 mm • Per acciaio e ghise • Con attacco JT	B239
HMP01-EC		APKT1504 & SPMT1204	90°	✔	✔	✔				• Intervallo diametro Ø50 – 80 mm • Per acciaio e ghise • Con attacco JT • Testa intercambiabile	B241

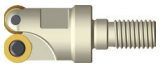
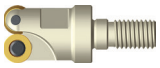
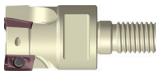
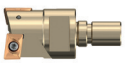
✔ Molto adatto ✔ Adatto

Frese a smusso

Serie	Corpi fresa	Inserto	Kr	Applicazione						Caratteristiche	Pagina
				P	M	K	N	S	H		
CMZ01		SPMT1204	30°	✔	✔	✔				• Intervallo diametro Ø12 – 32 mm • Per acciaio, acciaio inossidabile e ghise • Frese a smusso 30°	B245
CMZ01		SPMT1204	30°	✔	✔	✔				• Intervallo diametro Ø12 – 32 mm • Per acciaio, acciaio inossidabile e ghise • Frese a smusso 30°	B243
CMA01		SPMT1204	45°	✔	✔	✔				• Intervallo diametro Ø12 – 32 mm • Per acciaio, acciaio inossidabile e ghise • Frese a smusso 45°	B247
CMA01		SPMT1204	45°	✔	✔	✔				• Intervallo diametro Ø12 – 32 mm • Per acciaio, acciaio inossidabile e ghise • Frese a smusso 45°	B249
CMD01		SPMT1204	60°	✔	✔	✔				• Intervallo diametro Ø12 – 32 mm • Per acciaio, acciaio inossidabile e ghise • Frese a smusso 60° • Stelo Weldon	B251
CMD01		SPMT1204	60°	✔	✔	✔				• Intervallo diametro Ø12 – 32 mm • Per acciaio, acciaio inossidabile e ghise • Frese a smusso 60° • Stelo Weldon	B253

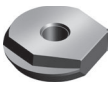
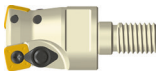
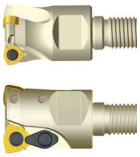
✔ Molto adatto ✔ Adatto

Frese con testa intercambiabile - Serie QCH

Serie	Corpi fresa	Inserto	Kr	Applicazione P	M	K	N	S	H	Caratteristiche	Pagina
QCH-RD		RDKW0702 RDKW10T3 RDKW1605		✔	✔	✔			✔	• Intervallo diametro Ø15 – 42 mm • Per acciaio, acciaio inossidabile e ghise • Bloccaggio a vite • Forme e stampe • Per inserti con due differenti spessori	B255
QCH-RD		RDKW0702 RDKW1003 RDKW12T3 RDKW1604		✔	✔	✔			✔	• Intervallo diametro Ø15 – 42 mm • Per acciaio, acciaio inossidabile e ghise • Bloccaggio a vite • Forme e stampe • Per inserti con due differenti spessori	B258
QCH-RD-M-FMR11		RD**10T3 RD**1204		✔	✔	✔		✔		• Intervallo diametro Ø20 - 40 mm • Per acciaio, acciaio inossidabile e ghisa • Prima scelta per condizioni di taglio difficili e taglio interrotto • L'indicizzazione dell'INSERTo agevola il corretto posizionamento nel corpo fresa • Asportazione ottimale grazie alla rimozione del serraggio a staffa	B261
QCH-RP-M-FMR11		RP**10T3 RP**1204		✔	✔	✔		✔		• Intervallo diametro Ø20 - 40 mm • Per acciaio, acciaio inossidabile e ghisa • Prima scelta per condizioni di taglio difficili e taglio interrotto • L'indicizzazione dell'INSERTo agevola il corretto posizionamento nel corpo fresa • Asportazione ottimale grazie alla rimozione del serraggio a staffa	B263
QCH-APKT		APKT0702 APKT11T3 APKT1604	90°	✔	✔	✔	✔	✔		• Intervallo diametro Ø16 - 40 mm • Per acciaio, acciaio inossidabile, ghise, metalli non ferrosi e materiali a difficile asportazione • Per fresatura a 90°, a scanalatura e a tuffo • Fresa a taglio morbido con geometria del tagliente grande e positiva • INSERTi con due taglienti • Solo per filettature M conformi alla norma DIN	B266
QCH-ADKT		ADKT-GM	90°	✔	✔	✔				• Diametro Ø16 – 40 mm • Per acciaio e acciaio inossidabile • Per fresatura e scanalatura a tuffo • Doppio inserto per scanalature profonde • Possibilità di effettuare rampe (ideale per la produzione di forme e stampi) • Tagliente al centro e utilizzabile come fresa per cave	B269

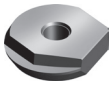
✔ Molto adatto ✔ Adatto

Frese con testa intercambiabile - Serie QCH

Serie	Corpi fresa	Inserto	Kr	Applicazione						Caratteristiche	Pagina
				P	M	K	N	S	H		
QCH-LNKT		LNKT080404PNR-GM LNKT1206PNR-GM	90°	✔	✔	✔				• Diametro Ø25 – 40 mm • Geometria del tagliente affilata combinata con robusti inserti tangenziali • Prima scelta per grandi profondità di taglio con elevati avanzamenti • Taglienti appositamente sviluppati con controllo di alta precisione per una fresatura ad angolo a 90° di alta qualità	B271
QCH-VP		VPGT2205	90°				✔			• Diametro Ø32 mm • Per metalli non ferrosi • Inserti lappati e rettificati di precisione per un angolo esatto di 90°. • Ampia scelta di diversi raggi di punta disponibili • Inserti con due taglienti • Per angoli, scanalature e rampe • Solo per filettature M secondo la norma DIN	B273
QCH-XPHT		XPHT16 XPHT20 XPHT25 XPHT30 XPHT32		✔	✔	✔				• Intervallo diametro Ø16 – 32 mm • Per acciaio e ghise • Particolarmente adatta per la sgrossatura di forme e stampe	B275
QCH-ZOHX		 ZOHX16 ZOHX20 ZOHX25 ZOHX32		✔	✔	✔				• Intervallo diametro Ø16 – 32 mm • Per acciaio, acciaio inossidabile e ghise • Particolarmente adatta per la finitura di forme e stampe • Inserto con due taglienti	B277
QCH-SDMT		SDMT06T2 SDMT09T3 SDMT1204	15°	✔	✔	✔				• Intervallo diametro Ø20 – 40 mm • Per acciaio, acciaio inossidabile e ghise • Inserti con quattro taglienti • Fresatura a tuffo possibile• Doppio sistema di bloccaggio per inserti	B279
QCH-WPGT		WPGT0503 WPGT0604 WPGT0806	11°- 22°	✔	✔	✔				• Intervallo diametro Ø16 – 42 mm • Per acciaio, acciaio inossidabile e ghise • Inserti con tre taglienti • Fresatura a tuffo possibile• Doppio sistema di bloccaggio per inserti	B281

✔ Molto adatto ✔ Adatto

Frese con testa intercambiabile - Serie QCH

Serie	Corpi fresa	Inserto	Kr	Applicazione P	M	K	N	S	H	Caratteristiche	Pagina
QCH-EN		ENMX1206**	18	✔	✔	✔				• Diametro Ø16 – 40 mm • Per acciaio, acciaio inox e ghisa • Inserto con quattro taglienti • Possibilità di fresatura a tuffo	B283
QCH-RD-Q		RDKW0702 RDKW10T3 RDKW1605		✔	✔	✔			✔	• Diametro Ø20 – 32 mm • Per acciaio, acciaio inossidabile e ghisa • Serraggio a vite • Produzione di forme e stampi • Per due diversi spessori di inserto • Solo per filettature Q conformi alla norma ZCC-CT	B285
QCH-APKT-Q		APKT0702 APKT11T3 APKT1604	90°	✔	✔	✔				• Intervallo diametro Ø16 - 40 mm • Per acciaio, acciaio inossidabile, ghise, metalli non ferrosi e materiali a difficile asportazione • Per fresatura a 90°, a scanalatura e a tuffo • Fresa a taglio morbido con geometria del tagliente grande e positiva • Inserti con due taglienti • Solo per filetto tipo Q come da standard ZCC-CT	B287
QCH-XPHT-Q		XPHT16 XPHT20 XPHT25 XPHT30 XPHT32		✔	✔	✔				• Diametro Ø16 – 32 mm • Per acciaio e ghisa • Particolarmente adatto per la sgrossatura nella costruzione di forme e matrici• Solo per filettature Q conformi alla norma ZCC-CT	B290
QCH-ZOHX-Q		 ZOHX16 ZOHX20 ZOHX25 ZOHX30 ZOHX32		✔	✔	✔				• Diametro Ø16 – 32 mm • Per acciaio, acciaio inossidabile e ghisa • Particolarmente adatto per la finitura nella costruzione di forme e matrici • Inserti con due taglienti • Solo per filettature Q conformi alla norma ZCC-CT	B292
QCH-SDMT-Q		SDMT09T3 SDMT1204		✔	✔	✔				• Intervallo diametro Ø20 – 40 mm • Per acciaio, acciaio inossidabile e ghise • Inserti con quattro taglienti • Fresatura a tuffo possibile• Doppio sistema di bloccaggio per inserti • Solo per filetto tipo Q come da standard ZCC-CT	B294

✔ Molto adatto ✔ Adatto

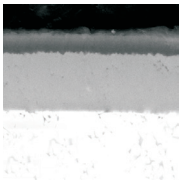
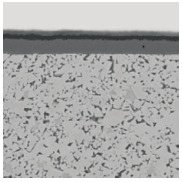
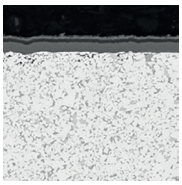
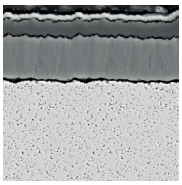
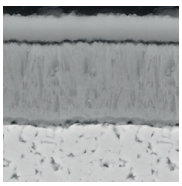
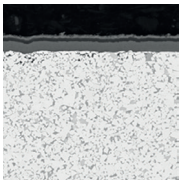
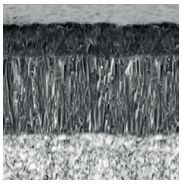
Frese con testa intercambiabile - Serie QCH

Serie	Corpi fresa	Inserto	Kr	Applicazione						Caratteristiche	Pagina
				P	M	K	N	S	H		
QCH-WPGT-Q		WPGT0503 WPGT0604	11°-22°	✔	✔	✔				• Diametro Ø20 – 35 mm • Per acciaio, acciaio inossidabile e ghisa • Inserti con tre taglienti • Possibilità di fresatura a tuffo • Sistema di bloccaggio doppio per inserti• Solo per filettature Q conformi alla norma ZCC-CT	B296
QCH-SPGT-Q		SPGT0502		✔	✔	✔				• Intervallo diametro Ø16 – 20 mm • Per acciaio, acciaio inossidabile e ghise • Per rimuovere bave e svasare • Fresa a taglio dolce, con ampio tagliente positivo • Inserti con due taglienti • Solo per filetto tipo Q come da standard ZCC-CT	B298

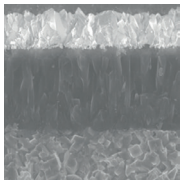
Panoramica rompitrucioli

	Finitura	Asportazione media	Sgrossatura
P	DF	DM	DR
	APF	APM / APL	–
	PF	PM	PR
	GF	GM	GR
	GL	GM	GH
	–	HGR	–
	–	–	ZR
	–	XR	–
	–	MM	–
	MO-2	MO-1	MO-3
M	EF	EM	–
	APF	APM	–
	DF	DM	–
	PF	PM	PR
	GF	GM	GR
	GL	GM	GH
	–	HGR	–
	E	E	–
	–	–	ZR
	–	XR	–
	–	NM	–
K	CF	CM	CR
	DF	DM	DR
	EDFR	DER	DER
	PF	PM	PR
	GF	GM	GR
	GL	GM	GH
	–	–	ZR
	–	XR	–
	MO-2	MO-1	MO-3
S	EF	EM	–
	NM	NM	–
N	LH	LH	LH
	ALH	ALH	ALH

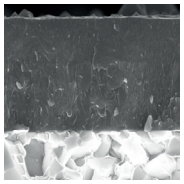
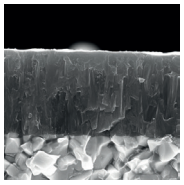
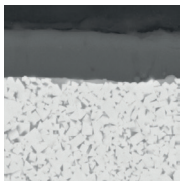
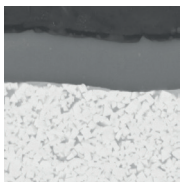
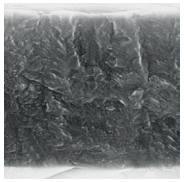
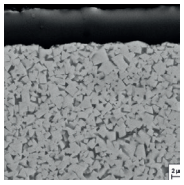
Metallo duro rivestito CVD

Grado	ISO	Microstruttura	Descrizione gradi
YBC302	P20 - P35		Grado di metallo duro con rivestimento in CVD P20-P35 adatto per lavorazioni dall´asportazione media alla sgrossatura di acciaio per alte velocità di taglio. Resistenza all´usura e tenacità ottimizzate per un ampio campo di applicazioni.
YBC301	P20 - P35		Grado di metallo duro con rivestimento in CVD P20-P35 adatto per lavorazioni dall´asportazione media alla sgrossatura di acciaio per basse velocità di taglio.
YBC401	P30 - P50 M30 - M40		Grado di metallo duro con rivestimento in CVD P30–P50/M30–M40 adatto per la sgrossatura di acciaio per basse velocità di taglio e condizioni sfavorevoli.
YBM251	P20 - P30 M15 - M35		Grado di metallo duro con rivestimento in CVD P20–P30/M15–M35 per lavorazioni da media fino alla sgrossatura di acciai inossidabili e acciaio in un ampio campo di applicazioni. Buona resistenza all´usura e alla deformazione per normali velocità di taglio.
YBM253	M15 - M35		Grado di metallo duro con rivestimento in CVD M15-M35 adatto per lavorazioni da media fino alla sgrossatura di acciai inossidabili in un ampio campo di applicazioni. Elevata resistenza all´usura e alla deformazione per alte velocità di taglio. Metallo dur
YBM351	P25 - P40 M20 - M40		Grado di metallo duro con rivestimento in CVD P25–P40/M20–M40 per la sgrossatura di acciai inossidabili e acciaio. Buona resistenza all´usura e stabilità del tagliente per normali velocità di taglio.
YBD152	K10 - K25		Grado di metallo duro con rivestimento in CVD K10-K25 per lavorazioni da media fino alla sgrossatura di materiali in ghisa. Elevata resistenza all´usura e alla rottura ad alte velocità di taglio.
YBD252	K20 - K35		Grado di metallo duro con rivestimento in CVD K20-K35 per lavorazioni da media fino alla sgrossatura di materiali in ghisa e acciaio. Elevata resistenza all´usura e alla rottura ad alte velocità di taglio.

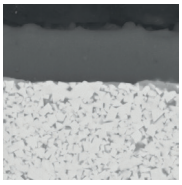
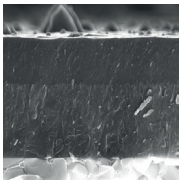
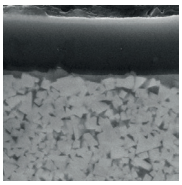
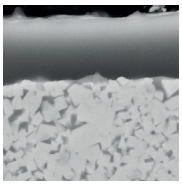
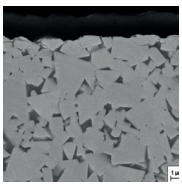
Metallo duro rivestito CVD

Grado	ISO	Microstruttura	Descrizione gradi
YBD203	K10–K30		Metallo duro K10–K30 rivestito in CVD per la lavorazione media e grossolana di ghise e acciaio. Ottima resistenza all'usura meccanica e alle scheggiature. Elevata resistenza all'usura e tenacità alla frattura con elevate velocità di taglio.

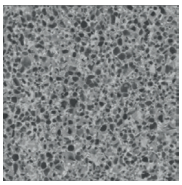
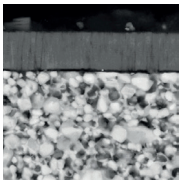
Metallo duro rivestito PVD

Grado	ISO	Microstruttura	Descrizione gradi
YBH053	P05–P15		Metallo duro P05-P15 rivestito in PVD per operazioni di finitura e fresatura media su acciaio. L'elevata conducibilità termica e la resistenza alla temperatura migliorano la resistenza del substrato all'intaglio e alla deformazione. Ottima durezza termica e resistenza all'usura per risultati di lavorazione precisi.
YBG101	N05 - N20		Grado di metallo duro N05 - N20 con rivestimento in PVD per lavorazioni che spaziano dalla finitura all'asportazione media di materiali in alluminio. Il rivestimento applicato unicamente sulla superficie del vano truciolo riduce, in combinazione con il rompitruciolo in alluminio, la formazione de tagliente di riporto e assicura un taglio morbido.
YBG102	S05 - S15		Grado di metallo duro con rivestimento in PVD S05-S15 per lavorazioni dalla finitura all´asportazione media di superleghe, acciaio inossidabile e alluminio. Ottima resistenza all´usura in una vasta gamma di applicazioni.
YBG202	P10 - P30 M10-M25		Grado di metallo duro con rivestimento in PVD P10–P30/M10–M25 per lavorazioni dalla finitura all'asportazione media di acciai inossidabili e acciaio (fresatura). Ottima resistenza all´usura in una vasta gamma di applicazioni.
YBG212	P25 - P35 M25-M40		Grado di metallo duro con rivestimento in PVD P25–P35/M25–M40 per la lavorazione di acciaio e acciaio inossidabile. Particolarmente adatto come inserto di centraggio per la foratura.
YBS203	S15 – S25		Grado di tornitura e fresatura per la lavorazione di materiali resistenti al calore. Uno speciale substrato in metallo duro e la più recente tecnologia di rivestimento PVD consentono un'ottima resistenza all'usura, un'elevata resistenza alla rottura e un'alta stabilità termica.

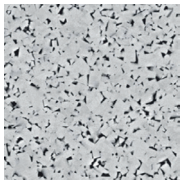
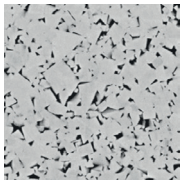
Metallo duro rivestito PVD

Grado	ISO	Microstruttura	Descrizione gradi
YBG205	P10 - P30 M20 - M40 S15-S25		Grado di metallo duro P10 - P30/M20 - M40/S15 - S25 con rivestimento in PVD multistrato per lavorazioni che spaziano dalla finitura all'asportazione media di acciaio inossidabile, superleghe e acciaio (fresatura). Resistenza all'usura e resistenza termica ottimali in un ampio campo di applicazione.
YBG205H	P10–P30 M20–M40 S15–S25		Metallo duro rivestito in PVD con rivestimento TiAlN per la finitura e l'asportazione media di acciaio, acciaio inossidabile e materiali resistenti al calore. Il rivestimento offre elevata durezza, resistenza agli shock termici e alle cricche in un'ampia gamma di applicazioni.
YB9320	P10 - P30 M10-M25		Grado di metallo duro P10 - P30/M10 - M25 con rivestimento in PVD multistrato per lavorazioni che spaziano dalla finitura all'asportazione media di acciaio inossidabile, superleghe e acciaio (scanalatura/fresatura). Resistenza all'usura ottimale grazie all'adesione migliore del rivestimento e alla maggiore resistenza termica in un ampio campo di applicazione.
YBG302	P15 - P30 M25 - M40		Grado di metallo duro con rivestimento in PVD P15–P30/M25–M40 per lavorazioni dall'asportazione media fino alla sgrossatura di acciaio inossidabile e acciaio (fresatura). Ottima resistenza all´usura e tenacità.
YBS303	S25 - S35		Grado di fresatura per la lavorazione di leghe di titanio. Un substrato in metallo duro e la più recente tecnologia di rivestimento PVD con una maggiore resistenza agli urti e un'elevata stabilità termica.

Cermet

Grado	ISO	Microstruttura	Descrizione gradi
YNG151	P05 - P15		Grado non rivestito in Cermet P05–P15 per la finitura di acciaio e acciaio inossidabile. Buona resistenza alla deformazione plastica. Consente un'ottima finitura superficiale.
YNG151C	P05 - P15		Grado Cermet non rivestito in PVD P05–P15 per la finitura di acciaio e acciaio inossidabile. Buona resistenza all'usura e alla deformazione plastica. Consente un'ottima finitura superficiale.

Metallo duro non rivestito

Grado	ISO	Microstruttura	Descrizione gradi
YD101	N05 - N25 K05 - K20		Substrato in metallo duro non rivestito K05–K20/N05–N20 per lavorazioni dalla finitura all´asportazione media di alluminio e altri materiali.
YD201	K10 - K30 N10 - N30		Substrato in metallo duro non rivestito K10–K30/N10–N30 per l´asportazione media di alluminio e altri materiali.

Campi di applicazione dei gradi – inserti per fresatura

	ISO	HC[1] (CVD)	HC[1] (PVD)	HT	HC[2]	Ceramic	HW
P	P01		YBG102		YNG151C		
	P10		YBG202	YNG151			
	P20	YBC301, YBC302, YBM253	YBG205(H), YB9320				
	P30	YBC401, YBM351	YBG302				YC30S
	P40						
M	M01						
	M10	YBM251	YBG102	YNG151	YNG151C		
	M20	YBM253	YBG202, YBG205(H), YB9320				
	M30	YBM351, YBC401	YBG302				YC30S
	M40						
K	K01		YBG102				
	K10	YBD152	YBG152			CN1000	
	K20	YBD252, YBD203	YBG202				YD201
	K30						
	K40						
N	N01						YD051
	N10		YBG101				YD101
	N20		YBG202				YD201
	N30						
S	S01		YBG102				
	S10		YBG202, YBG205, YBS203			CSX1000	
	S20		YBS303				
	S30						
H	H01		YBG102				
	H10					CA1000, CM1000	
	H20						
	H30						

P	Acciaio
M	Acciaio inossidabile
K	Ghisa
N	Metalli non ferrosi
S	Materiali a difficile asportazione
H	Materiali ad elevata durezza

HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Metallo duro non rivestito

Inserti per fresatura

Codice sistema – corpi fresa

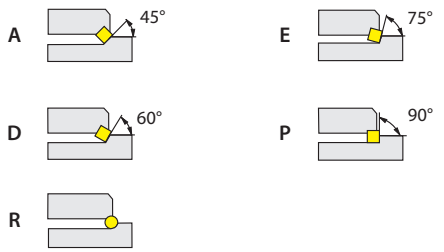
FM	A	12	050	–	A22	O	–	N	06	–	04	(L)	(C)
1	2	3	4		5	6		7	8		9	10	11

Tipo fresa

Code	Descrizione
BM	Fresa profilata
CM	Frese a smusso
EM	Fresa per spallamento
FM	Fresa a spianare
HM	Frese elicoidali
SM	Frese a disco
TM	Frese per scanalature a T
XM	Speciale

1

Angolo di inclinazione [mm]



2

Codice seriale

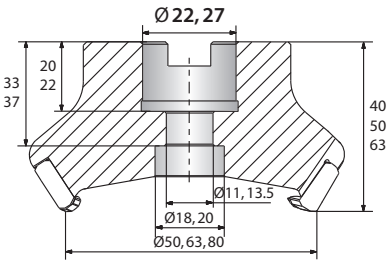
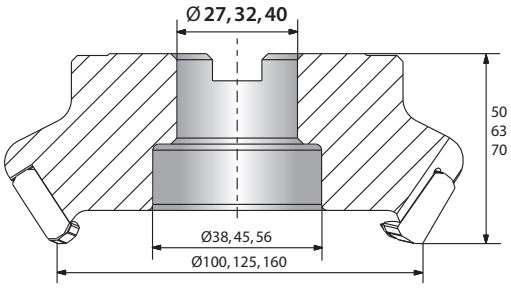
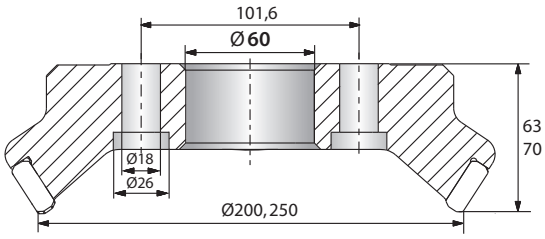
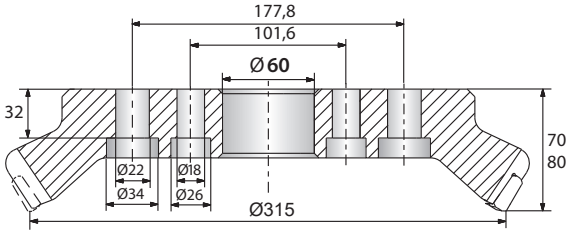
3

Diametro nominale [mm]

Code	Descrizione
025	25
050	50
160	160
315	315
...	

4

Versione e dimensioni dei portautensili

Code	Versione	Code	Versione
A	Diametro nominale Ø50 – 80 mm 	B	Diametro nominale Ø100 – 160 mm 
C	Diametro nominale Ø200 – 250 mm 	D	Diametro nominale Ø315 mm 
G	Codolo cilindrico	XP	Stelo Weldon
K	Foro con taglio con attacco		

5

Per quanto riguarda il fissaggio, si prega di osservare le informazioni fornite dal produttore del portautensile.

Forma dell'inserto	
A	C
H	L
M	O
P	R
S	T
W	X Speciale
Z Speciale	

6

Angolo di spoglia inferiore	
B 5°	C 7°
D 15°	E 20°
F 25°	N 0°
P 11°	

7

Lunghezza tagliente [mm]	
Forma dell'inserto	
A	C, M
H, O, P	L
R	S
T	W

8

Numero di denti

9

Direzione di taglio	
Code	Descrizione
L	Sinistra

10

Con raffreddamento interno

11

Gli utensili con accoppiamento di tipo B e alimentazione interna di refrigerante richiedono le seguenti parti di ricambio:

Vite di fissaggio refrigerante

Rondella del refrigerante

Parti di ricambio (accoppiamento di tipo B con alimentazione interna di refrigerante)

		B27	B32	B40	B40
	Ø	**80**	**100**	**125**	**160**
	Vite di fissaggio refrigerante	LDB27C	LDB32C	LDB40C	LDB40C
	Rondella del refrigerante	B27-002-CP	B32-002-CP	B40-002-CP	B40-003-CP

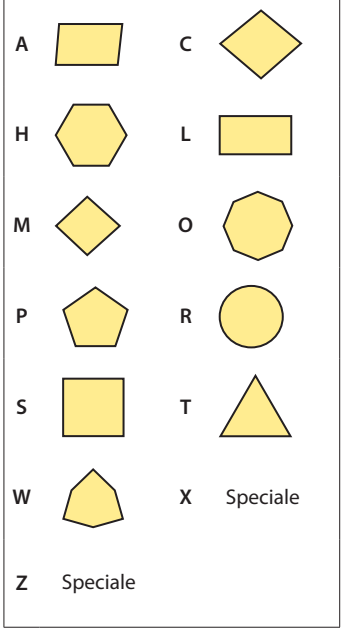
Al momento dell'acquisto di un utensile con alimentazione interna di refrigerante e accoppiamento di tipo B, queste parti di ricambio sono incluse.

Inserti per fresatura

Codice ISO – inserti

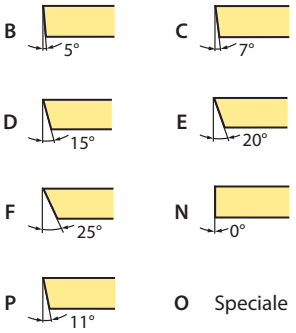
S	P	K	N	12	04	ED	T21K	R	–	DM
1	2	3	4	5	6	7	8	9		10

Forma dell'inserto



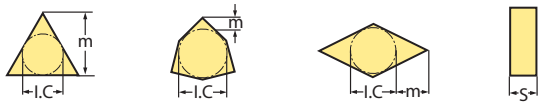
1

Angolo di spoglia inferiore



2

Grado di toleranza

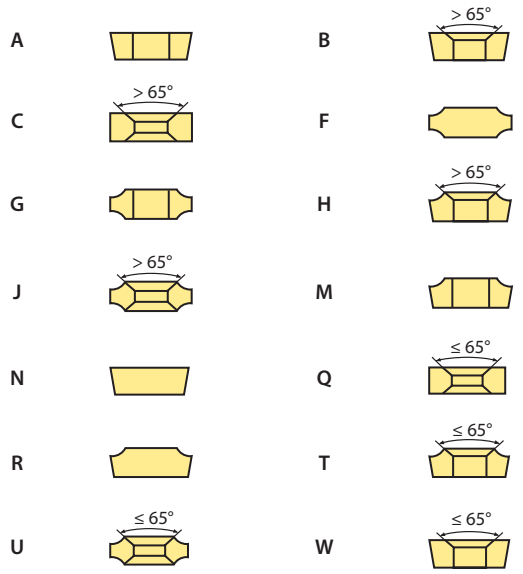


Code	I.C [mm]	m [mm]	S [mm]
A	±0,025	±0,005	±0,025
C	±0,025	±0,013	±0,025
E	±0,025	±0,025	±0,025
F	±0,013	±0,005	±0,025
G	±0,025	±0,025	±0,130
H	±0,013	±0,013	±0,025
J	±0,05–0,13	±0,005	±0,025
K	±0,05–0,13	±0,013	±0,025
L	±0,05–0,13	±0,025	±0,025
M	±0,05–0,13	±0,08–0,18	±0,130
N	±0,05–0,13	±0,08–0,18	±0,025
U	±0,08–0,25	±0,13–0,38	±0,130

3

Caratteristiche di fissaggio (metrico)

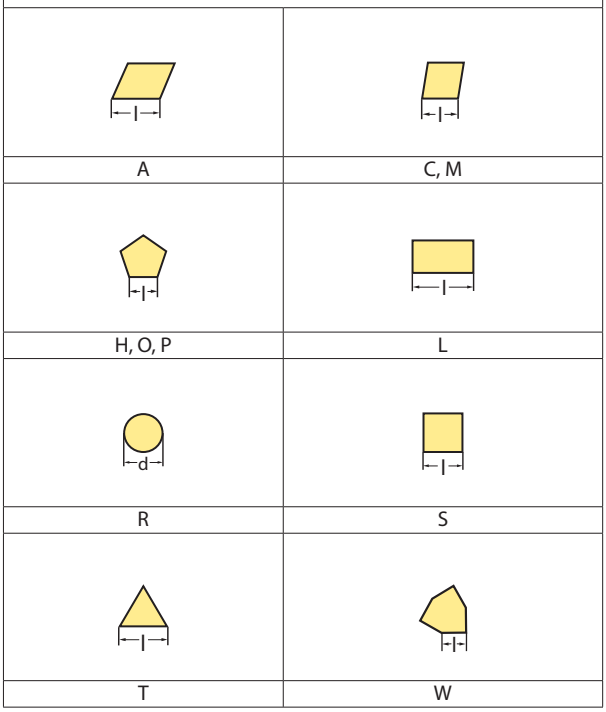
Forma dell'inserto



4

Lunghezza tagliente [mm]

Forma dell'inserto



5

Inserti per fresatura

Spessore dell'inserto S [mm]

Code	S	Code	S
00	0,79	**05**	5,56
T0	0,99	**T5**	5,95
01	1,59	**06**	6,35
T1	1,98	**T6**	6,75
02	2,38	**07**	7,94
T2	2,58	**09**	9,52
03	3,18	**T9**	9,72
T3	3,97	**11**	11,11
04	4,76	**12**	12,70
T4	4,96		

6

Angolo

Code	Kr	Code	αn
A	45°	**A**	3°
D	60°	**B**	5°
E	75°	**C**	7°
F	85°	**D**	15°
P	90°	**E**	20°
Z	Speciale	**F**	25°
		G	30°
		N	0°
		P	11°
		Z	Speciale

7

Smusso

Code	Versione	Code	Angolo	Code	Larghezza [mm]	Code	Posizione
F		**0**	5°	**0**	0,10	**K**	
E		**1**	10°	**1**	0,15		
T		**2**	15°	**2**	0,20	**P**	
S		**3**	20°	**3**	0,25		
		4	25°	**4**	0,30	**W**	
		5	30°	**5**	0,35		
				6	0,40	**–**	
				7	0,45		

8

Direzione di taglio

Code	Descrizione
R	Destra
L	Sinistra
N	Destro e sinistro

9

Panoramica rompitrucioli
(da pagina B26)

10

Inserti per fresatura

Codice sistema – frese a disco

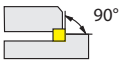
SM	P	03	–	160	×	16	–	K	40	–	M	P	12	–	12	L
1	2	3		4		5		6	7		8	9	10		11	12

Versione

Code	Descrizione
SM	Frese a disco

1

Angolo di inclinazione [mm]

P 

2

Codice seriale

3

Diametro nominale [mm]

4

Larghezza di taglio [mm]

5

Tipologia alloggiamento

Code	Descrizione	Code	Descrizione
A	Tipo A	B	Tipo B
C	Tipo C	D	Tipo D
K	Con linguetta		

6

Diametro del foro della sede [mm]

7

Forma dell'inserto

M

S

L

8

Angolo di spoglia inferiore

N

P

9

Dimensioni dell'inserto [mm]

10

Numero di denti

11

Direzione di taglio

Code	Descrizione
R	Destra
L	Sinistra

12

Inserti per fresatura

QCH	–	35	–	SDMT	09	–	Q	18	–	03
1		2		3	4		5	6		7

Serie

Code	Descrizione
QCH	Sistema di testine intercambiabili

1

Diametro nominale [mm]

Code	Descrizione
16	16
20	20
25	25
35	35
...	

2

Forma inserto

3

Lunghezza tagliente l [mm]

A

R

S

4

Tipo di filettatura

Code	Descrizione
M	Metrico
Q	Filettatura Q

5

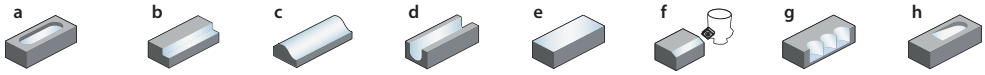
Dimensione filetto [mm]

Code	Descrizione
8	8
10	10
12	12
14	14
...	

6

Numero di taglienti

7



a Fresatura di cave
b Fresatura ad angolo
c Profilatura
d Fresatura di fessure
e Fresatura a spianare
f Fresatura a spallamento
g Fresatura a tuffo
h Fresatura circolare/a rampe

G	25	–	QCH	–	Q	12	–	250	C	–	(ZJ)	(115)
1	2		3		4	5		6	7		8	9

Forma di serraggio	
Code	Descrizione
G	Cilindrico
XP	Weldon

1

Diametro di serraggio [mm]	
Code	Descrizione
12	12
16	16
20	20
25	25
32	32

2

Serie	
Code	Descrizione
QCH	Sistema di testine intercambiabili

3

Tipo filettatura	
Code	Descrizione
M	Metrico
Q	Filettatura Q

4

Dimensioni filettatura [mm]	
Code	Descrizione
8	8
10	10
12	12
14	14
...	

5

Lunghezza totale [mm]	
Code	Descrizione
85	85
150	150
200	200
...	

6

Materiale	
Code	Descrizione
C	Metallo duro integrale
S	Acciaio

7

Attacco	
Code	Descrizione
ZJ	Conico
–	Cilindrico a gradini

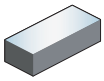
8

Lunghezza cono [mm]	
Code	Descrizione
90	90
115	115
...	

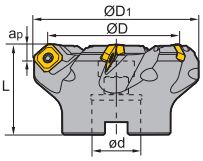
9

Fresa a spianare

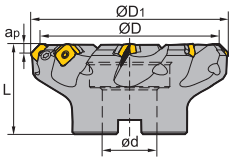
FMA01 Kr: 45°



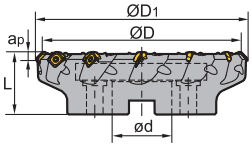
Passo stretto



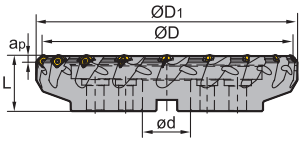
A



B



C



D

Articolo	✻	Stock R	Stock L	Dimensioni [mm] ØD	ØD₁	ød	L	$a_{p\,max}$	Denti	Attacco	kg	Inserto
FMA01-040-A22-SE12-04C	✻	○		40	51	22	40	6	4	A	0,34	
FMA01-050-A22-SE12-04		●	○	50	61	22	40	6	4	A	0,3	
FMA01-050-A22-SE12-04C	✻	●	○	50	61	22	40	6	4	A	0,3	
FMA01-050-A22-SE12-05C	✻	○	○	50	61	22	40	6	5	A	0,420,45	
FMA01-063-A22-SE12-05		●		63	74	22	40	6	5	A	0,5	
FMA01-063-A22-SE12-05C	✻	●	○	63	74	22	40	6	5	A	1,2	
FMA01-063-A22-SE12-06C	✻	●	○	63	74	22	40	6	6	A	0,53	
FMA01-080-A27-SE12-06		●	●	80	91	27	50	6	6	A	1,2	
FMA01-080-A27-SE12-06C	✻	●	○	80	91	27	50	6	6	A	1,2	
FMA01-080-A27-SE12-08C	✻	○		80	91	27	50	6	8	A	1,37	
FMA01-100-B32-SE12-07		●	○	100	107	32	50	6	7	B	1,2	
FMA01-100-B32-SE12-07C	✻	○	○	100	107	32	50	6	7	B	1,2	
FMA01-100-B32-SE12-08C	✻	○	○	100	107	32	50	6	8	B	1,99	SEET12T3
FMA01-100-B32-SE12-09		○		100	107	32	50	6	9	B	1,85	
FMA01-100-B32-SE12-09C	✻	○		100	107	32	50	6	9	B	2,02	
FMA01-125-B40-SE12-08		●	●	125	136	40	63	6	8	B	2,6	
FMA01-125-B40-SE12-08C	✻	○		125	136	40	63	6	8	B	2,6	
FMA01-125-B40-SE12-12		○		125	136	40	63	6	12	B	3,71	
FMA01-125-B40-SE12-12C	✻	○	○	125	136	40	63	6	12	B	3,33	
FMA01-160-B40-SE12-10		●	●	160	170	40	63	6	10	B	4,3	
FMA01-160-B40-SE12-10C	✻	○		160	170	40	63	6	10	B	4,3	
FMA01-200-C60-SE12-12		●	○	200	210	60	63	6	12	C	7,6	
FMA01-250-C60-SE12-14		●	○	250	260	60	63	6	14	C	13,5	
FMA01-315-D60-SE12-14		○		315	335	60	70	6	14	D	20,71	
FMA01-315-D60-SE12-18		●		315	325	60	70	6	18	D	20,8	
FMA01-100-B32-SE18-04		○	○	100	120	32	63	10	4	B	1,2	
FMA01-125-B40-SE18-05		○	○	125	145	40	63	10	5	B	2,6	SEET18T6
FMA01-125-B40-SE18-07		○		125	145	40	63	10	7	B	3,22	
FMA01-160-C40-SE18-06		○	○	160	180	40	63	10	6	C	4,3	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti per fresatura

Fresa a spianare

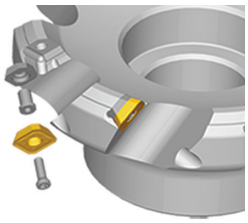
Articolo	✻	Stock R	Stock L	ØD	$ØD_1$	ød	L	$a_{p\,max}$	Denti	Attacco	kg	Inserto
FMA01-160-C40-SE18-09		○		160	180	40	63	10	9	C	4,8	SEET18T6
FMA01-200-C60-SE18-08		●	○	200	220	60	63	10	8	C	7,6	
FMA01-250-C60-SE18-10		●		250	270	60	63	10	10	C	13,5	
FMA01-315-D60-SE18-12		○	○	315	335	60	80	10	12	D	20,8	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	SEET12T3	SEET12T3	SEET18T6
	ØD	50-100	125 - 315	100- 315
	Vite (inserti)	I60M3,5×10 (2,7 Nm)	I60M3,5×12 (2,7 Nm)	I60M5×17 (6,7 Nm)
	Vite (sottoplacchetta)		SM5×7XA	SM8×9XA
	Sottoplacchetta		S13BS	S18BS
	Chiave (sottoplacchetta)		WH35L	WH50L
	Chiave (inserti)	WT15IS	WT15IS	
	Chiave (inserti)			WT20IT

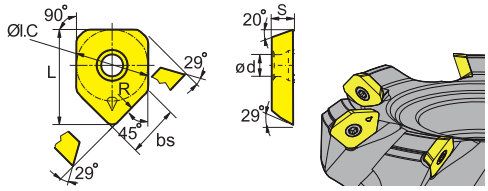


Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SEET	L	I.C	S	d
12 T3	17,82	13,4	3,97	4,1
18 T6	24,78	18	6,1	5,5

SE** Inserti - Fresatura



	HC¹ (CVD)									HC¹ (PVD)											HT	HC²	HW		
	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
P	◐	◐	◐	◐	◐	◐		◐	◐				◐	◐		◐	◐	◐	◐		●	●	●		
M		◐	◐	◐	◐	◐							◐	◐	◐	◐	◐	◐	◐	◐	●	●	●		
K							◐	◐	◐												●				
N											◐													◐	◐
S				◐		◐						●	◐		◐	◐		◐		◐					
H										○							◐								

	ISO	R	bs	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	SEET12T3-W	500	9,46							○									●						○	○		
	SEET12T3S11-W	500	9,46																		○							
	SEET12T3S20-W	500	9,46																	○								
	SEET18T6-W	500	11																○									

● In magazzino ○ Su richiesta

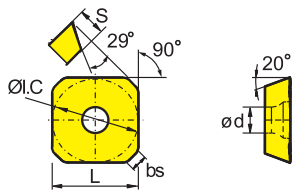
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SEET	L	I.C	S	d
12 T3	13,4	13,4	3,97	4,1
18 T6	18	18	6,1	5,5



SE** Inserti - Fresatura		HC¹ (CVD)									HC¹ (PVD)												HT		HC²		HW	
	P	⊛	⊛	⊛	⊛	⊛	⊛		⊛	⊛				⊛	⊛		⊛	⊛	⊛	⊛		●	●		●			
	M		⊛	⊛	⊛	⊛	⊛							⊛	⊛	⊛	⊛	⊛	⊛	⊛	⊛	●	●		●			
	K							⊛	⊛	⊛												●						
	N											⊛															⊛	⊛
	S				⊛		⊛						●	⊛		⊛	⊛		⊛		⊛							
	H										●							⊛										
ISO	bs	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151		YNG151C		YD101	YD201
SEET12T3-CF	2,55							○					○															
SEET12T3-CM	2,55							●					○															
SEET12T3-CR	2,55							●	●				○															
SEET12T3-DF	2,55	●	●				●											●		○			○		○			
SEET18T6-DH	2,29	○			○												○											
SEET12T3-DM	2,55	●	○	●	●		●							○				●	●	●								
SEET18T6-DM	2,29	●			●																							
SEET12T3-DR	2,55	○		●			●		○											○								
SEET12T3-EF	2,55													○		○				●	○							
SEET12T3-EM	2,55						●							○		○	●			●	○							
SEET18T6-EM	2,29				●														●									
SEET12T3-LH	2,55											○															●	●

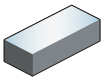
● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

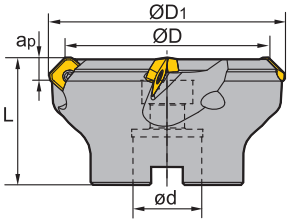
Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Fresa a spianare

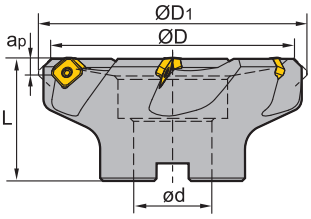
FMA02 Kr: 45°



Passo normale e largo



A



B

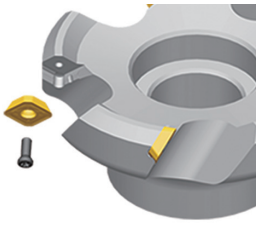
Articolo	✻	Stock	Dimensioni [mm]					Denti	Attacco	kg	Inserto
			ØD	$ØD_1$	ød	L	$a_{p\,max}$				
FMA02-050-A22-SE12-03		●	50	61	22	40	6	3	A	0,4	SEET12T3
FMA02-063-A22-SE12-04		●	63	74	22	40	6	4	A	0,6	
FMA02-080-A27-SE12-04		●	80	91	27	50	6	4	A	1,3	
FMA02-100-B32-SE12-05		●	100	107	32	50	6	5	B	1,3	
FMA02-125-B40-SE12-06		○	125	131	40	63	6	6	B	2,6	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**SEET12T3**
	ØD	**50-125**
	Vite (inserti)	I60M3,5×10 (2,7 Nm)
	Chiave (inserti)	WT15IS

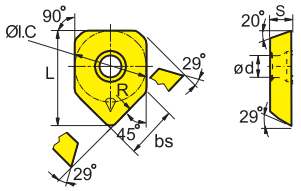


Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SEET	L	I.C	S	d
12 T3	17,82	13,4	3,97	4,1



SE** Inserti - Fresatura		HC¹ (CVD)									HC¹ (PVD)												HT	HC²	HW	
		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
P		⊛	⊛	⊛	⊛	⊛	⊛		⊛	⊛				⊛	⊛		⊛	⊛	⊛	⊛		●	●	●		
M			⊛	⊛	⊛	⊛	⊛							⊛	⊛	⊛	⊛	⊛	⊛	⊛	⊛	●	●	●		
K								⊛	⊛	⊛												●				
N												⊛													⊛	⊛
S					⊛		⊛						●	⊛		⊛	⊛		⊛		⊛					
H											○							⊛								
ISO	R	bs																								
SEET12T3-W	500	9,46						○									●						○	○		
SEET12T3S11-W	500	9,46																	○							
SEET12T3S20-W	500	9,46																○								

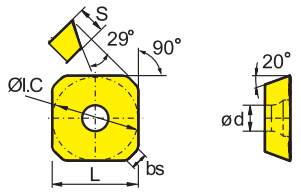
● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SEET	L	I.C	S	d
12 T3	13,4	13,4	3,97	4,1



SE** Inserti - Fresatura		HC¹ (CVD)									HC¹ (PVD)												HT	HC²	HW	
		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
P		⊛	⊛	⊛	⊛	⊛	⊛		⊛	⊛				⊛	⊛		⊛	⊛	⊛	⊛		●	●	●		
M			⊛	⊛	⊛	⊛	⊛							⊛	⊛	⊛	⊛	⊛	⊛	⊛	⊛	●	●	●		
K								⊛	⊛	⊛												●				
N												⊛													⊛	⊛
S					⊛		⊛						●	⊛		⊛	⊛		⊛		⊛					
H											○							⊛								
ISO	bs																									
SEET12T3-CF	2,55							○					○													
SEET12T3-CM	2,55							●					○													
SEET12T3-CR	2,55							●	●				○													

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

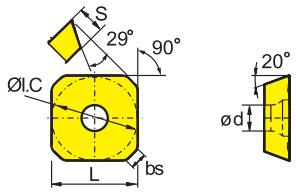
Inserti per fresatura

Fresa a spianare

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SEET	L	I.C	S	d
12 T3	13,4	13,4	3,97	4,1



SE** Inserti - Fresatura		HC[1] (CVD)									HC[1] (PVD)											HT		HC[2]		HW	
	P	⊛	⊛	❀	⊛	⊛	❀		⊛	⊛				⊛	❀		⊛	⊛	⊛	❀		●	●		●			
	M		⊛	❀	⊛	⊛	❀							⊛	❀	⊛	⊛	⊛	⊛	❀		●	●		●			
	K							⊛	❀	⊛												●						
	N											⊛															⊛	❀
	S				❀		❀						●	⊛		⊛	⊛			⊛		❀						
	H										●							⊛										
ISO	bs	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151		YNG151C		YD101	YD201
	SEET12T3-DF	2,55	●	●				●										●		○			○		○			
	SEET12T3-DM	2,55	●	○	●	●		●						○				●	●	●								
	SEET12T3-DR	2,55	○		●			●		○										○								
	SEET12T3-EF	2,55												○		○				●	○							
	SEET12T3-EM	2,55						●						○		○	●			●	○							
	SEET12T3-LH	2,55										○															●	●

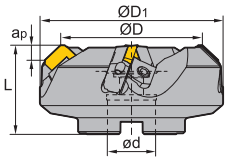
● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

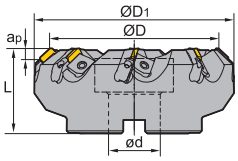
Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Fresa a spianare

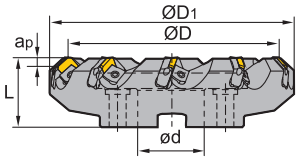
FMA03 Kr: 45°



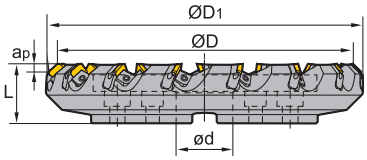
A



B



C



D

Articolo	✻	Stock R	Stock L	Dimensioni [mm] ØD	ØD₁	ød	L	$a_{p\,max}$	Denti	Attacco	kg	Inserto
FMA03-080-A27-SE12-04		○	○	80	103	27	50	5,5	4	A	1,8	SEEN1203 SEKN1203 SEKR1203
FMA03-100-B32-SE12-05		○	○	100	122	32	50	5,5	5	B	2,4	
FMA03-125-B40-SE12-06		○	○	125	147	40	63	5,5	6	B	4,4	
FMA03-160-B40-SE12-08		○		160	181	40	63	5,5	8	B	6,4	
FMA03-200-C60-SE12-10		○	○	200	221	60	63	5,5	10	C	8,5	
FMA03-250-C60-SE12-12		○	○	250	270	60	63	5,5	12	C	14,1	
FMA03-315-D60-SE12-15		○	○	315	353	60	63	5,5	15	D	22,2	
FMA03-080-A27-SE15-04		○		80	103	27	50	7,5	4	A	1,7	SEKN1504 SEKR1504
FMA03-100-B32-SE15-05		○		100	122	32	50	7,5	5	B	2,3	
FMA03-125-B40-SE15-06		○		125	147	40	63	7,5	6	B	4,2	
FMA03-160-B40-SE15-08		○		160	181	40	63	7,5	8	B	6,1	
FMA03-200-C60-SE15-10		○	○	200	221	60	63	7,5	10	C	8,3	
FMA03-250-C60-SE15-12		○	○	250	270	60	63	7,5	12	C	13,6	
FMA03-315-D60-SE15-15		○	○	315	353	60	63	7,5	15	D	21,8	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

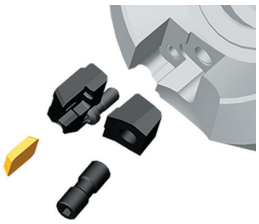
Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti per fresatura

Fresa a spianare

Parti di ricambio

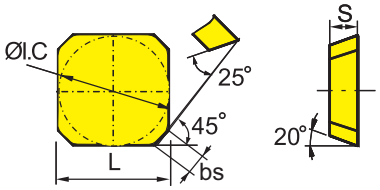
	Inserto	SEEN1203 SEKN1203 SEKR1203	SEKN1504 SEKR1504
	ØD	80- 315	80- 315
	Vite di regolazione	LOM5×15.1	LOM5×15.1
	Cassetta (sinistra)	LSE12L	LSE15L
	Cassetta (destra)	LSE12R	LSE15R
	Vite (cuneo)	DM8×21X (10,2 Nm)	DM8×21X (10,2 Nm)
	Cuneo (sinistra)	W01L	W01L
	Cuneo (destra)	W01R	W01R
	Chiave (vite di regolazione)	WT20T	WT20T
	Chiave (cuneo)	WH40T	WH40T



Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SEKN	L	I.C	S
12 03	12,7	12,7	3,18
15 04	15,875	15,875	4,76



SE** Inserti - Fresatura		HC¹ (CVD)									HC¹ (PVD)											HT		HC²		HW		
	P	⊛	⊛	⊛	⊛	⊛	⊛		⊛	⊛				⊛	⊛		⊛	⊛	⊛	⊛		●		●				
	M		⊛	⊛	⊛	⊛	⊛							⊛	⊛	⊛	⊛	⊛	⊛	⊛	⊛	●		●				
	K							⊛	⊛	⊛											●							
	N										⊛															⊛	⊛	
	S				⊛		⊛						●	⊛		⊛	⊛		⊛		⊛							
	H										○							⊛										
ISO	bs	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151		YNG151C		YD101	YD201	
SEKN1203AFN	1,8		○																									
SEKN1203AFTN	1,8		●		●		○	○	○					○			○						○		○		○	
SEKN1203AFTNX			○					○	○																○			
SEKN1504AFTN	1,6	○	●	○		○	●												●									
SEKN1504AFTNX		○	○	○		○																						
SEKN1504AZ	1,6		○																									

● In magazzino ○ Su richiesta

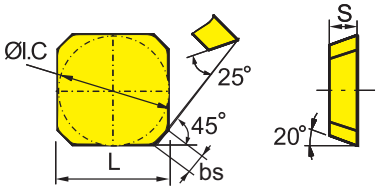
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SEEN	L	I.C	S
12 03	12,7	12,7	3,18



SE** Inserti - Fresatura		HC¹ (CVD)									HC¹ (PVD)												HT	HC²	HW	
	P	◉	◉	❁	◉	◉	❁		◉	◉				❁	❁		❁	◉	◉	❁		●	●	◉		❁	❁
	M		❁	❁	❁	❁	❁							❁	❁	❁	❁	❁	❁	❁	❁	❁	❁	❁			
	K							❁	❁	❁												●					
	N											❁														❁	❁
	S				❁		❁						●	❁		❁	❁		❁		❁						
	H										○							❁									
ISO	bs	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201		
SEEN1203AFTN	1,8																						●					

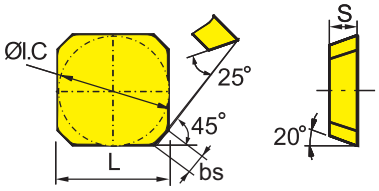
● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SEKR	L	I.C	S
12 03	12,7	12,7	3,18



SE** Inserti - Fresatura		HC¹ (CVD)									HC¹ (PVD)												HT	HC²	HW	
	P	◉	◉	❁	◉	◉	❁		◉	◉				❁	❁		❁	◉	◉	❁		●	●	◉			
	M		❁	❁	❁	❁	❁							❁	❁	❁	❁	❁	❁	❁	❁	❁	❁	❁			
	K							❁	❁	❁												●					
	N											❁														❁	❁
	S				❁		❁						●	❁		❁	❁		❁		❁						
	H										○							❁									
ISO	bs	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201		
SEKR1203AFN	1,8		●											○														

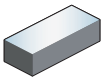
● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

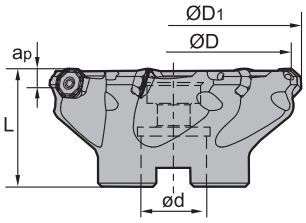
Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Fresa a spianare

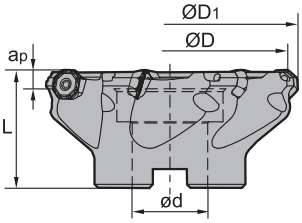
FMA04 Kr: 45°



Bloccaggio a vite



A



B

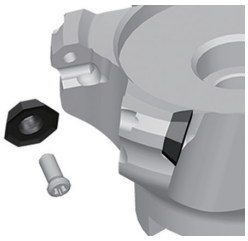
Articolo	✻	Stock R	Stock L	Dimensioni [mm] ØD	ØD1	ød	L	ap max	Denti	Attacco	kg	Inserto
FMA04-050-A22-OF05-04		○		50	56	22	40	3,5	4	A	0,3	OFKT05T3
FMA04-050-A22-OF05-05		○		50	56	22	40	3,5	5	A	0,4	
FMA04-050-A22-OF05-05C	✻	○		50	56	22	40	3,5	5	A	0,4	
FMA04-063-A22-OF05-05		○		63	69	22	40	3,5	5	A	0,5	
FMA04-063-A22-OF05-05C	✻	○		63	69	22	40	3,5	5	A	0,5	
FMA04-080-A27-OF05-06		○	○	80	86	27	50	3,5	6	A	0,8	
FMA04-080-A27-OF05-06C	✻	○		80	86	27	50	3,5	6	A	0,8	
FMA04-100-B32-OF05-07		○	○	100	106	32	50	3,5	7	B	1,2	
FMA04-100-B32-OF05-07C	✻	○		100	106	32	50	3,5	7	B	1,2	
FMA04-125-B40-OF05-08		○		125	130	40	63	3,5	8	B	2,7	
FMA04-125-B40-OF05-08C	✻	○		125	130	40	63	3,5	8	B	2,7	
FMA04-160-B40-OF05-10		○		160	165	40	63	3,5	10	B	5,1	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	OFKT05T3	OFKT05T3
	ØD	50-63	80-160
	Vite (inserti)	I60M4×8,4 (3,4 Nm)	I60M4×10 (3,4 Nm)
	Chiave (inserti)	WT15IS	WT15IS

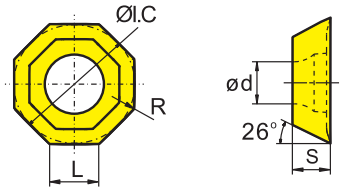


Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

OFKT	L	I.C	S	d
05 T3	5,26	12,7	3,97	4,4



OF** Inserti - Fresatura		HC¹ (CVD)								HC¹ (PVD)											HT	HC²	HW	
	P	✲	✲	✲	✲	✲	✲		✲	✲			✲	✲		✲	✲	✲	✲		●		●		
	M		✲	✲	✲	✲	✲						✲	✲	✲	✲	✲	✲	✲	✲	●		●		
	K							✲	✲	✲										●					
	N										✲													✲	✲
	S				✲		✲					●	✲		✲	✲		✲		✲					
	H									○							✲								
ISO	R	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
OFKT05T3-DF	0,5												○	○												
OFKT05T3-DM	0,5				●			○					○				●		●	○						
OFKT05T3-LH	0,5																								●	

● In magazzino ○ Su richiesta

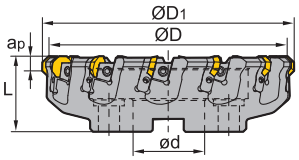
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

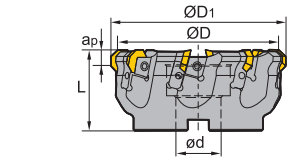
Fresa a spianare

FMA04 Kr: 45°

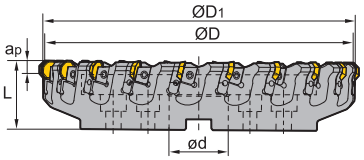
Bloccaggio a cuneo



C



B



D

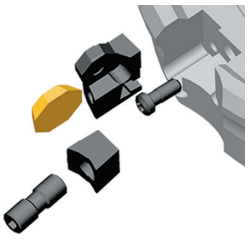
Articolo	✻	Stock R	Stock L	Dimensioni [mm] ØD	ØD1	ød	L	$a_{p\,max}$	Denti	Attacco	kg	Inserto
FMA04-125-B40-OF07-08		○		125	136	40	63	5	8	B	3,9	OFKR0704
FMA04-200-C60-OF07-12		○		200	211	60	63	5	12	C	7,6	
FMA04-250-C60-OF07-16		○		250	261	60	63	5	16	C	13,3	
FMA04-315-D60-OF07-20			○	315	321	60	63	5	20	D	20,3	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**OFKR0704**
	ØD	**125 - 315**
	Vite di regolazione	LOM5×15.1
	Cassetta (sinistra)	LOF07L
	Cassetta (destra)	LOF07R
	Vite (cuneo)	DM8×21X (10,2 Nm)
	Cuneo (sinistra)	W02L
	Cuneo (destra)	W02R
	Chiave (vite di regolazione)	WT20T
	Chiave (cuneo)	WH40T

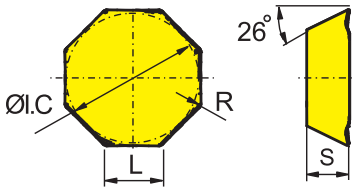


Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

Inserti - Fresatura

- ● Buone condizioni di lavorazione
- ❁ Condizioni di lavorazione normali
- ❁ Condizioni di lavorazione sfavorevoli

OFKR	L	I.C	S
07 04	7,45	17,94	4,76



OF** Inserti - Fresatura		HC¹ (CVD)									HC¹ (PVD)											HT	HC²	HW	
	P	❁	❁	❁	❁	❁	❁		❁	❁				❁	❁		❁	❁	❁	❁		●	●		
	M		❁	❁	❁	❁	❁							❁	❁	❁	❁	❁	❁	❁	❁	●	●		
	K							❁	❁	❁											●				
	N											❁												❁	❁
	S				❁		❁						●	❁		❁	❁		❁		❁				
	H										○							❁							
ISO	R	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
OFKR0704-DM	0,8		○	○		○	○		○					○						○						
OFKR0704W-DM	0,8																○									
OFKR0704-LH	0,8																									○
OFKR0704-PM	0,8																		○							

● In magazzino ○ Su richiesta

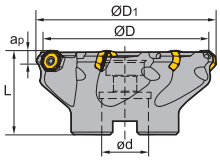
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

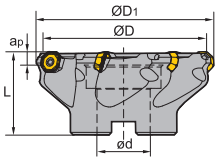
Fresa a spianare

FMA04 Kr: 45°

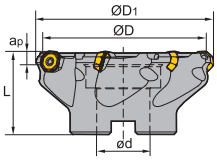
Bloccaggio a vite



A



B



C

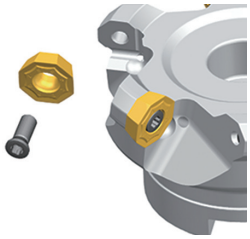
Articolo	✻	Stock	Dimensioni [mm]					Denti	kg	Inserto
			ØD	$ØD_1$	ød	L	$a_{p\,max}$			
FMA04-050-A22-OD06-04C	✻	○	50	60	22	40	4	4	0,284	OD*T0605**
FMA04-063-A22-OD06-05C	✻	○	63	73	22	40	4	5	0,409	
FMA04-066-A27-OD06-05C	✻	○	66	76	27	50	4	5	0,88	
FMA04-070-A27-OD06-06C	✻	○	70	80	27	50	4	6	0,88	
FMA04-080-A27-OD06-06C	✻	○	80	90	27	50	4	6	1,017	
FMA04-100-A32-OD06-07C	✻	○	100	110	32	50	4	7	1,536	
FMA04-125-B40-OD06-08		○	125	135	40	63	4	8	2,931	
FMA04-125-B40-OD06-12		○	125	135	40	63	4	12	3,295	
FMA04-160-C40-OD06-10		○	160	170	40	63	4	10	3,838	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**OD*T0605****
	ØD	**50-160**
	Vite (inserti)	I60M5×13 (6,7 Nm)
	Chiave (inserti)	WT20IS

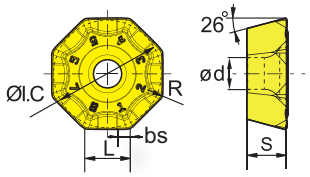


Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

ODHT	L	I.C	S	d
06 05	6,5	15,875	5,56	5,4
06 05	6,5	15,875	5,56	5,4



OD** Inserti - Fresatura	HC¹ (CVD)									HC¹ (PVD)												HT	HC²	HW	
P	●	●	●	●	●	●		●	●				●	●		●	●	●	●		●	●	●		
M		●	●	●	●	●							●	●	●	●	●	●	●	●	●	●	●		
K							●	●	●												●				
N											●													●	●
S				●		●						●	●		●	●		●		●					
H										○									●						

	ISO	r	bs	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	ODHT060508-GH	0,8	1,6				●			●	●										●							
	ODHT060508-GL	0,8	1,6				○			○											●							
	ODHT060508-GM	0,8	1,6	●			●			●											●							
	ODHT060508-LH	0,8	1,6																								●	○
	ODMT060512-GM	1,2	1,6																		○							

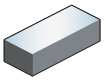
● In magazzino ○ Su richiesta

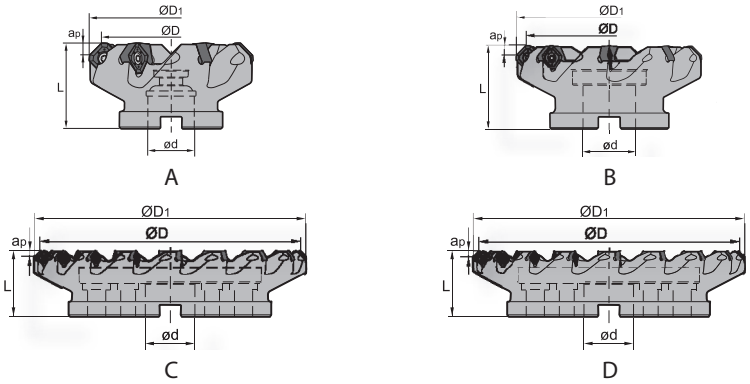
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Fresa a spianare

FMA11 Kr: 45°





Articolo	✻	Stock	Dimensioni [mm] ØD	ØD1	ød	L	$a_{p\,max}$	Denti	Attacco	kg	Inserto
FMA11-032-A16-SN12-03C	✻	●	32	43,47	16	40	5,5	3	A	0,33	SNEG1205
FMA11-040-A16-SN12-04C	✻	●	40	51,47	16	40	5,5	4	A	0,33	
FMA11-050-A22-SN12-04C	✻	●	50	61,47	22	40	5,5	4	A	0,44	
FMA11-063-A22-SN12-05C	✻	●	63	74,47	22	40	5,5	5	A	0,55	
FMA11-063-A22-SN12-06C	✻	●	63	74,47	22	40	5,5	6	A	0,58	
FMA11-080-A27-SN12-06C	✻	●	80	91,47	27	50	5,5	6	A	1,14	
FMA11-080-A27-SN12-08C	✻	●	80	91,47	27	50	5,5	8	A	1,16	
FMA11-100-B32-SN12-07		●	100	111,47	32	50	5,5	7	B	1,42	
FMA11-100-B32-SN12-07C	✻	○	100	111,47	32	50	5,5	7	B	1,42	
FMA11-100-B32-SN12-10C	✻	●	100	111,47	32	50	5,5	10	B	1,42	
FMA11-125-B40-SN12-08		●	125	136,47	40	63	5,5	8	B	2,86	
FMA11-125-B40-SN12-08C	✻	○	125	136,47	40	63	5,5	8	B	2,86	
FMA11-125-B40-SN12-12C	✻	●	125	136,47	40	63	5,5	12	B	2,86	
FMA11-160-C40-SN12-10		●	160	171,47	40	63	5,5	10	C	4,06	
FMA11-160-C40-SN12-15		●	160	171,47	40	63	5,5	15	C	4,06	
FMA11-200-C60-SN12-14		●	200	212,08	60	63	5,5	14	C	6,89	
FMA11-063-A22-SN15-05C	✻	●	63	77,4	22	40	7	5	A	0,56	SNEG1506
FMA11-080-A27-SN15-06C	✻	●	80	94,4	27	50	7	6	A	1,06	
FMA11-100-B32-SN15-07		●	100	114,4	32	50	7	7	B	1,47	
FMA11-100-B32-SN15-07C	✻	○	100	114,4	32	50	7	7	B	1,47	
FMA11-100-B32-SN15-09C	✻	●	100	114,4	32	50	7	9	B	1,47	
FMA11-125-B40-SN15-08		●	125	139,4	40	63	7	8	B	2,7	
FMA11-125-B40-SN15-08C	✻	○	125	139,4	40	63	7	8	B	2,7	
FMA11-125-B40-SN15-10C	✻	●	125	140,25	40	63	7	10	B	3,1	
FMA11-160-C40-SN15-10		●	160	174,4	40	63	7	10	C	3,92	
FMA11-160-C40-SN15-13		●	160	175,25	40	63	7	13	C	4,14	
FMA11-200-C60-SN15-12		●	200	214,4	60	63	7	12	C	5,46	
FMA11-250-C60-SN15-14		●	250	264,4	60	63	7	14	C	11,26	
FMA11-315-D60-SN15-18		○	315	329,4	60	80	7	18	D	20	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti per fresatura

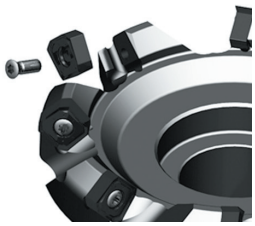
Articolo	✻	Stock	Dimensioni [mm] ØD	ØD$_1$	ød	L	$a_{p\,max}$	Denti	Attacco	kg	Inserto
FMA11-125-B40-SN19-07		●	125	142,63	40	63	9	7	B	3	SNEG1907
FMA11-125-B40-SN19-07C	✻	●	125	142,63	40	63	9	7	B	3	
FMA11-160-C40-SN19-09		●	160	167,63	40	63	9	9	C	4,25	
FMA11-200-C60-SN19-11		●	200	217,63	60	63	9	11	C	6,18	
FMA11-250-C60-SN19-13		●	250	267,63	60	63	9	13	C	11,55	
FMA11-315-D60-SN19-16		○	315	332,63	60	80	9	16	D	20,9	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**SNEG1205**	**SNEG1506**	**SNEG1907**
	ØD	**32-200**	**63-315**	**125-315**
	Vite (inserti)	I60M3,5×10 (2,7 Nm)	I60M5×13 (6,7 Nm)	I43M6×16 (9,1 Nm)
	Chiave (inserti)	WT15IS		
	Chiave (inserti)		WT20IT	WT25IT



Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

Inserti per fresatura

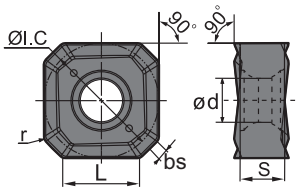
Fresa a spianare

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SNEG	L	I.C	S	d
12 05	7,6	12	4,76	4,6
15 06	9,4	15	5,6	5,5
19 07	12,1	19	7	7,2

SN** Inserti negativi



	HC¹ (CVD)									HC¹ (PVD)											HT	HC²	HW	
P	❁	❁	❁	❁	❁	❁		❁	❁				❁	❁		❁	❁	❁	❁		●	●		
M		❁	❁	❁	❁	❁							❁	❁	❁	❁	❁	❁	❁	❁	●	●		
K							❁	❁	❁											●				
N										❁													❁	❁
S				❁		❁						●	❁		❁	❁		❁		❁				
H										○							❁							

	ISO	r	bs	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	SNEG1506ANR-E	0,9	1,3																●									
	SNEG1205ANR-GM	0,8	1,05	●			●			●										●	●							
	SNEG1506ANR-GM	0,9	1,3	●			●			●									○	●								
	SNEG1205ANR-GR	0,8	1,05	●			●			●								○					○					
	SNEG1506ANR-GR	0,9	1,3	●			●			●								○					○					
	SNEG1907ANR-GR	1	1,67	●			●			●	●																	
	SNEG1506ANR-HGR						●				○									●	●							

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

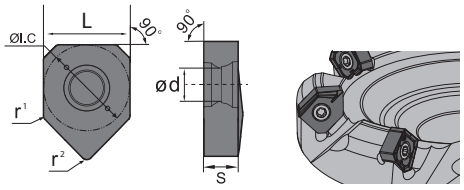
Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SNEG	L	I.C	S	d
12 05	15,9	12	4,76	4,6
15 06	19,9	15	5,54	5,5

SN** Inserti negativi



	HC¹ (CVD)									HC¹ (PVD)												HT	HC²	HW	
P	❁	❁	❁	❁	❁	❁		❁	❁				❁	❁		❁	❁	❁	❁		●	●	●			
M		❁	❁	❁	❁	❁							❁	❁	❁	❁	❁	❁	❁	❁	●	●	●			
K							❁	❁	❁												●					
N											❁														❁	❁
S				❁		❁						●	❁		❁	❁		❁		❁						
H										○							❁									

	ISO	r1	r2	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	SNEG1205ANR-W	0,6	0,8																●									
	SNEG1506ANR-W	0,9	0,8																●									

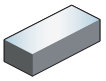
● In magazzino ○ Su richiesta

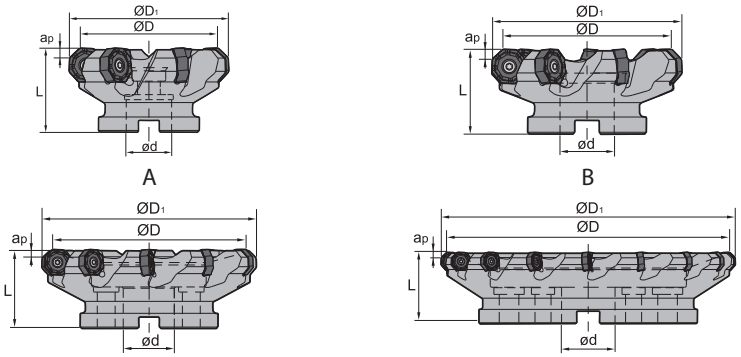
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Fresa a spianare

FMA12 Kr: 45°





Articolo	✻	Stock R	Stock L	Dimensioni [mm] ØD	ØD1	ød	L	ap max	Denti	Attacco	kg	Inserto
FMA12-050-A22-ON06-04C	✻	●		50	59	22	40	4	4	A	0,309	
FMA12-050-A22-ON06-05C	✻	●		50	59	22	40	4	5	A	0,352	
FMA12-063-A27-ON06-05C	✻	●		63	72	27	50	4	5	A	0,645	
FMA12-063-A27-ON06-07C	✻	●		63	72	27	50	4	7	A	0,695	
FMA12-080-A27-ON06-07C	✻	●		80	90	27	50	4	7	A	1,071	
FMA12-080-A27-ON06-09C	✻	●		80	90	27	50	4	9	A	1,098	
FMA12-100-A32-ON06-08C	✻	●		100	110	32	50	4	8	A	1,599	
FMA12-100-A32-ON06-11C	✻	●		100	110	32	50	4	11	A	1,616	ON*U0604**
FMA12-125-B40-ON06-10		●		125	135	40	63	4	10	B	3,114	
FMA12-125-B40-ON06-14		●		125	135	40	63	4	14	B	3,151	
FMA12-160-C40-ON06-12		●		160	170	40	63	4	12	C	4,504	
FMA12-160-C40-ON06-18		●	○	160	170	40	63	4	18	C	4,568	
FMA12-200-C60-ON06-14		○		200	210	60	63	4	14	C	6,76	
FMA12-200-C60-ON06-22		○	○	200	210	60	63	4	22	C	6,4	
FMA12-250-C60-ON06-27		○	○	250	260	60	63	4	27	C	11,9	
FMA12-063-A22-ON09-04C		○		63	76	22	50	4	4	A	0,7	
FMA12-063-A22-ON09-06C		●		63	76	22	50	4	6	A	0,84	
FMA12-080-A27-ON09-05C		○		80	93	27	50	4	5	A	1,1	
FMA12-080-A27-ON09-07C		●		80	93	27	50	4	7	A	1,24	
FMA12-100-A32-ON09-06C		○		100	113	32	50	4	6	A	1,6	
FMA12-100-A32-ON09-10C		●		100	113	32	50	4	10	A	1,809	
FMA12-125-B40-ON09-08		○		125	138	40	63	4	8	B	3,1	ON*U09T5**
FMA12-125-B40-ON09-12		○		125	138	40	63	4	12	B	3,586	
FMA12-125-B40-ON09-12C		●		125	138	40	63	4	12	B	3,648	
FMA12-160-C40-ON09-10		○		160	173	40	63	4	10	C	3,982	
FMA12-160-C40-ON09-15		○		160	173	40	63	4	15	C	4,303	
FMA12-200-C60-ON09-12		○	○	200	213	60	63	45,5	12	C	4,987	
FMA12-200-C60-ON09-18		○	○	200	213	60	63	45,5	18	C	5,754	
FMA12-500-D60-ON09-30		○	○	500	513	60	80	5,5	30	D	66,5	

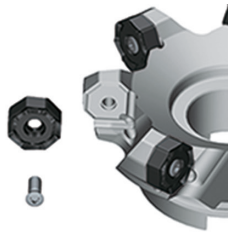
● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Parti di ricambio

	Inserto	ON*U0604**	ON*U09T5**
	ØD	32-300	50-550
	Vite (inserti)	IRM4×10 (3,4 Nm)	IRM5×13
	Chiave (inserti)	WT15IS	
	Chiave (inserti)		WT20IT

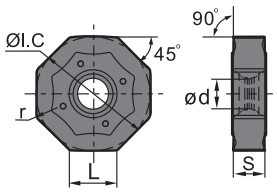


Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

ONHU	L	I.C	S	d
06 04	6,15	15,8	5,54	6
09 T5	8	20,2	5,8	7

ON** Inserti - Fresatura



	HC¹ (CVD)									HC¹ (PVD)											HT	HC²	HW	
P	◐	◐	◐	◐	◐	◐		◐	◐				◐	◐		◐	◐	◐	◐		●	●		
M		◐	◐	◐	◐	◐							◐	◐	◐	◐	◐	◐	◐	◐	●	●		
K							◐	◐	◐											●				
N										◐													◐	◐
S				◐		◐					●	◐		◐	◐		◐		◐					
H										○								◐						

	ISO	r	bs	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	ONHU060408ANN-GH	0,8	1				●			○	●								○		●		○					
	ONHU09T508ANN-GH	0,8	1,2				●			●																		
	ONHU060404ANN-GL	0,4	1				●			○									●		●		○					
	ONHU09T508ANN-GL	0,8	1,2																	●								
	ONHU060408ANN-GM	0,8	1				●			●									○		●							
	ONHU09T508ANN-GM	0,8	1,2							●										●								

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

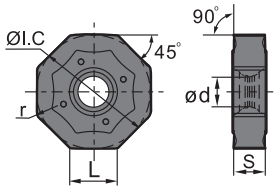
Inserti per fresatura

Fresa a spianare

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

ONMU	L	I.C	S	d
06 04	6,15	15,8	5,54	6
09 T5	8	20,2	5,8	7



ON** Inserti - Fresatura		HC¹ (CVD)									HC¹ (PVD)											HT		HC²		HW		
	ISO	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151		YNG151C		YD101	YD201	
P		◉	◉	❁	◉	◉	❁		◉	◉				◉	❁		◉	◉	◉	❁		●	●		●				
M			◉	❁	◉	◉	❁							◉	❁	◉	◉	◉	◉	❁	❁	●	●		●				
K								◉	❁	❁												●						
N											◉																◉	❁	
S					❁		❁						●	◉		◉	◉		◉		❁								
H											○							◉											

	ISO	r	bs	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	ONMU060408-GH	0,8	1								●										●							
	ONMU060408-GM	0,8	1				○			○											●		●					
	ONMU09T512-GH	1,2	1,2				○			○											○							
	ONMU09T512-GM	1,2	1,2				○			○											○							

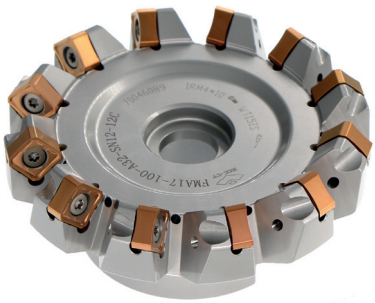
● In magazzino ○ Su richiesta

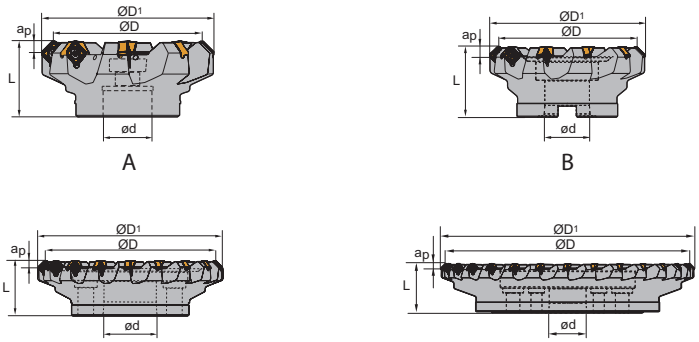
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Fresa a spianare

FMA17 Kr: 45°





Articolo	✻	Stock R	Stock L	Dimensioni [mm] ØD	ØD$_1$	ød	L	$a_{p\,max}$	Denti	Attacco	kg	Inserto
FMA17-050-A22-SN12-04C	✻	○	○	50	65	22	40	6,5	4	A	0,384	SNGX1205
FMA17-050-A22-SN12-06C	✻	●		50	65	22	40	6,5	6	A	0,381	
FMA17-063-A22-SN12-06C	✻	●	○	63	78	22	50	6,5	6	A	0,717	
FMA17-063-A22-SN12-08C	✻	●		63	78	22	50	6,5	8	A	0,717	
FMA17-080-A27-SN12-07C	✻	●	○	80	95	27	63	6,5	7	A	1,085	
FMA17-080-A27-SN12-10C	✻	●		80	95	27	63	6,5	10	A	1,105	
FMA17-100-A32-SN12-08C	✻	●		100	115	32	63	6,5	8	A	1,558	
FMA17-100-A32-SN12-12C	✻	●		100	115	32	63	6,5	12	A	1,656	
FMA17-125-B40-SN12-10		●	○	125	140	40	63	6,5	10	B	3,012	
FMA17-125-B40-SN12-16		●		125	140	40	63	6,5	16	B	3,103	
FMA17-160-C40-SN12-12		●	○	160	175	40	63	6,5	12	C	4,358	
FMA17-160-C40-SN12-20		○		160	175	40	63	6,5	20	C	4,6	
FMA17-200-C60-SN12-18		●		200	215	60	63	6,5	18	C	6,337	
FMA17-200-C60-SN12-24		○		200	215	60	63	6,5	24	C	6,569	
FMA17-250-C60-SN12-20		●		250	265	60	63	6,5	20	C	12,36	
FMA17-315-D60-SN12-22		○		315	330	60	80	6,5	22	D	21,224	
FMA17-400-D60-SN12-28		○		400	415	60	80	6,5	28	D	39,535	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

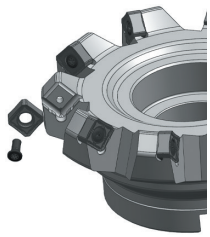
Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti per fresatura

Fresa a spianare

Parti di ricambio

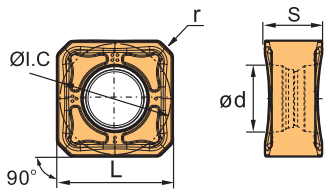
	Inserto	SNGX1205	SNGX1205	SNGX1205
	ØD	50-78	80-180	200-400
	Vite (inserti)	IRM4×10 (3,4 Nm)	IRM4×10 (3,4 Nm)	IRM4×10 (3,4 Nm)
	Chiave (inserti)	WT15IP		
	Chiave (inserti)		WT15IS	
	Chiave (inserti)			WT15IT



- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SNGX	L	I.C	S	d
12 05	12,7	12,7	6,5	5,9

Inserti - Fresatura



SN** Inserti negativi		HC¹ (CVD)									HC¹ (PVD)											HT		HC²		HW	
P		◉	◉	◉	◉	◉	◉		◉	◉				◉	◉		◉	◉	◉	◉		●	●		●			
M			◉	◉	◉	◉	◉							◉	◉	◉	◉	◉	◉	◉	◉	●	●		●			
K								◉	◉	◉													●					
N												◉															◉	◉
S					◉		◉						●	◉		◉	◉		◉		◉							
H											○									◉								
ISO	r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151		YNG151C		YD101	YD201
SNGX1205ANN-GH	1,2								●									●										
SNGX1205ANN-GL	1,2								●									●										
SNGX1205ANN-GM	1,2								●									●			●							
SNGX1205ANN-LH	0,8																										●	

● In magazzino ○ Su richiesta

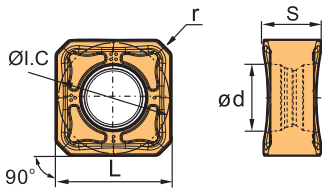
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SNMX	L	I.C	S	d
12 05	12,7	12,7	6,5	5,9



SN** Inserti negativi		HC¹ (CVD)									HC¹ (PVD)											HT	HC²	HW	
P		◉	◉	❁	◉	◉	❁		◉	◉				❁	❁		◉	◉	◉	❁		●	●			
M			❁	❁	❁	❁	❁							❁	❁	❁	❁	❁	❁	❁	❁	❁	❁			
K								❁	❁	❁												●				
N												❁													❁	❁
S					❁		❁						❁	❁		❁	❁		❁		❁					
H											○							❁								
ISO	r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
SNMX120512-GH	1,2								●									●								
SNMX120512-GM	1,2								●									●								

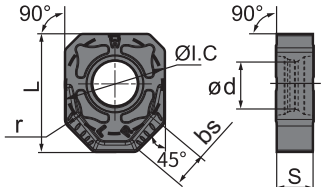
● In magazzino ○ Su richiesta

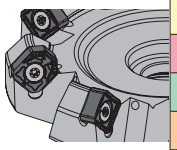
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SNGX	L	I.C	S	d
12 05	15	12,7	4,8	5,9





SN** Inserti negativi		HC¹ (CVD)									HC¹ (PVD)											HT	HC²	HW	
P		◉	◉	❁	◉	◉	❁		◉	◉					❁		◉	◉	◉	❁		●	●		
M			❁	❁	❁	❁	❁							❁	❁		❁	❁	❁	❁	❁	❁	❁		
K								❁	❁	❁												●			
N												❁													❁	❁
S					❁		❁						❁	❁		❁	❁		❁		❁					
H											○							❁								
ISO	bs	r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG105	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
SNGX1205ANN-W	4,32	1,2													●												

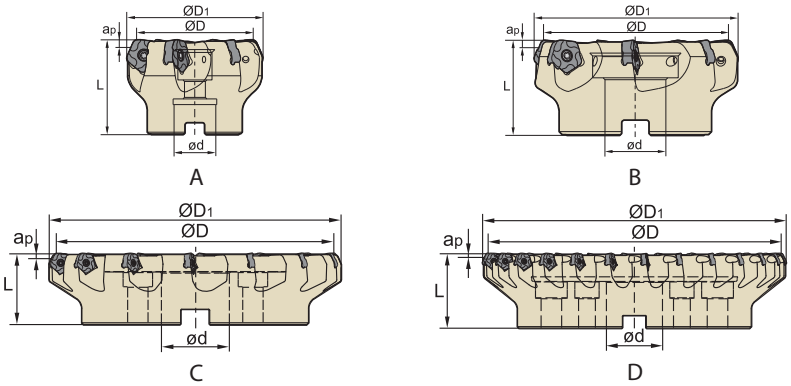
● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Fresa a spianare

FMD02 Kr: 67°



Articolo	✻	Stock R	Stock L	Dimensioni [mm] ØD	ØD1	ød	L	ap max	Denti	Attacco	kg	Inserto
FMD02-050-A22-PN11-04		●	○	50	60,1	22	50	5	4	A	0,6	PNEG1105
FMD02-050-A22-PN11-04C	✻	○		50	60,1	22	50	5	4	A	0,6	
FMD02-050-A22-PN11-05		●		50	60,1	22	50	5	5	A	0,6	
FMD02-050-A22-PN11-05C	✻	●		50	60,1	22	50	5	5	A	0,6	
FMD02-063-A22-PN11-05		●	○	63	73,1	22	50	5	5	A	0,8	
FMD02-063-A22-PN11-05C	✻	○		63	73,1	22	50	5	5	A	0,8	
FMD02-063-A22-PN11-06		●		63	73,1	22	50	5	6	A	0,9	
FMD02-063-A22-PN11-06C	✻	●		63	73,1	22	50	5	6	A	0,9	
FMD02-080-A27-PN11-06		●		80	90,1	27	50	5	6	A	1,1	
FMD02-080-A27-PN11-08		●		80	90,1	27	50	5	8	A	1,2	
FMD02-080-A27-PN11-08C	✻	●		80	90,1	27	50	5	8	A	1,2	
FMD02-100-B32-PN11-07		●		100	110,1	32	50	5	7	B	1,8	
FMD02-100-B32-PN11-07C	✻	○		100	110,1	32	50	5	7	B	1,8	
FMD02-100-B32-PN11-10		●		100	110,1	32	50	5	10	B	1,9	
FMD02-100-B32-PN11-10C	✻	○		100	110,1	32	50	5	10	B	1,9	
FMD02-125-B40-PN11-08		●	●	125	135,1	40	63	5	8	B	2,9	
FMD02-125-B40-PN11-08C	✻	○		125	135,1	40	63	5	8	B	2,9	
FMD02-125-B40-PN11-12		●	○	125	135,1	40	63	5	12	B	3,2	
FMD02-125-B40-PN11-12C	✻	○		125	135,1	40	63	5	12	B	3,2	
FMD02-160-B40-PN11-10		●	○	160	170,1	40	63	5	10	B	5,6	
FMD02-160-B40-PN11-14		●	○	160	170,1	40	63	5	14	B	6,4	
FMD02-200-C60-PN11-12		○	○	200	210,1	60	63	5	12	C	7,9	
FMD02-200-C60-PN11-16		●	○	200	210,1	60	63	5	16	C	8,5	
FMD02-200-C60-PN11-20		○	○	200	210,1	60	63	5	20	C	8,5	
FMD02-200-C60-PN11-24		●		200	210,1	60	63	5	24	C	8,6	
FMD02-250-C60-PN11-14		○		250	260,1	60	63	5	14	C	13,4	
FMD02-250-C60-PN11-18		●	○	250	260,1	60	63	5	18	C	18	
FMD02-315-D60-PN11-26		○	○	315	325,1	60	80	5	26	D	24,5	

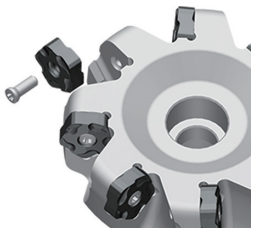
● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Parti di ricambio

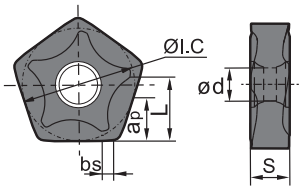
	Inserto	PNEG1105
	ØD	50- 315
	Vite (inserti)	I60M4×10 (3,4 Nm)
	Chiave (inserti)	WT15IS



- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

PNEG	L	I.C	S	d
11 05	7,5	15,875	5,56	4,64

Inserti - Fresatura



PN** Inserti - Fresatura	HC¹ (CVD)								HC¹ (PVD)											HT	HC²	HW	
P	◉	◉	◉	◉	◉	◉		◉	◉				◉	◉		◉	◉	◉	◉		●	●			
M		◉	◉	◉	◉	◉							◉	◉	◉	◉	◉	◉	◉	◉	◉	◉	◉		
K								◉	◉	◉											●				
N										◉														◉	◉
S				◉		◉						●	◉		◉	◉		◉		◉					
H									○								◉								

ISO	bs	a_p max	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
PNEG110512L-PF	1,6	7,5	○																								
PNEG110512R-PF	1,6	7,5	○			○																					
PNEG110512L-PM	1,6	7,5	○			○																					
PNEG110512R-PM			●			●				○																	
PNEG110512L-PR	1,6	7,5	○			●																					
PNEG110512R-PR	1,6	7,5	○			●																					

● In magazzino ○ Su richiesta

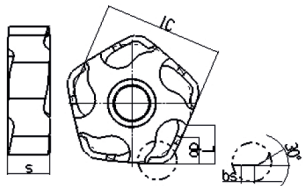
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

PNEG	L	I.C	S	d
11 05	5,4	15,875	5,56	4,64



PN** Inserti - Fresatura	HC[1] (CVD)									HC[1] (PVD)											HT		HC[2]		HW	
P	⊛	⊛	❁	⊛	⊛	❁		⊛	⊛				⊛	❁		⊛	⊛	⊛	❁		●	●		●			
M		⊛	❁	⊛	⊛	❁							⊛	❁	⊛	⊛	⊛	⊛	❁	❁	●	●		●			
K							⊛	❁	❁											●							
N										⊛															⊛	❁	
S				❁		❁						●	⊛		⊛	⊛		⊛		❁							
H										○							⊛										

	ISO	bs	$a_{p\,max}$	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	PNEG110512R-CF	1,6	5							●																		
	PNEG110512L-CM	1,6	5							○																		
	PNEG110512R-CM	1,6	5							●																		
	PNEG110512L-CR	1,6	5							○	○																	
	PNEG110512R-CR	1,6	5							●	●																	

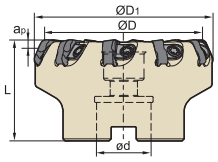
● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

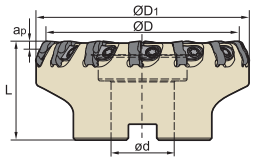
Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

Fresa a spianare

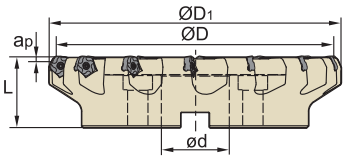
FMD02 Kr: 67°



A



B



C

Articolo	✻	Stock R	Stock L	Dimensioni [mm] ØD	ØD1	ød	L	ap max	Denti	Attacco	kg	Inserto
FMD02-080-A27-PN11-10		●		80	90,1	27	50	5	10	A	1,3	PNEG1105
FMD02-100-B32-PN11-14		●	○	100	110,1	32	50	5	14	B	1,6	
FMD02-125-B40-PN11-18		●		125	135,1	40	63	5	18	B	3,2	
FMD02-160-B40-PN11-22		●		160	170,1	40	63	5	22	B	5,8	
FMD02-200-C60-PN11-28			○	200	210,1	60	63	5	28	C	8,5	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**PNEG1105**
	ØD	**80-200**
	Vite (cuneo)	DM6×20A (7,0 Nm)
	Cuneo	W18N
	Chiave (cuneo)	WT15IT

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

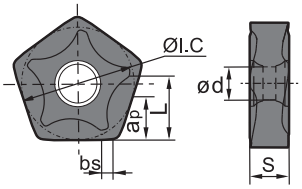
Inserti per fresatura

Fresa a spianare

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

PNEG	L	I.C	S	d
11 05	7,5	15,875	5,56	4,64



PN** Inserti - Fresatura	HC¹ (CVD)									HC¹ (PVD)											HT	HC²	HW	
P	❊	❊	❊	❊	❊	❊		❊	❊			❊	❊		❊	❊	❊	❊		●	●	●		
M		❊	❊	❊	❊	❊						❊	❊	❊	❊	❊	❊	❊	❊	●	●	●		
K							❊	❊	❊										●					
N										❊													❊	❊
S				❊		❊					●	❊		❊	❊		❊		❊					
H										○						❊								

	ISO	bs	a_p max	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	PNEG110512L-PF	1,6	7,5	○																								
	PNEG110512R-PF	1,6	7,5	○			○																					
	PNEG110512L-PM	1,6	7,5	○			○																					
	PNEG110512R-PM			●			●				○																	
	PNEG110512L-PR	1,6	7,5	○			●																					
	PNEG110512R-PR	1,6	7,5	○			●																					

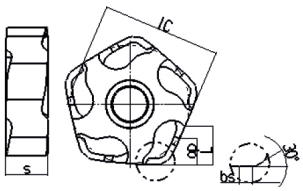
● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

PNEG	L	I.C	S	d
11 05	5,4	15,875	5,56	4,64



PN** Inserti - Fresatura	HC¹ (CVD)									HC¹ (PVD)											HT	HC²	HW	
P	❊	❊	❊	❊	❊	❊		❊	❊			❊	❊		❊	❊	❊	❊		●	●	●		
M		❊	❊	❊	❊	❊						❊	❊	❊	❊	❊	❊	❊	❊	●	●	●		
K							❊	❊	❊										●					
N										❊													❊	❊
S				❊		❊					●	❊		❊	❊		❊		❊					
H										○						❊								

	ISO	bs	$a_{p\ max}$	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	PNEG110512R-CF	1,6	5							●																		

● In magazzino ○ Su richiesta

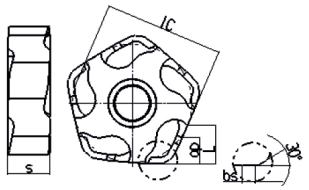
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

PNEG	L	I.C	S	d
11 05	5,4	15,875	5,56	4,64

Inserti - Fresatura



PN** Inserti - Fresatura	HC[1] (CVD)									HC[1] (PVD)												HT	HC[2]	HW	
P	◉	◉	❁	◉	◉	❁		◉	◉				❁	❁		◉	◉	◉	❁		●	●	●		
M		❁	❁	❁	❁	❁							❁	❁	❁	❁	❁	❁	❁	❁	●	●	●		
K							❁	❁	❁												●				
N											❁													❁	❁
S				❁		❁						●	❁		❁	❁		❁		❁					
H										○							❁								

ISO	bs	$a_{p\,max}$	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
PNEG110512L-CM	1,6	5							○																		
PNEG110512R-CM	1,6	5							●																		
PNEG110512L-CR	1,6	5							○	○																	
PNEG110512R-CR	1,6	5							●	●																	

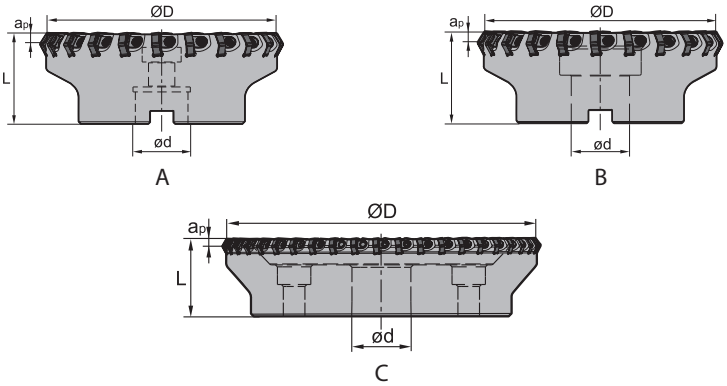
● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Fresa a spianare

FMD02 Kr: 55°



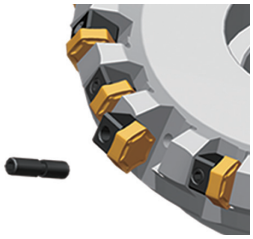
Articolo	✻	Stock R	Stock L	Dimensioni [mm] ØD	ød	L	$a_{p\,max}$	Denti	Attacco	kg	Inserto
FMD02-080-A27-HN09-08		○		80	27	50	6	8	A	1,19	HNEX0905
FMD02-080-A27-HN09-10		○		80	27	50	6	10	A	1,1	
FMD02-100-B32-HN09-10		○		100	32	50	6	10	B	1,77	
FMD02-125-B40-HN09-14		○		125	40	63	6	14	B	3,55	
FMD02-125-B40-HN09-18		○		125	40	63	6	18	B	3,7	
FMD02-160-B40-HN09-18		●		160	40	63	6	18	B	5,62	
FMD02-160-B40-HN09-22		○		160	40	63	6	22	B	5,6	
FMD02-200-C60-HN09-22		○		200	60	63	6	22	C	6,7	
FMD02-250-C60-HN09-28		○	○	250	60	63	6	28	C	13	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**HNEX0905**
	ØD	**80- 315**
	Vite (cuneo)	DM6×20A (7,0 Nm)
	Cuneo	W18N
	Chiave (cuneo)	WT15IT

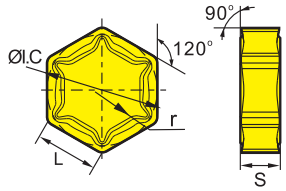


Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

HNEX	L	I.C	S
09 05	9,16	15,875	5,56

HN** Inserti - Fresatura		HC[1] (CVD)								HC[1] (PVD)											HT	HC[2]	HW	
	**P**	⊛	⊛	⊛	⊛	⊛	⊛		⊛	⊛				⊛	⊛		⊛	⊛	⊛	⊛		●	●			
	M		⊛	⊛	⊛	⊛	⊛							⊛	⊛	⊛	⊛	⊛	⊛	⊛	⊛	●	●			
	K							⊛	⊛	⊛												●				
	N										⊛														⊛	⊛
	S				⊛		⊛						●	⊛		⊛	⊛		⊛		⊛					
	H									○								⊛								
ISO	r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
HNEX090512-DR	1,2								●																	

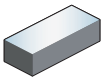
● In magazzino ○ Su richiesta

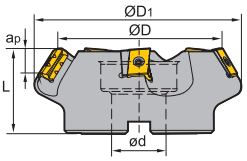
HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

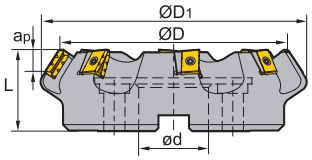
Fresa a spianare

FMD03 Kr: 60°

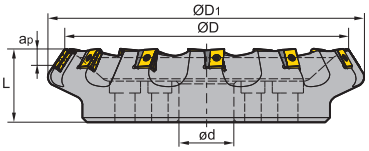




B



C



D

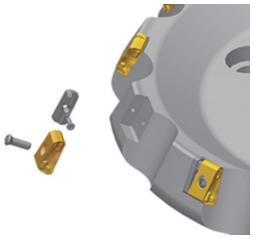
Articolo	✻	Stock R	Stock L	Dimensioni [mm] ØD	ØD1	ød	L	ap max	Denti	Attacco	kg	Inserto
FMD03-100-B32-LN20-05		○		100	129	32	63	12	5	B	3,02	LNKT2007-ZR
FMD03-125-B40-LN20-06		●		125	153	40	63	12	6	B	4,5	
FMD03-160-C40-LN20-08		●		160	187	40	63	12	8	C	6,9	
FMD03-160-C40-LN20-09		○		160	187	40	63	12	9	C	6,7	
FMD03-200-C60-LN20-10		●		200	227	60	70	12	10	C	10,5	
FMD03-250-C60-LN20-12		●		250	276	60	70	12	12	C	13,4	
FMD03-315-D60-LN20-15		○		315	339	60	80	12	15	D	26,2	
FMD03-125-B40-LN25-05		○		125	154	40	63	16	5	B	4,5	LNKT2510-ZR
FMD03-160-C40-LN25-06		●		160	189	40	63	16	6	C	6,9	
FMD03-200-C60-LN25-08		●		200	229	60	70	16	8	C	10,5	
FMD03-250-C60-LN25-10		●		250	278	60	70	16	10	C	16,7	
FMD03-315-D60-LN25-12		○	○	315	346	60	80	16	12	D	27,3	
FMD03-400-D60-LN25-16		○	○	400	427	60	80	16	16	D	47,1	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	LNKT2007-ZR	LNKT2510-ZR
	ØD	100- 315	125 -400
	Vite (inserti)	I60M4×15 (3,4 Nm)	I60M5×17 (6,7 Nm)
	Vite (sottoplacchetta)	I60M3×7	I60M3.5×10.4
	Sottoplacchetta	LLN20R-ZR	LLN25R-ZR
	Chiave (sottoplacchetta)	WT09IS	WT15IS
	Chiave (inserti)	WT15IS	
	Chiave (inserti)		WT20IT

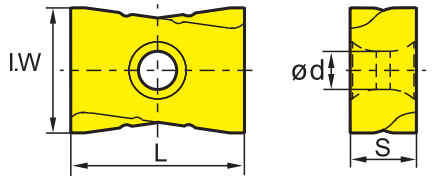


Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

LNKT	L	S	d
20 07	20	7,94	4,6
25 10	20	9,525	5,5



LN** Inserti - Fresatura		HC[1] (CVD)								HC[1] (PVD)											HT	HC[2]	HW	
	P	❁	❁	❁	❁	❁	❁		❁	❁			❁	❁		❁	❁	❁	❁		●	●		
	M		❁	❁	❁	❁	❁						❁	❁	❁	❁	❁	❁	❁	❁	●	●		
	K							❁	❁	❁										●				
	N										❁												❁	❁
	S				❁		❁					●	❁		❁	❁		❁		❁				
	H									○							❁							
ISO	I.W	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
LNKT2007DN-ZR	17				●		●		○											●						
LNKT2510-ZR	18						●		●											●						

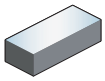
● In magazzino ○ Su richiesta

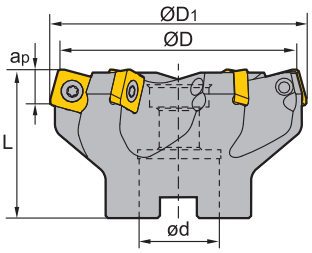
HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

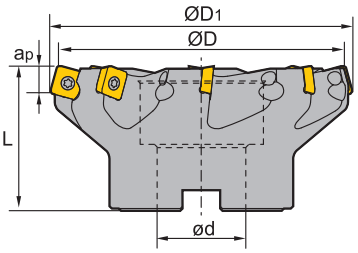
Fresa a spianare

FME02 Kr: 75°





A



B

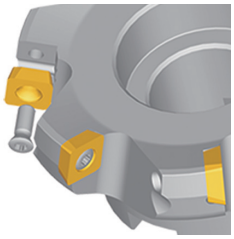
Articolo	✻	Stock	Dimensioni [mm] ØD	ØD1	ød	L	ap max	Denti	Attacco	kg	Inserto
FME02-050-A22-SP12-04		●	50	54	22	40	6	4	A	0,3	SPKT1204 SPKW1204
FME02-063-A22-SP12-05		●	63	66	22	50	6	5	A	0,6	
FME02-080-A27-SP12-06		●	80	83	27	50	6	6	A	0,9	
FME02-100-B32-SP12-07		●	100	103	32	50	6	7	B	1,4	
FME02-125-B40-SP12-08		●	125	128	40	63	6	8	B	2,5	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**SPKT1204 SPKW1204**
	ØD	**50-125**
	Vite (inserti)	I60M5×13,2 (6,7 Nm)
	Chiave (inserti)	WT20IS

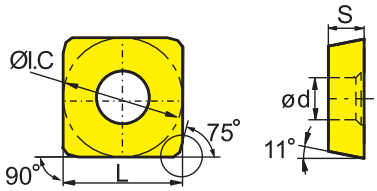


Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SPKW	L	I.C	S	d
12 04	12,7	12,7	4,76	5,56

Inserti - Fresatura



SP** Inserti fresatura		HC¹ (CVD)									HC¹ (PVD)											HT	HC²	HW	
		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
SPKW1204EDFR														○												
SPKW1204EDSR														○												

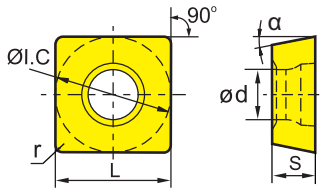
● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SPKT	L	I.C	S	d
12 04	12,7	12,7	4,76	5,56

Inserti - Fresatura



SP** Inserti fresatura		HC¹ (CVD)									HC¹ (PVD)											HT	HC²	HW	
		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
SPKT1204EDR														○												

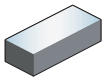
● In magazzino ○ Su richiesta

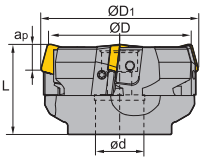
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

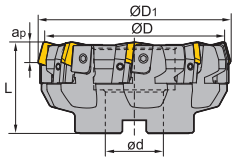
Fresa a spianare

FME03 Kr: 75°

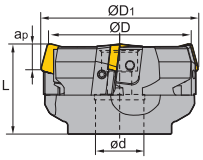




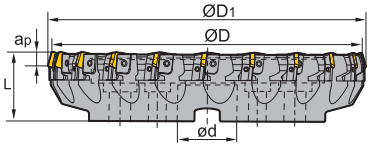
A



B



C



D

Articolo	✻	Stock R	Stock L	Dimensioni [mm] ØD	ØD1	ød	L	ap max	Denti	Attacco	kg	Inserto
FME03-080-A27-SP12-04		○		80	84	27	50	6	4	A	1,1	SPKN1203 SPKR1203 SPEX1203
FME03-100-B32-SP12-06		●		100	104	32	50	6	6	B	1,9	
FME03-125-B40-SP12-08		○	○	125	129	40	63	6	8	B	3,5	
FME03-160-B40-SP12-10		●	○	160	164	40	63	6	10	B	5,7	
FME03-200-C60-SP12-12		○	○	200	203	60	63	6	12	C	8,2	
FME03-250-C60-SP12-16		○		250	253	60	63	6	16	C	13,8	
FME03-315-D60-SP12-20		○		315	318	60	70	6	20	D	23,5	
FME03-080-A27-SP15-04		○	○	80	84	27	50	8	4	A	1	SPKN1504 SPKR1504 SPEX1504
FME03-100-B27-SP15-06		○		100	104	27	50	8	6	B	1,8	
FME03-125-B40-SP15-08		●	○	125	129	40	63	8	8	B	3,3	
FME03-160-B40-SP15-10		○	○	160	164	40	63	8	10	B	5,4	
FME03-200-C60-SP15-12		○	○	200	204	60	63	8	12	C	7,9	
FME03-250-C60-SP15-16		○	○	250	253	60	63	8	16	C	13,6	
FME03-315-D60-SP15-20		○	○	315	318	60	70	8	20	D	23,1	

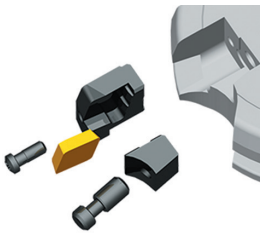
● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

Parti di ricambio

	Inserto	SPKN1203 SPKR1203 SPEX1203	SPKN1203 SPKR1203 SPEX1203	SPKN1504 SPKR1504 SPEX1504
	ØD	**80-100**	**125 - 315**	**80- 315**
	Vite di regolazione	LOM5×15.1	LOM5×15.1	LOM5×15.1
	Cassetta (sinistra)	LSP12L	LSP12L	LSP15L
	Cassetta (destra)	LSP12R	LSP12R	LSP15R
	Vite (cuneo)	WM8×17	WM8×22	WM8×22
	Cuneo (sinistra)	W04L	W04L	W04L
	Cuneo (destra)	W04R	W04R	W04R
	Chiave (vite di regolazione)	WT20T	WT20T	WT20T
	Chiave (cuneo)	WT25T	WT25T	WT25T

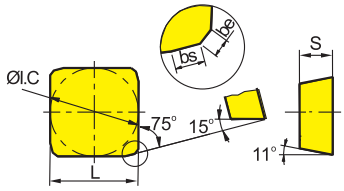


Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SPKN	L	I.C	S
12 03	12,7	12,7	3,18
15 04	15,875	15,875	4,76

SP** Inserti - Fresatura



	HC¹ (CVD)								HC¹ (PVD)												HT	HC²	HW	
	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
P	◐	◐	◉	◐	◐	◉		◐	◐				◐	◉		◐	◐	◐	◉		●	●	●		
M		◐	◉	◐	◐	◉							◐	◉	◐	◐	◐	◐	◉	◉	●	●	●		
K							◉	◉	◉												●				
N											◉													◉	◉
S				◉		◉						●	◐		◐	◐		◐		◉					
H										○							◉								

	ISO	be	bs	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	SPKN1203EDFL	1	1,4																									●
	SPKN1203EDFR	1	1,4		○										○													●
	SPKN1203EDSKL	1	1,4		●																							
	SPKN1203EDSKR	1	1,4		●				○		○					○						●						
	SPKN1203EDTKR	1	1,4						○													○						
	SPKN1504EDFL	1	1,4																									○
	SPKN1504EDS32PR	1	1,4		○												○											
	SPKN1504EDSKR	1	1,4		●			○			●					○						●						
	SPKN1504EDTKR	1	1,4													○												

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

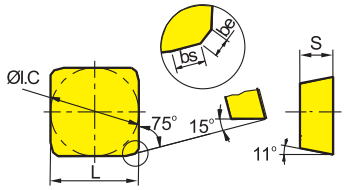
Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SPKR	L	I.C	S
12 03	12,7	12,7	3,18
15 04	15,875	15,875	4,76

SP** Inserti fresatura		HC[1] (CVD)									HC[1] (PVD)											HT	HC[2]	HW	
	P	◐	◐	❁	◐	◐	❁		◐	◐			◐	❁		◐	◐	◐	❁		●	●	●		
	M		◐	❁	◐	◐	❁						◐	❁	◐	◐	◐	◐	❁		●	●	●		
	K							◐	❁	❁											●				
	N										◐													◐	❁
	S				❁		❁					●	◐	❁		◐	◐		◐		❁				
	H										○							◐							
ISO		be	bs	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	SPKR1203EDL-GM	1	1,4					○																				
	SPKR1203EDR-GM	1	1,4					●																				
	SPKR1504EDR-GM	1	1,4				○									○												
	SPKR1203EDR	1	1,4		○																							



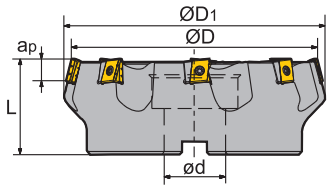
● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

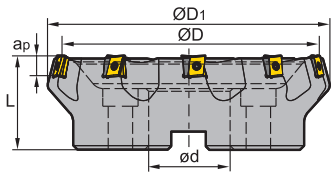
Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Fresa a spianare

FME04 Kr: 75°



B



C

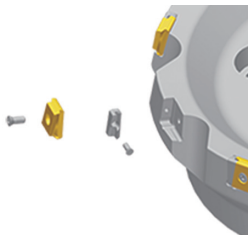
Articolo	✻	Stock	Dimensioni [mm] ØD	ØD$_1$	ød	L	$a_{p\,max}$	Denti	Attacco	kg	Inserto
FME04-125-B40-LN15-06		●	125	137	40	63	10	6	B	3,8	LNKT1506-ZR
FME04-200-C60-LN15-10		●	200	208	60	70	10	10	C	9,6	
FME04-250-C60-LN15-12		○	250	257	60	70	10	12	C	13,4	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**LNKT1506-ZR**
	ØD	**125 - 315**
	Vite (inserti)	I60M4×12 (3,4 Nm)
	Vite (sottoplacchetta)	I60M3×7
	Sottoplacchetta	LLN15-ZR
	Chiave (sottoplacchetta)	WT09IS
	Chiave (inserti)	WT15IS

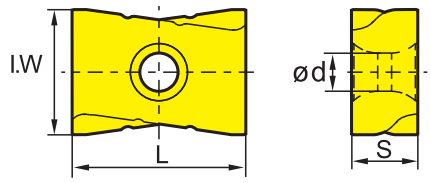


Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

LNKT	L	S	d
15 06	15,875	6,35	4,6



LN** Inserti - Fresatura		HC¹ (CVD)									HC¹ (PVD)											HT		HC²		HW		
	P	◉	◉	❁	◉	◉	❁		◉	◉				◉	❁		◉	◉	◉	❁		●		●				
	M		◉	❁	◉	◉	❁							◉	❁	◉	◉	◉	◉	❁	❁	●		●				
	K							◉	❁	❁												●						
	N										◉															◉	❁	
	S				❁		❁					●	◉			◉	◉		◉		❁							
	H										○							◉										
ISO	I.W	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151		YNG151C		YD101	YD201	
LNKT1506EN-ZR	14		○				●	●	●											○								

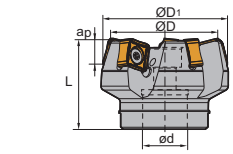
● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

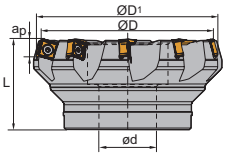
Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

Fresa a spianare

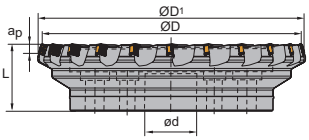
FME17 Kr: 75°



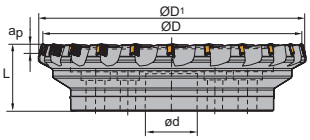
A



B



C



D

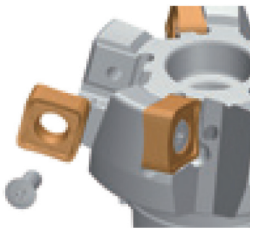
Articolo	✻	Stock R	Stock L	Dimensioni [mm] ØD	ØD$_1$	ød	L	$a_{p\,max}$	Denti	Attacco	kg	Inserto
FME17-050-A22-SN12-04C	✻	○	○	50	60	22	40	8	4	A	0,361	SNGX1205ENN
FME17-050-A22-SN12-05C	✻	●		50	60	22	40	8	5	A	0,337	
FME17-063-A22-SN12-05C	✻	○	○	63	73	22	50	8	5	A	0,52	
FME17-063-A22-SN12-07C	✻	●		63	73	22	50	8	7	A	0,53	
FME17-080-A27-SN12-06C	✻	●	○	80	90	27	63	8	6	A	1,101	
FME17-080-A27-SN12-09C	✻	●		80	90	27	63	8	9	A	1,112	
FME17-100-A32-SN12-08C	✻	●	○	100	110	32	63	8	8	A	1,663	
FME17-100-A32-SN12-11C	✻	●		100	110	32	63	8	11	A	1,577	
FME17-125-B40-SN12-10		●	○	125	135	40	63	8	10	B	3,099	
FME17-125-B40-SN12-14		●		125	170	40	63	8	14	B	3,145	
FME17-160-C40-SN12-12		●	○	160	170	40	63	8	12	C	4,535	
FME17-160-C40-SN12-18		●		160	210	40	63	8	20	C	4,647	
FME17-200-C60-SN12-14		○	○	200	210	60	63	8	18	C	6,45	
FME17-200-C60-SN12-22		○		200	215	60	63	8	22	C	6,552	
FME17-250-C60-SN12-18		○		250	260	60	63	8	18	C	12,98	
FME17-315-D60-SN12-22		○		315	325	60	80	8	22	D	21,98	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**SNGX1205ENN**	**SNGX1205ENN**	**SNGX1205ENN**
	ØD	**50-75**	**80-180**	**200-400**
	Vite (inserti)	IRM4×10 (3,4 Nm)	IRM4×10 (3,4 Nm)	IRM4×10 (3,4 Nm)
	Chiave (inserti)	WT15IP		
	Chiave (inserti)		WT15IS	
	Chiave (inserti)			WT15IT

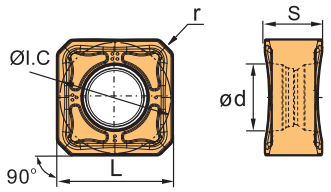


Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SNMX	L	I.C	S	d
12 05	12,7	12,7	6,5	5,9

Inserti - Fresatura



SN** Inserti negativi		HC¹ (CVD)									HC¹ (PVD)											HT		HC²		HW	
		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151		YNG151C		YD101	YD201
ISO	r																										
P		⊛	⊛	⊛	⊛	⊛	⊛		⊛	⊛				⊛	⊛		⊛	⊛	⊛	⊛		●	●		●			
M			⊛	⊛	⊛	⊛	⊛							⊛	⊛	⊛	⊛	⊛	⊛	⊛	⊛	●	●		●			
K								⊛	⊛	⊛												●						
N												⊛															⊛	⊛
S					⊛		⊛						●	⊛		⊛	⊛		⊛		⊛							
H											○							⊛										
	SNMX120512-GH								●									●										
	SNMX120512-GM								●									●										

● In magazzino ○ Su richiesta

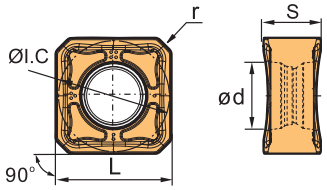
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SNGX	L	I.C	S	d
12 05	12,7	12,7	6,5	5,9



SN** Inserti negativi		HC¹ (CVD)									HC¹ (PVD)											HT	HC²	HW	
		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
ISO	r																									
SNGX1205ENN-GH	0,8								●									●								
SNGX1205ENN-GL	0,8																	●								
SNGX1205ENN-GM	0,8							○		●								●								

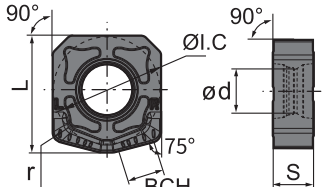
● In magazzino ○ Su richiesta

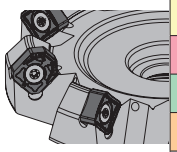
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SNGX	L	I.C	S	d
12 05	13,7	12,7	4,8	5,9





SN** Inserti negativi		HC¹ (CVD)									HC¹ (PVD)											HT	HC²	HW	
		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG105	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
ISO	bs / r																									
SNGX1205ENN-W	4,69 / 1,2													●												

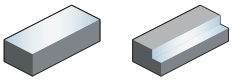
● In magazzino ○ Su richiesta

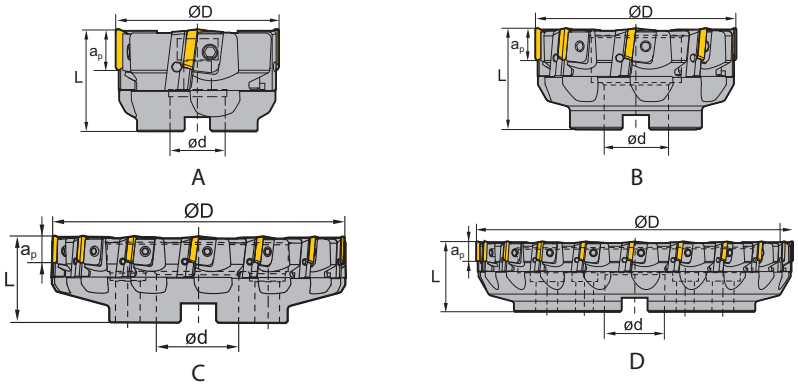
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Fresa a spianare

FMP01 Kr: 90°





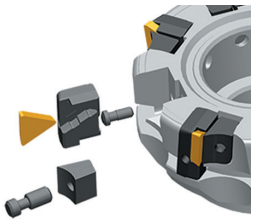
Articolo	✻	Stock R	Stock L	Dimensioni [mm] ØD	ød	L	$a_{p\,max}$	Denti	Attacco	kg	Inserto
FMP01-080-A27-TP22-04		●		80	27	50	18	4	A	1,2	TPKN2204
FMP01-100-B32-TP22-06		●		100	32	50	18	6	B	1,7	
FMP01-125-B40-TP22-08		●	○	125	40	63	18	8	B	3,2	
FMP01-160-B40-TP22-10		●	○	160	40	63	18	10	B	5,1	
FMP01-200-C60-TP22-12		●	○	200	60	63	18	12	C	7,4	
FMP01-250-C60-TP22-16		○	○	250	60	63	18	16	C	12,3	
FMP01-315-D60-TP22-20		○	○	315	60	70	18	20	D	21,9	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**TPKN2204**	**TPKN2204**
	ØD	**80-100**	**125 - 315**
	Vite di regolazione	LOM5×15.1	LOM5×15.1
	Cassetta (sinistra)	LTP4L1	LTP4L
	Cassetta (destra)	LTP4R1	LTP4R
	Vite (cuneo)	WM8×17	WM8×22
	Cuneo (sinistra)	W04L	W04L
	Cuneo (destra)	W04R	W04R
	Chiave (vite di regolazione)	WT20T	WT20T
	Chiave (cuneo)	WT25T	WT25T

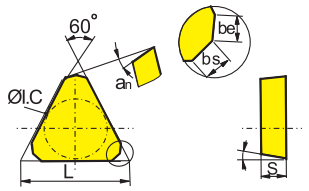


Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

TPKN	L	I.C	S
22 04	22	12,7	4,76



TP** Inserti fresatura	HC¹ (CVD)									HC¹ (PVD)												HT	HC²	HW	
	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
P	⊛	⊛	⊛	⊛	⊛	⊛		⊛	⊛				⊛	⊛		⊛	⊛	⊛	⊛		●	●	●		
M		⊛	⊛	⊛	⊛	⊛							⊛	⊛	⊛	⊛	⊛	⊛	⊛	⊛	●	●	●		
K							⊛	⊛	⊛												●				
N											⊛													⊛	⊛
S				⊛		⊛						●	⊛		⊛	⊛		⊛		⊛					
H										○							⊛								

	ISO	be	bs	an
	TPKN2204PDFR	1,4	0,7	11°
	TPKN2204PDS32PR	1,4	0,7	11°
	TPKN2204PDSKL	1,4	0,7	11°
	TPKN2204PDSKR	1,4	0,7	11°
	TPKN2204PDSKRX			
	TPKN2204PDTKR	1,4	0,7	11°

ISO	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
TPKN2204PDFR												○													●
TPKN2204PDS32PR														○		○									
TPKN2204PDSKL		○																							
TPKN2204PDSKR		●	●			●		●					○			●			●						
TPKN2204PDSKRX						○		○											○						
TPKN2204PDTKR												○													

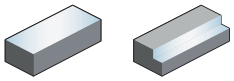
● In magazzino ○ Su richiesta

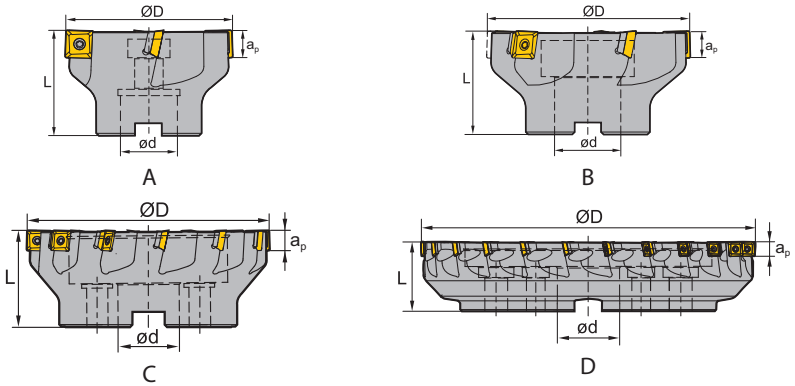
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Fresa a spianare

FMP02 Kr: 90°





Articolo	✻	Stock	Dimensioni [mm] ØD	ød	L	$a_{p\,max}$	Denti	Attacco	kg	Inserto
FMP02-050-A22-SE09-05		●	50	22	40	6,7	5	A	0,3	SEET09T3
FMP02-050-A22-SE09-05C	✻	●	50	22	40	6,7	5	A	0,3	
FMP02-063-A22-SE09-06		●	63	22	40	6,7	6	A	0,5	
FMP02-063-A22-SE09-06C	✻	●	63	22	40	6,7	6	A	0,5	
FMP02-080-A27-SE09-08		●	80	27	50	6,7	8	A	0,9	
FMP02-100-B32-SE09-08		○	100	32	50	6,7	8	B	1,7	
FMP02-100-B32-SE09-10		○	100	32	50	6,7	10	B	1,7	
FMP02-100-B32-SE09-10C	✻	○	100	32	50	6,7	10	B	1,7	
FMP02-125-B40-SE09-12		●	125	40	63	6,7	12	B	2,6	
FMP02-125-B40-SE09-12C	✻	○	125	40	63	6,7	12	B	2,6	
FMP02-050-A22-SE12-03		○	50	22	40	10,8	3	A	0,3	SEET1203
FMP02-050-A22-SE12-03C	✻	○	50	22	40	10,8	3	A	0,3	
FMP02-050-A22-SE12-04		●	50	22	40	10,8	4	A	0,3	
FMP02-050-A22-SE12-04C	✻	●	50	22	40	10,8	4	A	0,3	
FMP02-050-A22-SE12-05		●	50	22	40	10,8	5	A	0,2	
FMP02-050-A22-SE12-05C	✻	○	50	22	40	10,8	5	A	0,2	
FMP02-063-A22-SE12-04		○	63	22	40	10,8	4	A	0,4	
FMP02-063-A22-SE12-05		●	63	22	40	10,8	5	A	0,4	
FMP02-063-A22-SE12-05C	✻	●	63	22	40	10,8	5	A	0,4	
FMP02-063-A22-SE12-06		●	63	22	40	10,8	6	A	0,4	
FMP02-063-A22-SE12-06C	✻	○	63	22	40	10,8	6	A	0,4	
FMP02-080-A27-SE12-04		○	80	27	50	10,8	4	A	0,9	
FMP02-080-A27-SE12-06		●	80	27	50	10,8	6	A	0,8	
FMP02-080-A27-SE12-06C	✻	●	80	27	50	10,8	6	A	0,8	
FMP02-080-A27-SE12-08		●	80	27	50	10,8	8	A	0,8	
FMP02-080-A27-SE12-08C	✻	○	80	27	50	10,8	8	A	0,8	
FMP02-100-B32-SE12-05		●	100	32	50	10,8	5	B	1,2	
FMP02-100-B32-SE12-07		●	100	32	50	10,8	7	B	1,2	
FMP02-100-B32-SE12-07C	✻	○	100	32	50	10,8	7	B	1,2	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti per fresatura

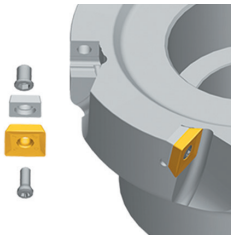
Articolo	✻	Stock	Dimensioni [mm] ØD	ød	L	$a_{p\,max}$	Denti	Attacco	kg	Inserto
FMP02-100-B32-SE12-10		●	100	32	50	10,8	10	B	1,2	SEET1203
FMP02-100-B32-SE12-10C	✻	○	100	32	50	10,8	10	B	1,2	
FMP02-125-B40-SE12-06		○	125	40	63	10,8	6	B	3,1	
FMP02-125-B40-SE12-08		●	125	40	63	10,8	8	B	3	
FMP02-125-B40-SE12-08C	✻	○	125	40	63	10,8	8	B	3	
FMP02-125-B40-SE12-12		●	125	40	63	10,8	12	B	2,9	
FMP02-160-C40-SE12-08		●	160	40	63	10,8	8	C	4,1	
FMP02-160-C40-SE12-12		●	160	40	63	10,8	12	C	3,9	
FMP02-250-C60-SE12-12		○	250	60	63	10,8	12	C	11,1	
FMP02-250-C60-SE12-18		●	250	60	63	10,8	18	C	10,9	
FMP02-315-D60-SE12-24		○	315	60	63	10,8	24	D	21,6	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**SEET09T3**	**SEET1203**	**SEET1203**
	ØD	**50-125**	**50**	**63- 315**
	Vite (inserti)	I60M3×7 (1,8 Nm)	I60M3,5×10 (2,7 Nm)	I60M3,5×12 (2,7 Nm)
	Vite (sottoplac-chetta)			SM5×7XA
	Sottoplacchetta			S12BSX
	Chiave (sotto-placchetta)			WH35L
	Chiave (inserti)	WT09IS	WT15IS	WT15IS

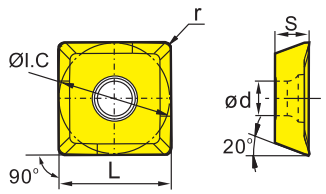


Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SEET	L	I.C	S	d
09 T3	9,525	9,525	4,01	3,3
12 03	13,308	13,308	4,04	4,1



SE** Inserti - Fresatura		HC¹ (CVD)									HC¹ (PVD)										HT		HC²		HW	
	P	◉	◉	◉	◉	◉	◉		◉	◉			◉	◉		◉	◉	◉	◉	●	●		●			
	M		◉	◉	◉	◉	◉						◉	◉	◉	◉	◉	◉	◉	◉	◉		◉			
	K							◉	◉	◉											●					
	N										◉														◉	◉
	S				◉		◉					●	◉		◉	◉		◉		◉						
	H										○							◉								
ISO	r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151		YNG151C		YD101	YD201
SEET09T308PER-APF	0,8						○											●	●		●							
SEET120308PER-APF	0,8						○						○					●	●		●							
SEET09T308PER-APM	0,8						○											●	●		●							
SEET120308PER-APM	0,8						●						○					●	●		●							
SEET09T308PER-APR	0,8						○											●	○									
SEET120308PER-APR	0,8						●						○					●	●									
SEET120308-LH	0,8												○														●	
SEET09T308PER-PF	0,8													○														
SEET120308PER-PF	0,8	○																										
SEET09T308PER-PM	0,8							○						○														
SEET120308PER-PM	0,8	○					○	○	○				○	○						○								
SEET09T308PER-PR	0,8							○												○								
SEET120308PER-PR	0,8	○					○	○	○					○						○								

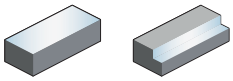
● In magazzino ○ Su richiesta

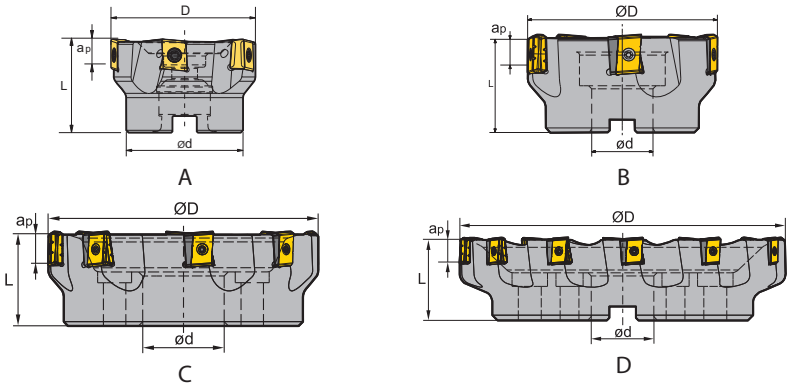
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Fresa a spianare

FMP03 Kr: 89°





Articolo	✻	Stock R	Stock L	Dimensioni [mm] ØD	ød	L	$a_{p\,max}$	Denti	Attacco	kg	Inserto
FMP03-050-A22-LN12-04C	✻	●		50	22	40	7	4	A	0,3	LNKT120608-ZR
FMP03-050-A22-LN12-05C	✻	○		50	22	40	7	5	A	0,3	
FMP03-063-A22-LN12-05C	✻	●		63	22	40	7	5	A	0,5	
FMP03-063-A27-LN12-05C	✻	○		63	27	50	7	5	A	0,64	
FMP03-063-A22-LN12-06C	✻	○		63	22	40	7	6	A	0,5	
FMP03-063-A27-LN12-06C	✻	●		63	27	50	7	6	A	0,65	
FMP03-063-A27-LN12-07C	✻	○		63	27	50	7	7	A	0,64	
FMP03-080-A27-LN12-06C	✻	●		80	27	50	7	6	A	1	
FMP03-080-A27-LN12-07C	✻	○		80	27	50	7	7	A	1	
FMP03-100-B32-LN12-06		○		100	32	50	7	6	B	1,47	
FMP03-125-B40-LN15-06		●		125	40	63	12	6	B	3,2	LNKT1506EN-ZR
FMP03-160-C40-LN15-08		●		160	40	63	12	8	C	5,1	
FMP03-160-C40-LN15-09		○		160	40	63	12	9	C		
FMP03-200-C60-LN15-10		●		200	60	70	12	10	C	7,5	
FMP03-250-C60-LN15-12		○		250	60	70	12	12	C	12,2	
FMP03-250-C60-LN15-13		○		250	60	70	12	13	C		
FMP03-125-B40-LN20-06		○		125	40	63	16	6	B	3,3	LNKT2007DN-ZR
FMP03-160-C40-LN20-08		●		160	40	63	16	8	C	5,3	
FMP03-200-C60-LN20-10		●		200	60	70	16	10	C	8,8	
FMP03-200-C60-LN20-11		○		200	60	70	16	11	C		
FMP03-315-D60-LN20-15		○		315	60	80	16	15	D	23,9	
FMP03-125-B40-LN25-05		○		125	40	63	20	5	B	3,3	LNKT2510-ZR
FMP03-160-C40-LN25-06		○	○	160	40	63	20	6	C	5,1	
FMP03-200-C60-LN25-08		○		200	60	70	20	8	C	8,9	
FMP03-250-C60-LN25-10		●	○	250	60	70	20	10	C	12	
FMP03-315-D60-LN25-12		○	○	315	60	80	20	12	D	21,9	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

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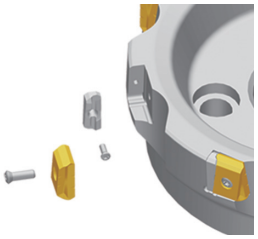
Inserti per fresatura

Fresa a spianare

Parti di ricambio

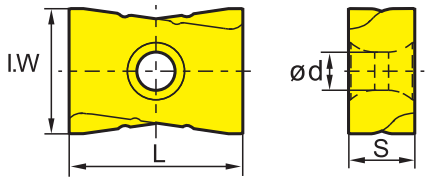
	Inserto	LNKT120608-ZR	LNKT1506EN-ZR	LNKT2007DN-ZR	LNKT2510-ZR
	ØD	50-100	125 - 315	125 - 315	125 - 315
	Vite (inserti)	I60M4×12 (3,4 Nm)	I60M4×12 (3,4 Nm)	I60M4×15 (3,4 Nm)	I60M5×17 (6,7 Nm)
	Vite (sottoplac-chetta)		I60M3×7	I60M3×7	I60M3.5×10.4
	Sottoplacchetta		LLN15-ZR	LLN20R-ZR	LLN25R-ZR
	Chiave (sotto-placchetta)		WT09IS	WT09IS	WT15IS
	Chiave (inserti)	WT15IS	WT15IS	WT15IS	
	Chiave (inserti)				WT20IT



LNKT		L	S	d
12	06	12,7	6,65	4,4
15	06	15,875	6,35	4,6
20	07	20	7,94	4,6
25	10	20	9,525	5,5

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

Inserti - Fresatura



LN** Inserti - Fresatura		HC[1] (CVD)									HC[1] (PVD)											HT	HC[2]	HW	
		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
P		◐	◐	◍	◐	◐	◍		◐	◐				◐	◍		◐	◐	◐	◍		●	●	●		
M			◐	◍	◐	◐	◍							◐	◍	◐	◐	◐	◐	◍	◍	○	○	○		
K								◐	◍	◍												●				
N												◐													◐	◍
S					◍		◍						●	◐		◐	◐		◐		◍					
H											○							◐								
ISO	I.W																									
LNKT120608-ZR	12	●			●														●							
LNKT1506EN-ZR	14		○				●	●	●											○						
LNKT2007DN-ZR	17				●		●		○											●						
LNKT2510-ZR	18						●		●											●						

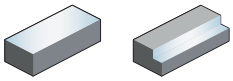
● In magazzino ○ Su richiesta

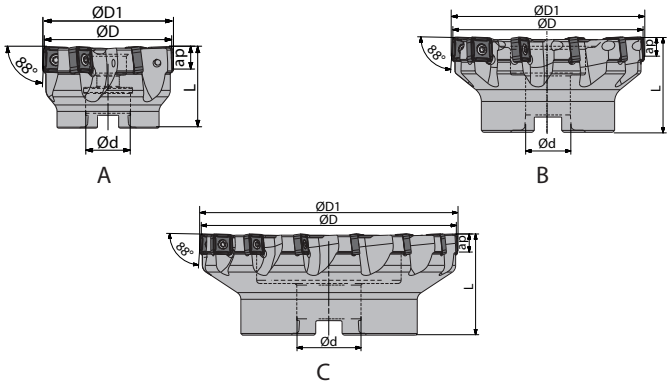
HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Fresa a spianare

FMP06 Kr: 88°





Articolo	✻	Stock	Dimensioni [mm] ØD	ØD1	ød	L	$a_{p\ max}$	Denti	Attacco	kg	Inserto
FMP06-050-A16-SN12-04		●	51,3	51,3	16	40	9,8	4	A	0,51	SN**1204
FMP06-063-A22-SN12-06		○	64,3	64,3	22	40	9,8	6	A	0,55	
FMP06-080-A27-SN12-08		○	81,3	81,3	27	40	9,8	8	A	1,1	
FMP06-100-A32-SN12-10		○	101,3	101,3	32	50	9,8	10	A	1,4	
FMP06-125-B40-SN12-12		○	126,3	126,3	40	63	9,8	12	B	3,2	
FMP06-160-C40-SN12-14		○	161,3	161,3	40	63	9,8	14	C	4	
FMP06-200-C60-SN12-16		○	201,2	201,2	60	63	9,8	16	C	6,5	
FMP06-250-C60-SN12-18		○	251,2	251,2	60	63	9,8	18	C	11,5	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**SN**1204**
	ØD	**50-250**
	Vite (inserti)	I60M4×10 (3,4 Nm)
	Chiave (inserti)	WT15IT

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

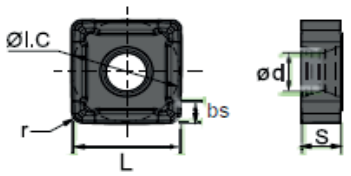
Inserti per fresatura

Fresa a spianare

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SNCU	L	I.C	S	d
12 04	12,7	12,7	4,76	4,68



SN** Inserti negativi	HC¹ (CVD)									HC¹ (PVD)											HT		HC²		HW	
P	◐	◐	◐	◐	◐	◐		◐	◐			◐	◐		◐	◐	◐	◐		●	●		●			
M		◐	◐	◐	◐	◐						◐	◐	◐	◐	◐	◐	◐	◐	●	●		●			
K							◐	◐	◐											●						
N										◐															◐	◐
S				◐		◐					●	◐		◐	◐		◐		◐							
H										○						◐										

	ISO	r	bs	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	SNCU120412-CF	1,2	1,5	○						○	○								○									
	SNCU120412-CM	1,2	1,5	○						○	○																	
	SNCU120420-W		4							○																		

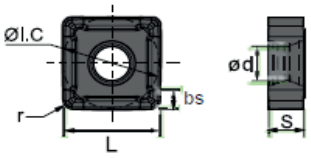
● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SNGA	L	I.C	S	d
12 04	12,7	12,7	4,76	5,16



SN** Inserti negativi	HC¹ (CVD)						HC¹ (PVD)								CN	CM
P	◐			◐			◐									
M				◐												
K						◐	◐	●							●	
N																
S				◐				●								
H																●

	ISO	r	bs	YBC302	YBM253	YBD152	YBD252	YBG102	CN1000	CM1000
	SNGA120404T02020	0,4	–						○	
	SNGA120408S02020	0,8	–							○
	SNGA120408T02020	0,8	–						○	○
	SNGA120412T02020	1,2	–						○	

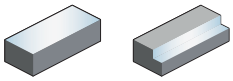
● In magazzino ○ Su richiesta

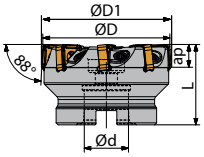
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

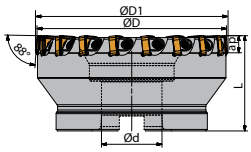
Fresa a spianare

FMP06 Kr: 88°

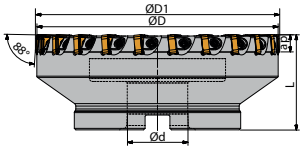




A



B



C

Articolo	✻	Stock	Dimensioni [mm] ØD	ØD$_1$	ød	L	$a_{p\,max}$	Denti	Attacco	kg	Inserto
FMP06-063-A22-SN12-08		●	64,3	64,3	22	50	9,8	8	A	0,5	SN**1204
FMP06-080-A27-SN12-11		●	81,3	81,3	27	50	9,8	11	A	1,2	
FMP06-100-A32-SN12-14		●	101,3	101,3	32	50	9,8	14	A	1,8	
FMP06-125-B40-SN12-18		●	126,3	126,3	40	63	9,8	18	B	3,5	
FMP06-160-C40-SN12-22		●	161,3	161,3	40	63	9,8	22	C	4,7	
FMP06-200-C60-SN12-28		○	201,2	201,2	60	63	9,8	28	C	6,6	
FMP06-250-C60-SN12-36		○	251,2	251,2	60	63	9,8	36	C	13	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**SN**1204**
	ØD	**63-250**
	Vite (cuneo)	DM6×20A (7,0 Nm)
	Cuneo	W18N
	Chiave (inserti)	WT15IT

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

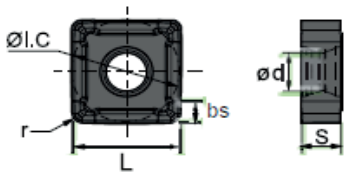
Inserti per fresatura

Fresa a spianare

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SNCU	L	I.C	S	d
12 04	12,7	12,7	4,76	4,68



SN** Inserti negativi	HC¹ (CVD)									HC¹ (PVD)											HT		HC²		HW	
P	◐	◐	◐	◐	◐	◐		◐	◐				◐	◐		◐	◐	◐	◐		●		●			
M		◐	◐	◐	◐	◐							◐	◐	◐	◐	◐	◐	◐	◐	●		●			
K							◐	◐	◐												●					
N										◐															◐	◐
S				◐		◐						●	◐		◐	◐		◐		◐						
H										○							◐									

	ISO	r	bs	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	SNCU120412-CF	1,2	1,5	○						○	○								○									
	SNCU120412-CM	1,2	1,5	○						○	○																	
	SNCU120420-W		4							○																		

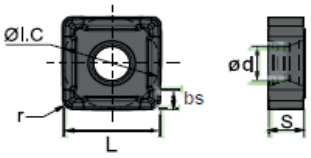
● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SNGN	L	I.C	S	d
12 04	12,7	12,7	4,76	–



SN** Inserti negativi	HC¹ (CVD)						HC¹ (PVD)								CN		CM	
P	◐			◐			◐											
M				◐														
K						◐	◐	◐		●					●			
N																		
S				◐						●								
H																	●	

	ISO	r	bs	YBC302	YBM253	YBD152	YBD252	YBG102	CN1000	CM1000
	SNGN120408S02020	0,8	–							○
	SNGN120408T00520	0,8	–						○	
	SNGN120408T02020	0,8	–						●	
	SNGN120412T02020	1,2	–						○	
	SNGN120416T02020	1,6	–						○	

● In magazzino ○ Su richiesta

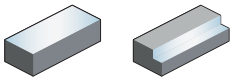
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

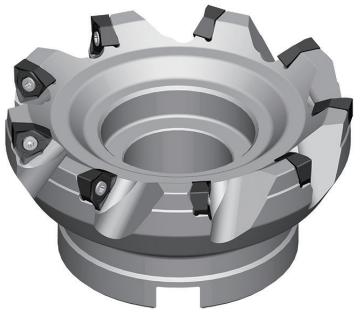
Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

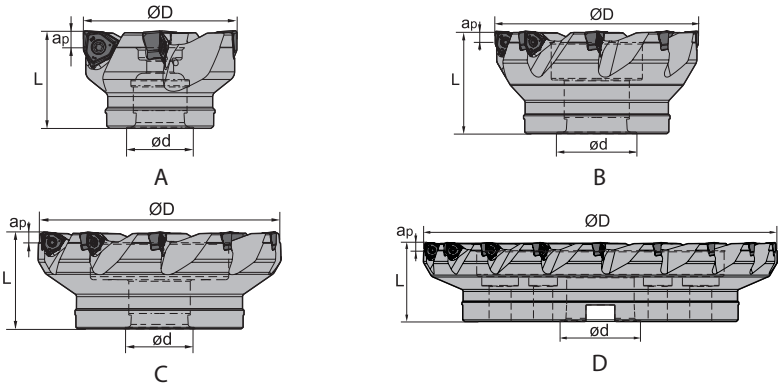
ZCC-CT

Fresa a spianare

FMP12 Kr: 90°







Articolo	✻	Stock	Dimensioni [mm] ØD	ød	$a_{p\,max}$	Denti	Attacco	kg	Inserto
FMP12-050-A22-WN06-05C	✻	○	50	22	5,7	5	A	0,55	WNHU0604
FMP12-063-A22-WN06-06C	✻	●	63	22	5,7	6	A	0,45	
FMP12-080-A27-WN06-07C	✻	●	80	27	5,7	7	A	1	
FMP12-100-B32-WN06-09		●	100	32	5,7	9	A	1,4	
FMP12-100-B32-WN06-09C	✻	●	100	32	5,7	9	A	1,4	
FMP12-125-B40-WN06-11C	✻	○	125	40	5,7	11	B	3,4	
FMP12-160-C40-WN06-14		●	160	40	5,7	14	C	5,4	
FMP12-063-A22-WN08-04C	✻	●	63	22	7,7	4	A	0,39	WNHU0806
FMP12-063-A22-WN08-05C	✻	●	63	22	7,7	5	A	0,45	
FMP12-080-A27-WN08-05C	✻	●	80	27	7,7	5	A	0,95	
FMP12-100-B32-WN08-06		●	100	32	7,7	6	B	1,32	
FMP12-100-B32-WN08-06C	✻	●	100	32	7,7	6	B	1,32	
FMP12-125-B40-WN08-08C	✻	●	125	40	7,7	8	B	3,3	
FMP12-160-C40-WN08-10		●	160	40	7,7	10	C	5,2	
FMP12-200-C60-WN08-12		○	200	60	7,7	12	C	5,9	
FMP12-250-C60-WN08-14		○	250	60	7,7	14	C	12,3	
FMP12-315-D60-WN08-18		○	315	60	7,7	18	D	19,7	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

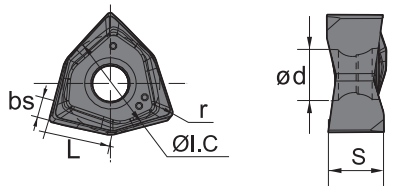
	Inserto	WNHU0604	WNHU0806
	ØD	50-315	50-315
	Vite (inserti)	I60M3×9 (1,8 Nm)	I60M4×10 (3,4 Nm)
	Chiave (inserti)	WT09IS	
	Chiave (inserti)		WT20IT

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

WNHU	L	I.C	S	d
06 04	5,73	9,525	4,704	3,5
08 06	7,76	12,7	6,32	4,4



WN** Inserti negativi	HC[1] (CVD)									HC[1] (PVD)											HT	HC[2]	HW	
P	◐	◐	❁	◐	◐	❁		◐	◐			◐	❁		◐	◐	◐	❁		●	●	●		
M		◐	❁	◐	◐	❁						◐	❁	◐	◐	◐	◐	❁	❁	◐	◐	◐		
K							◐	❁	❁											●				
N										◐													◐	❁
S				❁		❁					●	◐		◐	◐		◐		❁					
H										○						◐								

	ISO	r	bs	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	WNHU060404PNR-GM	0,4	1,35				●			●									●									
	WNHU060408PNR-GM	0,8	1,35				●			●	●							●	●				●					
	WNHU080608PNR-GM	0,8	1,6				●			●	●							●	●		●		●					
	WNHU080616PNR-GM	1,6	1,6				●			●	●																	
	WNHU080608PNR-LH		1,6																								●	

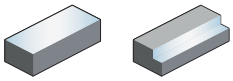
● In magazzino ○ Su richiesta

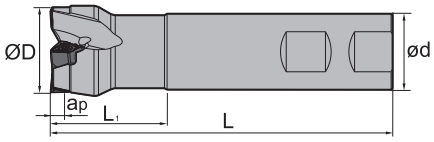
HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Fresa a spianare

FMP12 Kr: 90°





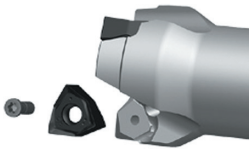
Articolo	✻	Stock	Dimensioni [mm]					Denti	kg	Inserto
			ØD	ød	L_1	L	$a_{p\,max}$			
FMP12-025-XP25-WN06-02C	✻	○	25	25	30	100	5,7	2	0,34	WNHU0604
FMP12-032-XP25-WN06-03C	✻	○	32	25	40	120	5,7	3	0,42	
FMP12-040-XP32-WN06-04C	✻	○	40	32	40	140	5,7	4	0,81	
FMP12-050-XP40-WN06-05C	✻	○	50	40	40	169	5,7	5	1,51	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**WNHU0604**
	ØD	**25-50**
	Vite (inserti)	I60M3×9 (1,8 Nm)
	Chiave (inserti)	WT09IS

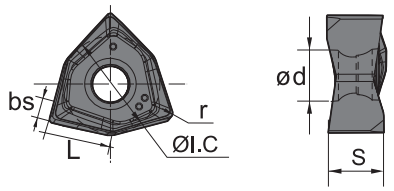


Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

WNHU	L	I.C	S	d
06 04	5,73	9,525	4,704	3,5



WN** Inserti negativi	HC¹ (CVD)									HC¹ (PVD)											HT		HC²		HW		
	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151		YNG151C		YD101	YD201	
P	◐	◐	◐	◐	◐	◐		◐	◐				◐	◐		◐	◐	◐	◐		●	●		●				
M		◐	◐	◐	◐	◐							◐	◐	◐	◐	◐	◐	◐	◐	●	●		●				
K							◐	◐	◐												●						
N											◐														◐	◐		
S				◐		◐						●	◐		◐	◐		◐		◐								
H										○							◐											

	ISO	r	bs	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	WNHU060404PNR-GM	0,4	1,35				●			●									●									
	WNHU060408PNR-GM	0,8	1,35				●			●	●							●	●				●					

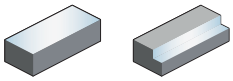
● In magazzino ○ Su richiesta

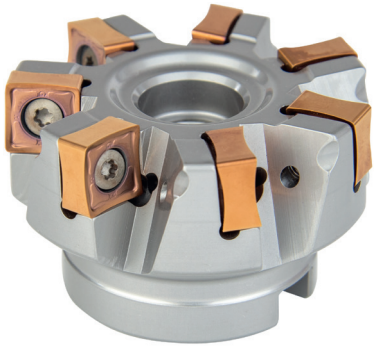
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

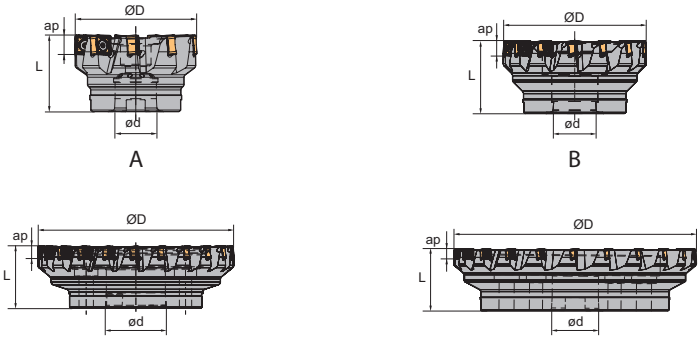
Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Fresa a spianare

FMP17 Kr: 88°







Articolo	✻	Stock R	Stock L	Dimensioni [mm] ØD	ød	L	$a_{p\,max}$	Denti	Attacco	kg	Inserto
FMP17-050-A22-SN12-04C	✻	○	○	50	22	40	10,5	4	A	0,296	SNGX1205
FMP17-050-A22-SN12-05C	✻	●		50	22	40	10,5	5	A	0,288	
FMP17-063-A22-SN12-05C	✻	●	○	63	22	50	10,5	5	A	0,462	
FMP17-063-A22-SN12-07C	✻	●		63	22	50	10,5	7	A	0,466	
FMP17-080-A27-SN12-07C	✻	●	○	80	27	63	10,5	7	A	1	
FMP17-080-A27-SN12-09C	✻	●		80	27	63	10,5	9	A	1,02	
FMP17-100-A32-SN12-08			○	100	32	63	10,5	8	A	1,577	
FMP17-100-A32-SN12-08C	✻	●		100	32	63	10,5	8	A	1,577	
FMP17-100-A32-SN12-11C	✻	●		100	32	63	10,5	11	A	1,592	
FMP17-125-B40-SN12-10		●	○	125	40	63	10,5	10	B	3,043	
FMP17-125-B40-SN12-14		●		125	40	63	10,5	14	B	3,033	
FMP17-160-C40-SN12-12		●	○	160	40	63	10,5	12	C	4,344	
FMP17-160-C40-SN12-18		○		160	40	63	10,5	18	C	4,431	
FMP17-200-C60-SN12-14		●		200	60	63	10,5	14	C	6,552	
FMP17-200-C60-SN12-22		○		200	60	63	10,5	22	C	6,711	
FMP17-250-C60-SN12-18		○		250	60	63	10,5	18	C	13,025	
FMP17-315-D60-SN12-22		○		315	60	80	10,5	22	D	21,935	
FMP17-400-D60-SN12-28		○		400	60	80	10,5	28	D	41,661	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

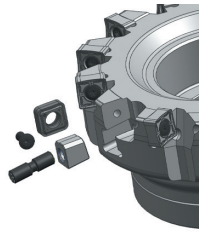
Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti per fresatura

Fresa a spianare

Parti di ricambio

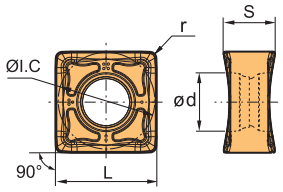
	Inserto	SNGX1205	SNGX1205	SNGX1205
	ØD	50-63	80-180	200-400
	Vite (inserti)	IRM4×10 (3,4 Nm)	IRM4×10 (3,4 Nm)	IRM4×10 (3,4 Nm)
	Chiave (inserti)	WT15IP		
	Chiave (inserti)		WT15IS	
	Chiave (inserti)			WT15IT



- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SNGX	L	I.C	S	d
12 05	12,7	12,7	6,5	5,9

Inserti - Fresatura



SN** Inserti negativi		HC¹ (CVD)									HC¹ (PVD)											HT		HC²		HW	
	P	⊛	⊛	❁	⊛	⊛	❁		⊛	⊛				⊛	❁		⊛	⊛	⊛	❁		●	●		●			
	M		⊛	❁	⊛	⊛	❁							⊛	❁	⊛	⊛	⊛	⊛	❁	❁	●	●		●			
	K							⊛	❁	❁												●						
	N											⊛															⊛	❁
	S				❁		❁						●	⊛		⊛	⊛		⊛		❁							
	H										○							⊛										
ISO	r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151		YNG151C		YD101	YD201
	SNGX1205PNN-GH	1,2							●									●										
	SNGX1205PNN-GL	1,2							●									●										
	SNGX1205PNN-GM	1,2							●									●			●							

● In magazzino ○ Su richiesta

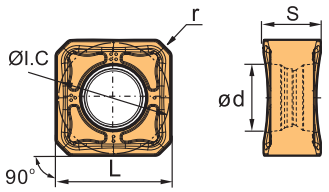
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SNMX	L	I.C	S	d
12 05	12,7	12,7	6,5	5,9



SN** Inserti negativi		HC¹ (CVD)									HC¹ (PVD)											HT	HC²	HW	
P		◉	◉	◉	◉	◉	◉		◉	◉				◉	◉		◉	◉	◉	◉		●	●			
M			◉	◉	◉	◉	◉							◉	◉	◉	◉	◉	◉	◉	◉	●	●			
K								◉	◉	◉											●					
N												◉													◉	◉
S					◉		◉						◉	◉		◉	◉		◉		◉					
H											○							◉								
ISO	r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
SNMX120512-GH	1,2								●									●								
SNMX120512-GM	1,2								●									●								

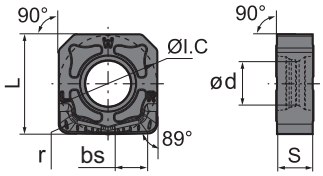
● In magazzino ○ Su richiesta

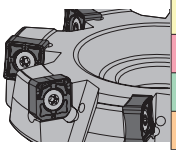
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SNGX	L	I.C	S	d
12 05	12,86	12,7	4,8	5,9





SN** Inserti negativi		HC¹ (CVD)									HC¹ (PVD)											HT	HC²	HW	
P		◉	◉	◉	◉	◉	◉		◉	◉					◉		◉	◉	◉	◉		●	●		
M			◉	◉	◉	◉	◉							◉	◉		◉	◉	◉	◉	◉	●	●		
K								◉	◉	◉											●				
N												◉													◉	◉
S					◉		◉						◉	◉		◉	◉		◉		◉					
H											○							◉								
ISO	bs / r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG105	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
SNGX1205PNN-W	4,26 / 1,2													●												

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Note

INFORMAZIONI IMPORTANTI

Nota di impiego per la **serie FMWX**

Si prega di osservare obbligatoriamente quanto segue: Corpo fresa dotato esclusivamente di due inserti contrapposti.

Selezionare la sede inserto **1.1** con **1.2** *oppure* la sede inserto **2.1** con **2.2**.

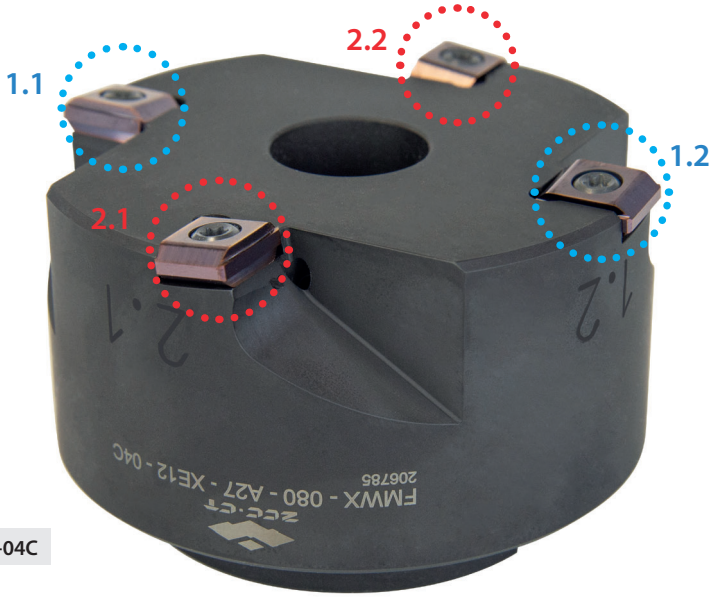


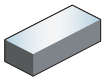
Fig.: **FMWX-063-A27-XE12-04C**

Dati di taglio

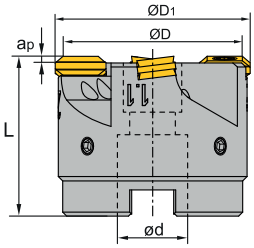
Gruppo ISO	Materiale	v_c (m/min)	F_n [mm/g]	a_p [mm]
P	Acciaio	300–400	3,50–5,00	0,02–0,05
M	Acciaio inossidabile	280–300	3,50–5,00	0,02–0,05
K	Ghise	300–400	3,50–5,00	0,02–0,05

Fresa a spianare

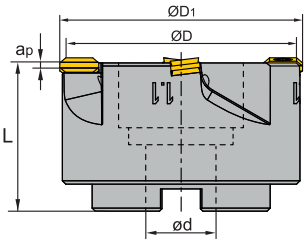
FMWX



Bloccaggio a vite



A



B

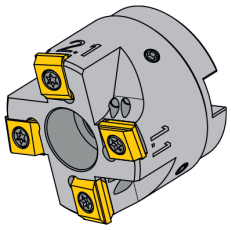
Articolo	✻	Stock	Dimensioni [mm]				Denti	Attacco	kg	Inserto
			$ØD_1$	ød	L	$a_{p\,max}$				
FMWX-050-A22-XE12-04C	✻	○	46	22	40	0,1	4	A	0,3	XEEC1209
FMWX-063-A27-XE12-04C	✻	○	59	27	40	0,1	4	A	0,5	
FMWX-080-A27-XE12-04C	✻	○	76	27	50	0,1	4	A	1	
FMWX-100-B32-XE12-06C	✻	○	96	32	50	0,1	6	B	1,9	
FMWX-125-B40-XE12-06C	✻	○	121	40	63	0,1	6	B	3,5	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**XEEC1209**
	ØD	**50–125**
	Vite (inserti)	I60M4*10 (3,4 Nm)
	Chiave (inserti)	WT15IS
	Vite filettata senza testa	DIN913 M4*4
	Chiave (Vite senza testa)	WH20L

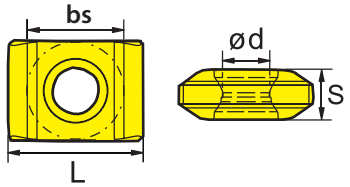


Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

XEEC	L	S	d
12 09	12,7	4,76	4,4



XE** Inserti - Fresatura		HC[1] (CVD)									HC[1] (PVD)												HT	HC[2]	HW	
	P																									
	M																									
	K																									
	N																									
	S																									
	H																									
ISO	bs	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG105	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
XEEC120904	7,3							●									○									

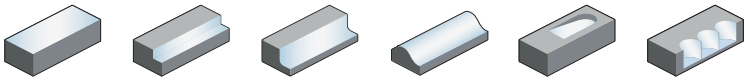
● In magazzino ○ Su richiesta

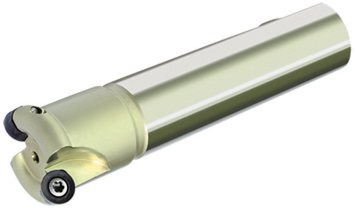
HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

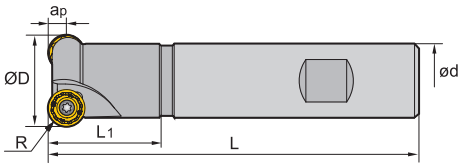
Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Fresa a spianare

FMR01







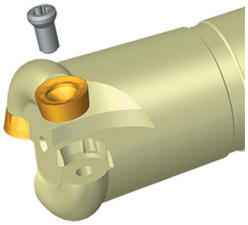
Articolo	✻	Stock	Dimensioni [mm] R	ØD	ød	L_1	L	$a_{p\,max}$	Denti	kg	Inserto
FMR01-025-XP20-RC10-02		○	5	25	20	30	100	5	2	0,2	RCKT10T3
FMR01-025-XP20-RC10-02C	✻	○	5	25	20	30	100	5	2	0,2	
FMR01-032-XP25-RC10-02		●	5	32	25	35	120	5	2	0,5	
FMR01-032-XP25-RC10-02C	✻	●	5	32	25	35	120	5	2	0,5	
FMR01-040-XP32-RC12-03		●	6	40	32	40	120	6	3	0,7	RCKT1204 RCGX1204
FMR01-040-XP32-RC12-03C	✻	●	6	40	32	40	120	6	3	0,7	
FMR01-050-XP32-RC12-03		●	6	50	32	40	120	6	3	0,8	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	RCKT10T3	RCKT1204 RCGX1204
	ØD	25-32	40-50
	Vite (inserti)	I60M4×8,4 (3,4 Nm)	I60M3,5×10 (2,7 Nm)
	Chiave (inserti)	WT15S	WT15S

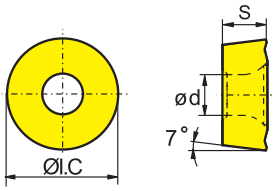


Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

RCKT	I.C	S	d
10 T3	10	3,97	4,4
12 04	12	4,76	4



RC** Inserti - Fresatura	HC¹ (CVD)								HC¹ (PVD)											HT	HC²	HW	
P	⊛	⊛	⊛	⊛	⊛	⊛		⊛	⊛				⊛	⊛		⊛	⊛	⊛	⊛	●	●		
M		⊛	⊛	⊛	⊛	⊛							⊛	⊛	⊛	⊛	⊛	⊛	⊛	⊛	●		
K							⊛	⊛	⊛											●			
N										⊛												⊛	⊛
S				⊛		⊛					●	⊛			⊛	⊛		⊛		⊛			
H									○								⊛						
ISO	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
RCKT10T3MO-DM		○						○										●	○						
RCKT1204MO-DM		○	○			●	○						○					●	○						
RCKT1204MO-DR		○	○		○	●		○								●	○								
RCKT1204MO-ER				●													○								
RCKT10T3MO-MM				○																					
RCKT10T3MO-NM															○					○					
RCKT1204MO-NM														○	●		○								

● In magazzino ○ Su richiesta

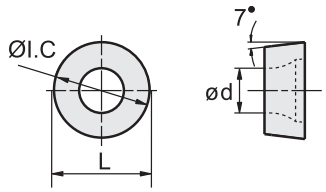
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

RCGX	I.C	S	d
12 04	12	4,76	4



RC** Inserti positivi		HC[1] (CVD)									HC[1] (PVD)											HT		HC[2]		HW		
		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151		YNG151C		YD101	YD201	
	P	◉	◉	❁	◉	◉	❁		◉	◉				◉	❁		◉	◉	◉	❁		●	●		●				
	M		◉	❁	◉	◉	❁							◉	❁	◉	◉	◉	◉	❁	❁	○	○		○				
	K							◉	❁	◉												●							
	N											❁															❁	❁	
	S				❁		❁						●	◉		◉	◉		◉		❁								
	H										○							◉											
ISO																													
	RCGX1204MO-LH																										●		

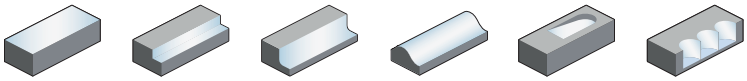
● In magazzino ○ Su richiesta

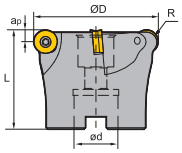
HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

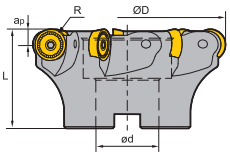
Fresa a spianare

FMR02

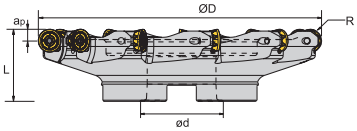




A



B



C

Articolo	✻	Stock R	Stock L	Dimensioni [mm] R	ØD	ød	L	$a_{p\,max}$	Denti	Attacco	kg	Inserto
FMR02-040-A16-RC12-04C	✻	●		6	40	16	40	6	4	A	0,16	RCGX1204 RCKT1204 RCMW1204
FMR02-042-A16-RC12-04C	✻	○		6	42	16	40	6	4	A	0,17	
FMR02-050-A22-RC12-05C	✻	●		6	50	22	40	6	5	A	0,7	
FMR02-050-A22-RC12-06C	✻	○		6	50	22	40	6	6	A	0,7	
FMR02-052-A22-RC12-05C	✻	●		6	52	22	40	6	5	A	0,7	
FMR02-063-A22-RC12-04		●		6	63	22	40	6	4	A	0,7	
FMR02-063-A22-RC12-05C	✻	●		6	63	22	40	6	5	A	0,7	
FMR02-063-A22-RC12-06		●		6	63	22	40	6	6	A	0,7	
FMR02-063-A22-RC12-06C	✻	●		6	63	22	40	6	6	A	0,7	
FMR02-080-A27-RC12-07C	✻	●		6	80	27	50	6	7	B	0,7	
FMR02-100-B32-RC12-08		○		6	100	32	50	10	8	B	1,26	
FMR02-100-B32-RC12-08C	✻	●		6	100	32	50	6	8	B	0,89	
FMR02-063-A22-RC16-04		●		8	63	22	40	8	4	A	0,7	RCKT1606
FMR02-063-A22-RC16-04C	✻	○		8	63	22	40	8	4	A	0,7	
FMR02-063-A22-RC16-05C	✻	○		8	63	22	40	8	5	A	0,7	
FMR02-066-A27-RC16-05C(FB)	✻	●		8	66	27	50	8	5	A	0,5	
FMR02-080-A27-RC16-07C	✻	○		8	80	27	50	10	7	A	0,87	
FMR02-080-B27-RC16-05		●		8	80	27	50	8	5	B	0,7	
FMR02-080-B27-RC16-07		●		8	80	27	50	8	7	B	0,7	
FMR02-100-B32-RC16-06		●		8	100	32	63	8	6	B	1,2	
FMR02-100-A32-RC16-06C	✻	○		8	100	32	63	8	6	B	1,2	
FMR02-125-B40-RC16-07		●		8	125	40	63	8	7	B	2,5	
FMR02-125-B40-RC16-07C	✻	○		8	125	40	63	8	7	B	2,5	
FMR02-136-B40-RC16-07C	✻	○			136	40	63	8	7	B		
FMR02-140-C40-RC16-08		○		8	140	40	63	8	8	C	1,48	
FMR02-160-B40-RC16-10(FB)		○		8	160	40	63	8	10	B	3,94	
FMR02-200-C60-RC16-12(FB)		●		8	200	60	63	8	12	C	5,4	
FMR02-063-A22-RC20-04		○			63	22	40	10	4	A	0,553	RCKT2006
FMR02-080-A27-RC20-04		●		10	80	27	50	10	4	A	0,7	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

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Inserti per fresatura

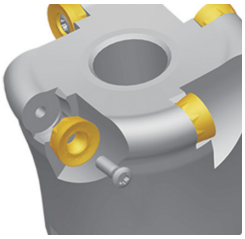
Articolo	✻	Stock R	Stock L	Dimensioni [mm] R	ØD	ød	L	$a_{p\,max}$	Denti	Attacco	kg	Inserto
FMR02-080-A27-RC20-04C(FB)	✻	●		10	80	27	50	10	4	A	0,7	RCKT2006
FMR02-080-A27-RC20-05C	✻	●		10	80	27	50	10	5	A	0,65	
FMR02-080-A27-RC20-06C	✻	○	○	10	80	27	50	10	6	A	0,64	
FMR02-100-B32-RC20-05		●		10	100	32	63	10	5	B	1,2	
FMR02-100-B32-RC20-06		●		10	100	32	63	10	6	B	1,2	
FMR02-100-A32-RC20-06C	✻	○		10	125	32	50	10	6	A	1,25	
FMR02-125-B32-RC20-05		○		10	125	32	63	10	5	B	1,2	
FMR02-125-B40-RC20-06		●		10	125	40	63	10	6	B	1,2	
FMR02-125-B40-RC20-07		●		10	125	40	63	10	7	B	2,2	
FMR02-125-B40-RC20-07C	✻	○		10	125	40	63	10	7	B	2,2	
FMR02-140-C40-RC20-07		○		10	140	40	63	10	7	C	2,93	
FMR02-160-B40-RC20-08		●		10	160	40	63	10	8	B	4,2	
FMR02-160-B40-RC20-08C	✻	○		10	160	40	63	10	8	B	4,2	
FMR02-160-C40-RC20-08		○		10	160	40	63	10	8	C	3,6	
FMR02-220-C60-RC20-10		○		10	220	60	63	10	10	C	6,53	
FMR02-250-C60-RC20-10		●		10	250	60	63	10	10	C	8,49	
FMR02-250-C60-RC20-11		○		10	250	60	63	10	11	C	8,37	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	RCGX1204 RCKT1204 RCMW1204	RCKT1606	RCKT2006
	ØD	32-125	63-200	63-250
	Vite (inserti)	I60M3,5×10 (2,7 Nm)	I60M5×13 (6,7 Nm)	I43M6×16 (9,1 Nm)
	Chiave (inserti)	WT15IS		
	Chiave (inserti)		WT20IT	WT25IT

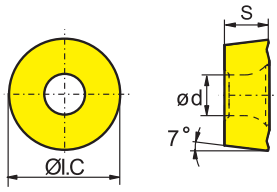


Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

RCKT	I.C	S	d
12 04	12	4,76	4
16 06	16	6,35	5,56
20 06	20	6,35	6,55



RC** Inserti - Fresatura	HC¹ (CVD)								HC¹ (PVD)											HT	HC²	HW	
P	⊛	⊛	⊛	⊛	⊛	⊛		⊛	⊛				⊛	⊛		⊛	⊛	⊛	⊛		●	●			
M		⊛	⊛	⊛	⊛	⊛							⊛	⊛	⊛	⊛	⊛	⊛	⊛	⊛	●	●			
K							⊛	⊛	⊛												●				
N										⊛														⊛	⊛
S				⊛		⊛						●	⊛		⊛	⊛		⊛		⊛					
H									○								⊛								

ISO	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
RCKT1204MO-DM		○	○			●	○						○					●	○						
RCKT1606MO-DM																●			○						
RCKT2006MO-DM		○	○																						
RCKT1204MO-DR		○	○		○	●		○								●	○								
RCKT1606MO-DR	●	○	●			●		●										●							
RCKT2006MO-DR	●	○	●			○		●											○						
RCKT1204MO-ER				●													○								
RCKT1606MO-ER				●														○							
RCKT2006MO-ER				●																					
RCKT1204MO-NM														○	●		○								
RCKT1606MO-NM														○	●					●					
RCKT2006MO-NM															○		○			○					

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

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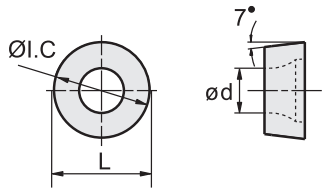
Inserti per fresatura

Fresa a spianare

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

RCGX	I.C	S	d
12 04	12	4,76	4



RC** Inserti positivi		HC[1] (CVD)									HC[1] (PVD)											HT		HC[2]		HW		
	ISO	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151		YNG151C		YD101	YD201	
P		○	○	◉	○	○	◉		○	○				○	◉		○	○	○	◉		●	●		●				
M			○	◉	○	○	◉							○	◉	○	○	○	○	◉	○	●	●		●				
K								○	◉	◉												●							
N												◉															○	◉	
S					◉		◉						●	○		○	○		○		◉								
H											○							○											
	RCGX1204MO-LH																										●		

● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

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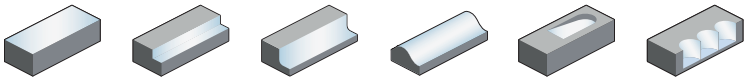
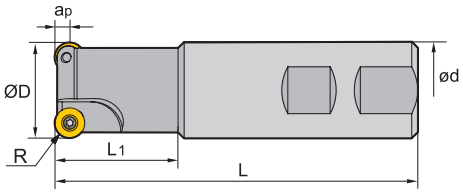
Fresa a spianare

FMR03





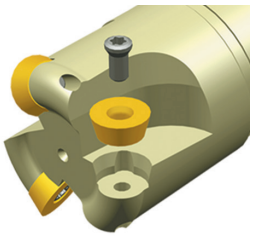
Articolo	✻	Stock	Dimensioni [mm] R	ØD	ød	L_1	L	$a_{p\,max}$	Denti	kg	Inserto
FMR03-016-XP16-RD08-02		○	4	16	16	25	100	4	2	0,1	RD**0803
FMR03-025-XP25-RD08-02		●	4	25	25	30	100	4	2	0,3	
FMR03-025-XP25-RD08-02C	✻	○	4	25	25	30	100	4	2	0,3	
FMR03-032-XP32-RD10-02		●	5	32	32	40	120	5	2	0,7	RD**10T3
FMR03-040-XP32-RD12-03		●	6	40	32	40	120	6	3	0,7	RD**1204
FMR03-050-XP32-RD12-03		●	6	50	32	40	120	6	3	0,85	
FMR03-050-XP32-RD12-04		●	6	50	32	40	120	6	4	0,8	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**RD**0803**	**RD**10T3**	**RD**1204**
	ØD	**16-25**	**32**	**32-60**
	Vite (inserti)	I60M3×7 (1,8 Nm)	I60M4×10 (3,4 Nm)	I60M4×10 (3,4 Nm)
	Chiave (inserti)	WT09IP	WT15IP	WT15IP



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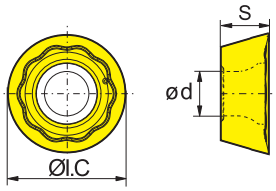
Inserti per fresatura

Fresa a spianare

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

RDKT	I.C	S	d
10 T3	10	3,97	3,85
12 04	12	4,76	4,5



RD** Inserti - Fresatura		HC¹ (CVD)									HC¹ (PVD)											HT	HC²	HW	
	P																								
	M																								
	K																								
	N																								
	S																								
	H																								
ISO		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	RDKT10T3MO-MM															○					○					
	RDKT1204MO-MM																	●			○					
	RDKT10T3MO-NM															○					○					

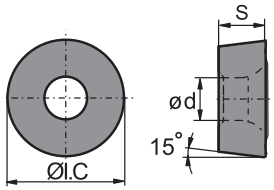
● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

RDKW	I.C	S	d
08 T2	8	2,58	3,4
08 03	8	3,18	3,4
10 T3	10	3,97	4,4
12 04	12	4,76	4,4

Inserti - Fresatura



RD** Inserti - Fresatura		HC¹ (CVD)									HC¹ (PVD)											HT	HC²	HW	
	P																								
	M																								
	K																								
	N																								
	S																								
	H																								
ISO		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	RDKW0803MO						○							○												
	RDKW10T3MO	●											○	○						○						
	RDKW1204MO	●					●						●	○			●		●							
	RDKW0803MO-1																	●								
	RDKW08T2MO-1																	○								

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

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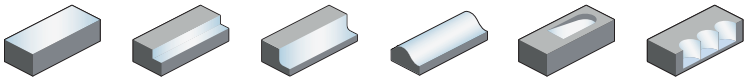
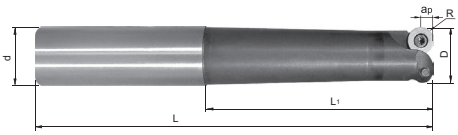
Fresa a spianare

FMR03





Articolo	✻	Stock	Dimensioni [mm]						Denti	Inserto
			R	ØD	ød	L_1	L	$a_{p\,max}$		
FMR03-015-G16-XS-RD0702-02		●	3,5	15	16	40	88	3,5	2	RDKW0702
FMR03-015-G16-XS-RD0702-02C	✻	○	3,5	15	16	40	88	3,5	2	
FMR03-015-G16-S-RD0702-02		●	3,5	15	16	60	108	3,5	2	
FMR03-015-G16-S-RD0702-02C	✻	○	3,5	15	16	60	108	3,5	2	
FMR03-015-G20-M-RD0702-02		●	3,5	15	20	80	130	3,5	2	
FMR03-015-G20-M-RD0702-02C	✻	○	3,5	15	20	80	130	3,5	2	
FMR03-015-G25-XL-RD0702-02		●	3,5	15	25	120	176	3,5	2	
FMR03-015-G25-XL-RD0702-02C	✻	○	3,5	15	25	120	176	3,5	2	
FMR03-020-G20-XS-RD1003-02		●	5	20	20	40	90	5	2	RDKW1003
FMR03-020-G20-XS-RD1003-02C	✻	○	5	20	20	40	90	5	2	
FMR03-020-G20-S-RD1003-02		●	5	20	20	60	110	5	2	
FMR03-020-G20-S-RD1003-02C	✻	○	5	20	20	60	110	5	2	
FMR03-020-G25-M-RD1003-02		●	5	20	25	80	136	5	2	
FMR03-020-G25-M-RD1003-02C	✻	○	5	20	25	80	136	5	2	
FMR03-020-G25-L-RD1003-02		●	5	20	25	100	156	5	2	
FMR03-020-G25-L-RD1003-02C	✻	○	5	20	25	100	156	5	2	
FMR03-020-G25-XL-RD1003-02		●	5	20	25	120	176	5	2	
FMR03-020-G25-XL-RD1003-02C	✻	○	5	20	25	120	176	5	2	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

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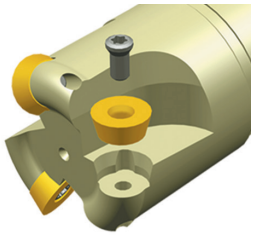
Inserti per fresatura

Fresa a spianare

Parti di ricambio

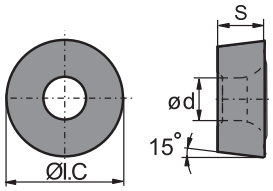
	Inserto	RDKW0702	RDKW1003
	ØD	15	20
	Vite (inserti)	I60M2,5×5,0 (1,0 Nm)	
	Vite (inserti)		I60M3,5×6,5TT (2,7 Nm)
	Chiave (inserti)		WT10IP
	Chiave (inserti)	WT07P	



Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

RDKW	I.C	S	d
07 02	7	2,38	2,7
10 03	10	3,18	3,9



RD** Inserti - Fresatura		HC¹ (CVD)									HC¹ (PVD)											HT	HC²	HW	
	ISO	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
P		◉	◉	◉	◉	◉	◉		◉	◉				◉	◉		◉	◉	◉	◉		●	●	●		
M		◉	◉	◉	◉	◉	◉							◉	◉	◉	◉	◉	◉	◉	◉	●	●	●		
K								◉	◉	◉												●				
N												◉													◉	◉
S					◉		◉						●	◉		◉	◉		◉		◉					
H											○							◉								
	RDKW0702MO-1						●							○			●	○								
	RDKW0702MO-2												●													
	RDKW1003MO-1						○							○			●	●	●							
	RDKW1003MO-2												○													
	RDKW1003MO-3				●				●								●									

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

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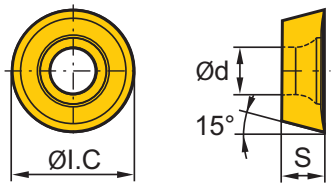
Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

RDHT	L	I.C	S	d
07 02		7	2,38	2,7
10 03		10	3,18	3,9



RD** Inserti - Fresatura		HC¹ (CVD)									HC¹ (PVD)												HT	HC²	HW	
		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
P		●	●	●	●	●	●		●	●				●	●		●	●	●	●		●	●	●			
M			●	●	●	●	●							●	●	●	●	●	●	●	●	●	●	●			
K								●	●	●												●					
N												●													●	●
S					●		●						●	●		●	●		●		●						
H											○							●									
RDHT0702MO-LH																									○	
RDHT1003MO-LH																									●	

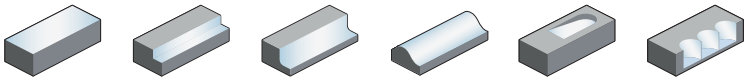
● In magazzino ○ Su richiesta

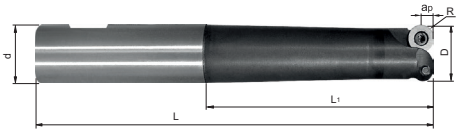
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Fresa a spianare

FMR03





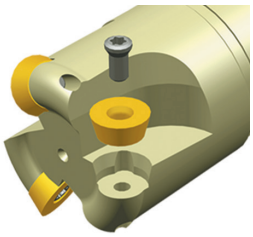
Articolo	✻	Stock	Dimensioni [mm]						Denti	Inserto
			R	ØD	ød	L_1	L	$a_{p\,max}$		
FMR03-015-XP16-S-RD0702-02		○	3,5	15	16	60	108	3,5	2	RDKW0702
FMR03-015-XP16-XS-RD0702-02		○	3,5	15	16	40	88	3,5	2	
FMR03-015-XP20-M-RD0702-02		○	3,5	15	20	80	130	3,5	2	
FMR03-020-XP20-S-RD1003-02		○	5	20	20	60	110	5	2	RDKW1003
FMR03-020-XP20-XS-RD1003-02		○	5	20	20	40	90	5	2	
FMR03-020-XP25-L-RD1003-02		○	5	20	25	100	156	5	2	
FMR03-020-XP25-M-RD1003-02		○	5	20	25	80	136	5	2	
FMR03-020-XP25-XL-RD1003-02		○	5	20	25	120	176	5	2	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**RDKW0702**	**RDKW1003**
	ØD	**15**	**20**
	Vite (inserti)	I60M2,5×5,0 (1,0 Nm)	
	Vite (inserti)		I60M3,5×6,5TT (2,7 Nm)
	Chiave (inserti)		WT10IP
	Chiave (inserti)	WT07P	

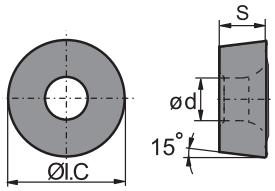


Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

RDKW	I.C	S	d
07 02	7	2,38	2,7
10 03	10	3,18	3,9



RD** Inserti - Fresatura		HC¹ (CVD)									HC¹ (PVD)												HT	HC²	HW	
	P	◉	◉	❁	◉	◉	❁		◉	◉				◉	❁		◉	◉	◉	❁		●	●	●			
	M		◉	❁	◉	◉	❁							◉	❁	◉	◉	◉	◉	❁	❁	◉	◉	◉			
	K							❁	❁	❁												●					
	N											❁														❁	❁
	S				❁		❁						●	◉		◉	◉		◉		❁						
	H										○							❁									
ISO		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	RDKW0702MO-1						●							○			●	○								
	RDKW0702MO-2												●													
	RDKW1003MO-1						○							○			●	●	●							
	RDKW1003MO-2												○													
	RDKW1003MO-3				●				●								●									

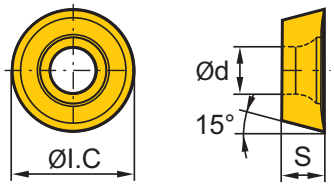
● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

RDHT	L	I.C	S	d
07 02		7	2,38	2,7
10 03		10	3,18	3,9



RD** Inserti - Fresatura		HC¹ (CVD)									HC¹ (PVD)												HT	HC²	HW	
	P	◉	◉	❁	◉	◉	❁		◉	◉				◉	❁		◉	◉	◉	❁		●	●	●			
	M		◉	❁	◉	◉	❁							◉	❁	◉	◉	◉	◉	❁	❁	◉	◉	◉			
	K							❁	❁	❁												●					
	N											❁														❁	❁
	S				❁		❁						●	◉		◉	◉		◉		❁						
	H										○							❁									
ISO		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	RDHT0702MO-LH																								○	
	RDHT1003MO-LH																								●	

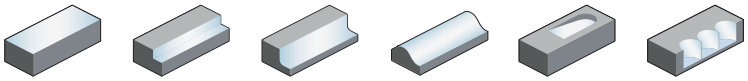
● In magazzino ○ Su richiesta

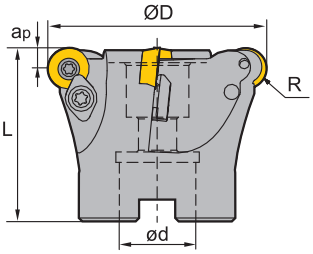
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

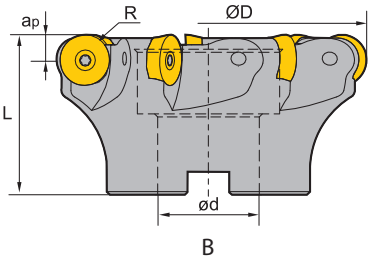
Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Fresa a spianare

FMR04







Articolo	✻	Stock R	Stock L	Dimensioni [mm] R	ØD	ød	L	$a_{p\,max}$	Denti	Attacco	kg	Inserto
FMR04-050-A22-RD12-03		●		6	50	22	40	6	3	A	0,3	RD**1204
FMR04-063-A22-RD12-04		●		6	63	22	50	6	4	A	0,5	
FMR04-080-A27-RD16-06C	✻	○	○	8	80	27	50	8	6	A	0,84	RD**1605
FMR04-080-B27-RD16-05		●		8	80	27	50	8	5	B	1,2	
FMR04-100-B32-RD16-06		●		8	100	32	50	8	6	B	1	
FMR04-100-A32-RD20-06C	✻	○		10	100	32	50	10	6	A	1	RD**2006
FMR04-100-B32-RD20-06C	✻	○		10	100	32	50	10	6	B	1	
FMR04-125-B40-RD20-06		○		10	125	40	63	10	6	B	1,9	
FMR04-125-B40-RD20-06C	✻	○		10	125	40	63	10	6	B	1,9	
FMR04-160-B40-RD20-07		○		10	160	40	63	10	7	B	3,7	
FMR04-160-B40-RD20-09		○		10	160	32	63	10	9	B	4,09	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

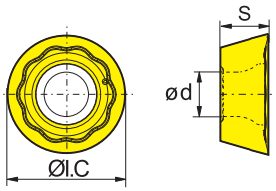
	Inserto	RD**1204	RD**1605	RD**2006
	ØD	50-63	80-100	100-200
	Staffa	WD-204	WD-207	
	Vite (staffa)	I60M4×10 (3,4 Nm)	I60M5×13 (6,7 Nm)	
	Vite (inserti)	I60M3,5×10 (2,7 Nm)	I60M5×13 (6,7 Nm)	I43M6×16 (9,1 Nm)
	Chiave (staffa)	WT15IP		
	Chiave (staffa)		WT20IT	
	Chiave (inserti)	WT15IP		
	Chiave (inserti)		WT20IT	WT25IT

Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

RDKT	I.C	S	d
12 04	12	4,76	4,5



RD** Inserti - Fresatura		HC¹ (CVD)								HC¹ (PVD)											HT	HC²	HW	
	P	◎	◎	❁	◎	◎	❁		◎	◎			◎	❁		◎	◎	◎	❁		●	◎			
	M		◎	❁	◎	◎	❁						◎	❁	◎	◎	◎	◎	❁	❁	●	◎			
	K							❁	❁	❁											●				
	N										❁													❁	❁
	S				❁		❁					●	◎		◎	◎		◎		❁					
	H									○							❁								
ISO		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	RDKT1204MO-MM																	●			○					

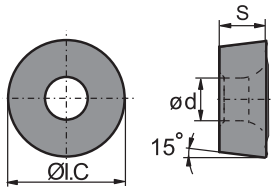
● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

RDKW	I.C	S	d
12 04	12	4,76	4,4
16 05	16	5,56	5,5
20 06	20	6,35	6,5



RD** Inserti - Fresatura		HC¹ (CVD)								HC¹ (PVD)											HT	HC²	HW	
	P	◎	◎	❁	◎	◎	❁		◎	◎			◎	❁		◎	◎	◎	❁		●	◎			
	M		◎	❁	◎	◎	❁						◎	❁	◎	◎	◎	◎	❁	❁	●	◎			
	K							❁	❁	❁											●				
	N										❁													❁	❁
	S				❁		❁					●	◎		◎	◎		◎		❁					
	H									○							❁								
ISO		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	RDKW1204MO	●					●						●	○			●		●							
	RDKW1605MO						○							○	○					○						
	RDKW2006MO						○		○																	
	RDKW2006MO-3																●									

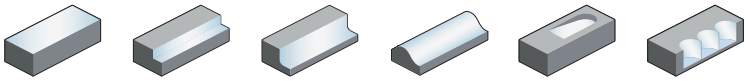
● In magazzino ○ Su richiesta

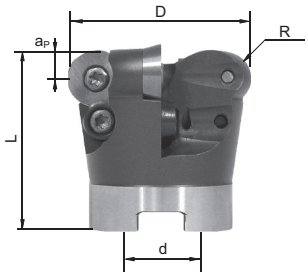
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Fresa a spianare

FMR04





Articolo	✻	Stock	Dimensioni [mm] R	ØD	ød	L	$a_{p\,max}$	Denti	Inserto
FMR04-042-A16-RD1003-06		○	5	42	16	44	5	6	RDKW1003
FMR04-042-A16-RD1003-06C	✻	●	5	42	16	44	5	6	
FMR04-052-A22-RD1003-07C	✻	●	5	52	22	50	5	7	
FMR04-042-A16-RD12T3-05		○	6	42	16	42	6	5	RDKW12T3
FMR04-042-A16-RD12T3-05C	✻	●	6	42	16	42	6	5	
FMR04-052-A22-RD12T3-05		○	6	52	22	50	6	5	
FMR04-052-A22-RD12T3-05C	✻	●	6	52	22	50	6	5	
FMR04-066-A27-RD12T3-06		○	6	66	27	50	6	6	
FMR04-066-A27-RD12T3-06C	✻	●	6	66	27	50	6	6	
FMR04-080-A27-RD12T3-07		○	6	80	27	50	6	7	
FMR04-080-A27-RD12T3-07C	✻	●	6	80	27	50	6	7	
FMR04-052-A22-RD1604-04		○	8	52	22	50	8	4	RDKW1604
FMR04-052-A22-RD1604-04C	✻	●	8	52	22	50	8	4	
FMR04-066-A27-RD1604-05		○	8	66	27	50	8	5	
FMR04-066-A27-RD1604-05C	✻	●	8	66	27	50	8	5	
FMR04-080-A27-RD1604-06		○	8	80	27	52	8	6	
FMR04-080-A27-RD1604-06C	✻	●	8	80	27	52	8	6	
FMR04-100-B32-RD1604-07		○	8	100	32	52	8	7	
FMR04-100-B32-RD1604-07C	✻	●	8	100	32	52	8	7	
FMR04-125-B40-RD1604-08		○	8	125	40	52	8	8	
FMR04-160-B40-RD1604-09		○	8	160	40	52	8	9	
FMR04-160-B40-RD1604-09C	✻	●	8	160	40	52	8	9	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Parti di ricambio

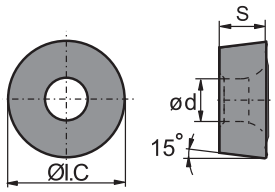
	Inserto	RDKW1003	RDKW12T3	RDKW12T3	RDKW1604	RDKW1604
	ØD	42-52	42	52-80	52	66-200
	Staffa					WX16N
	Staffa			LOM3.5×7.1		
	Vite (staffa)					I60M4,5×10 (5,0 Nm)
	Vite (inserti)		I60M3,5×7,7 (2,7 Nm)	I60M3,5×7,7 (2,7 Nm)	I60M4,5×10 (5,0 Nm)	I60M4,5×10 (5,0 Nm)
	Vite (inserti)	I60M3,5×6,5TT (2,7 Nm)				
	Chiave (staffa)			WT15P		
	Chiave (staffa)					WT20T
	Chiave (inserti)	WT10IP				
	Chiave (inserti)		WT15P	WT15P		
	Chiave (inserti)				WT20T	WT20T

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

RDKW	I.C	S	d
10 03	10	3,18	3,9
12 T3	12	3,97	3,9
16 04	16	4,76	5,2

RD** Inserti - Fresatura



	HC¹ (CVD)								HC¹ (PVD)											HT	HC²	HW	
P	◐	◐	❁	◐	◐	❁		◐	◐			◐	❁		◐	◐	◐	❁		●	●		
M		❁	❁	❁	◐	❁						❁	❁	❁	❁	❁	❁	❁	❁	●	●		
K							❁	❁	❁										●				
N										❁												❁	❁
S				❁		❁					●	❁		❁	❁		❁						
H									○							❁							

ISO	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
RDKW1003MO-1						○							○			●	●	●							
RDKW1003MO-2												○													
RDKW1003MO-3				●				●								●									
RDKW12T3MO-1						●							○			○	●	●							
RDKW12T3MO-2												●				○									
RDKW12T3MO-3				●				●								●									
RDKW1604MO-1						○							○			●	●	●	○						
RDKW1604MO-2												○													
RDKW1604MO-3	○			○				●								●									

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

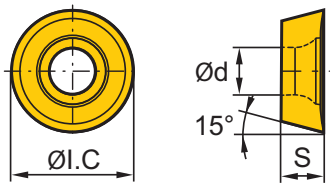
Inserti per fresatura

Fresa a spianare

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

RDHT	L	I.C	S	d
10 03		10	3,18	3,9
12 T3		12	3,97	3,9
16 04		16	4,76	5,2

Inserti - Fresatura



RD** Inserti - Fresatura		HC[1] (CVD)									HC[1] (PVD)												HT		HC[2]		HW		
	ISO	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151		YNG151C		YD101	YD201	
P		◎	◎	❁	◎	◎	❁		◎	◎				◎	❁		◎	◎	◎	❁		●	●		●				
M			◎	❁	◎	◎	❁							◎	❁	◎	◎	◎	◎	❁	◎	●	●		●				
K								◎	❁	◎												●							
N											◎																◎	❁	
S					❁		❁						●	◎		◎	◎		◎		❁								
H											○							◎											
	RDHT1003MO-LH																										●		
	RDHT12T3MO-LH																										●		
	RDHT1604MO-LH																										●		

● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

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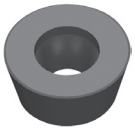
INFORMAZIONI IMPORTANTI

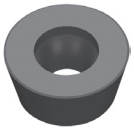
Versione tagliente **RDKW**

RDKW*MO–1



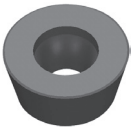
Lavorazione generica

RDKW*MO–2

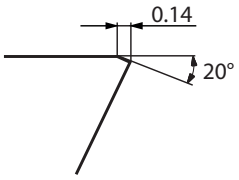


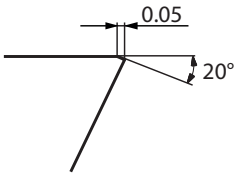
Geometria per taglio dolce
(Finitura)

RDKW*MO–3



Sgrossatura





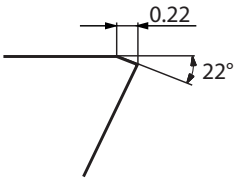
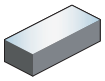


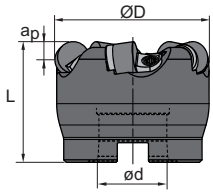
Fig.: **FMR04-052-B22-RD12T3-05C**

Note

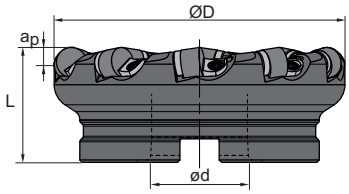
Fresa a spianare

FMR06





A



B

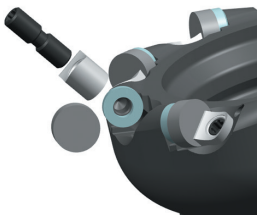
Articolo	✻	Stock	Dimensioni [mm] ØD	ød	L	$a_{p\,max}$	Denti	Attacco	kg	Inserto
FMR06-050-A22-RN0903-05AC	✻	○		22	50	2	5	A	0,3	RNGN0903
FMR06-050-A22-RN0904-05AC	✻	○		22	50	2	5	A	0,3	RNGN0904
FMR06-063-A27-RN1204-05AC	✻	○		27	50	4	5	A	0,74	RNGN1204
FMR06-080-A27-RN1204-07AC	✻	○		27	50	4	7	A	0,7	
FMR06-100-B32-RN1204-09AC	✻	○		32	50	4	9	B	1,2	
FMR06-125-B40-RN1204-11AC	✻	○		40	63	4	11	B	1,9	
FMR06-063-A27-RN1207-05AC	✻	○		27	50	4	5	A	1,416	RNGN1207
FMR06-080-A27-RN1207-06AC	✻	○		27	50	4	6	A	0,7	
FMR06-100-B32-RN1207-08AC	✻	○		32	50	4	8	B	1,2	
FMR06-125-B40-RN1207-10AC	✻	○		40	63	4	10	B	1,9	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**RNGN0903**	**RNGN0904**	**RNGN1204**	**RNGN1207**
	ØD	**50-160**	**50-160**	**50-160**	**50-160**
	Vite (cuneo)	DM6×17,5A (11,4 Nm)	DM6×17,5A (11,4 Nm)	DM6×17,5A (11,4 Nm)	DM6×17,5A (11,4 Nm)
	Perno dist (sottoplacchetta)			SM5×8,65XA (4,0 Nm)	SM5×8,65XA (4,0 Nm)
	Perno dist (sottoplacchetta)	SP3	SP3		
	Sottoplacchetta	R09BS	R09BS	R12BS	R12BS
	Cuneo	W18N	W18N	W18N	W18N
	Chiave (cuneo)	WT15IT	WT15IT	WT15IT	WT15IT



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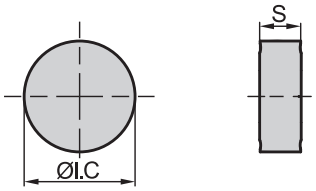
Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

RNGN	I.C	S
09 03	9,525	3,18
12 04	12,40	4,76
12 07	12,70	7,94



RN** Inserti - Fresatura			CM			CC			CN			CR			CS	
		P														
		M														
		K	○			○			⊛							
		N														
		S										⊛	⊛		⊛	
		H	⊛			⊛										
ISO		r	CA1000			CM1000			CN1000			CW1400	CW1800		CSX1000	
	RNGN090300 T01525	4,5	●			●									●	
	RNGN120400 T01525	6,0	●			●									●	
	RNGN120700 T01525	6,0	●			●									●	

● In magazzino ○ Su richiesta

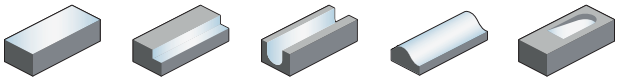
Altre versioni e altri gradi sono disponibili su richiesta!

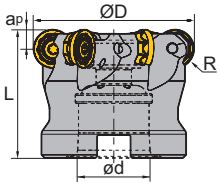
CM Ceramica mista
CC Ceramica mista, rivestita
CN Ceramica Si3N4
CR Al2O3 ceramica, rinforzata
CS Ceramica, SiAlON

Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

Fresa a spianare

FMR11





Articolo	✻	Stock	Dimensioni [mm] R	ØD	ød	L	$a_{p\,max}$	Denti	Attacco	kg	Inserto
FMR11-040-A16-RD10-06C	✻	○	5	40	16	40	5	6	A	0,188	RD**10T3
FMR11-050-A22-RD10-07C	✻	●	5	50	22	40	5	7	A	0,3	
FMR11-052-A22-RD10-07C	✻	●	5	52	22	40	5	7	A	0,286	
FMR11-063-A22-RD10-08C	✻	●	5	63	22	40	5	8	A	0,5	
FMR11-066-A22-RD10-08C	✻	●	5	66	22	40	5	8	A	0,465	
FMR11-080-A27-RD10-09C	✻	●	5	80	27	50	5	9	A	0,825	
FMR11-040-A16-RD12-04C	✻	○	5	40	16	40	5	4	A	0,19	RD**1204
FMR11-040-A16-RD12-05C	✻	●	6	40	16	40	6	5	A	0,18	
FMR11-050-A22-RD12-05C	✻	●	6	50	22	40	6	5	A	0,27	
FMR11-052-A22-RD12-05C	✻	○	6	52	22	40	6	5	A	0,435	
FMR11-050-A22-RD12-06C	✻	●	6	50	22	40	6	6	A	0,27	
FMR11-052-A22-RD12-06C	✻	●	6	52	22	40	6	6	A	0,276	
FMR11-063-A22-RD12-07C	✻	○	6	63	22	40	6	7	A	0,44	
FMR11-063-A27-RD12-07C	✻	●	6	63	27	40	6	7	A	0,398	
FMR11-066-A27-RD12-07C	✻	●	6	66	27	40	6	7	A	0,405	
FMR11-080-A27-RD12-08C	✻	●	6	80	27	50	6	8	A	1	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	RD**10T3	RD**1204
	ØD	20-100	20-100
	Vite (inserti)	I60M3,5×8 (2,7 Nm)	I60M4×8,4 (3,4 Nm)
	Chiave (inserti)	WT15IP	
	Chiave (inserti)		WT15IS

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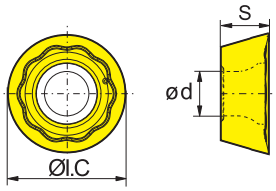
Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

RDMT	I.C	S	d
10 T3	10	3,97	4,1
12 04	12	4,76	4,4



RD** Inserti - Fresatura		HC[1] (CVD)									HC[1] (PVD)											HT		HC[2]		HW	
	P	⊛	⊛	⊛	⊛	⊛	⊛			⊛	⊛				⊛	⊛			⊛	⊛	⊛	⊛		●	●				
	M		⊛	⊛	⊛	⊛	⊛								⊛	⊛	⊛	⊛	⊛	⊛	⊛	⊛	⊛	●	●				
	K							⊛	⊛	⊛														●					
	N											⊛																⊛	⊛
	S				⊛		⊛						⊛	⊛			⊛	⊛		⊛		⊛							
	H										○								⊛										
ISO		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151		YNG151C		YD101	YD201
	RDMT10T3MO-M								●									●			●							
	RDMT1204MO-M								●							○		●			●							
	RDMT10T3MO-MM																	●			●							
	RDMT1204MO-MM															○		●			●							

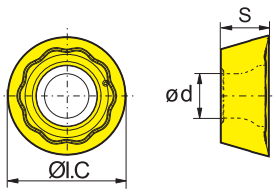
● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

RDMW	I.C	S	d
10 T3	10	3,97	4,1
12 04	12	4,76	4,4



RD** Inserti - Fresatura		HC[1] (CVD)									HC[1] (PVD)											HT		HC[2]		HW	
	P	⊛	⊛	⊛	⊛	⊛	⊛			⊛	⊛				⊛	⊛			⊛	⊛	⊛	⊛		●	●				
	M		⊛	⊛	⊛	⊛	⊛								⊛	⊛	⊛	⊛	⊛	⊛	⊛	⊛	⊛	●	●				
	K							⊛	⊛	⊛														●					
	N											⊛																⊛	⊛
	S				⊛		⊛						⊛	⊛			⊛	⊛		⊛		⊛							
	H										○								⊛										
ISO		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151		YNG151C		YD101	YD201
	RDMW10T3MO-H								●									●										
	RDMW1204MO-H								●									●										

● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

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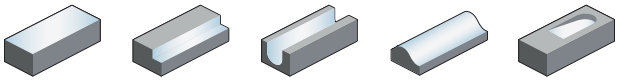
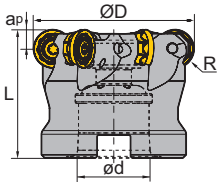
Fresa a spianare

FMR11





Articolo	✻	Stock	Dimensioni [mm] R	ØD	ød	L	$a_{p\,max}$	Denti	Attacco	kg	Inserto
FMR11-040-A16-RP10-06C	✻	●	5	40	16	40	5	6	A	0,19	RP**10T3
FMR11-050-A22-RP10-07C	✻	●	5	50	22	40	5	7	A	0,29	
FMR11-052-A22-RP10-07C	✻	●	5	52	22	40	5	7	A	0,295	
FMR11-063-A22-RP10-08C	✻	●	5	63	22	40	5	8	A	0,48	
FMR11-066-A22-RP10-08C	✻	●	5	66	22	40	5	8	A	0,495	
FMR11-080-A27-RP10-09C	✻	●	5	80	27	50	5	9	A	0,93	
FMR11-040-A16-RP12-05C	✻	●	6	40	16	40	6	5	A	0,16	RP**1204
FMR11-050-A22-RP12-06C	✻	●	6	50	22	40	6	6	A	0,27	
FMR11-052-A22-RP12-06C	✻	●	6	52	22	40	6	6	A	0,28	
FMR11-063-A27-RP12-07C	✻	●	6	63	27	40	6	7	A	0,4	
FMR11-066-A27-RP12-07C	✻	●	6	66	27	40	6	7	A	0,435	
FMR11-080-A27-RP12-08C	✻	●	6	80	27	50	6	8	A	1	
FMR11-052-A22-RP16-04C	✻	○	8	52	22	40	8	4	A	0,31	RP**1605
FMR11-063-A27-RP16-06C	✻	○	8	63	27	40	8	7	A	0,45	
FMR11-080-A27-RP16-07C	✻	○	8	80	27	50	8	7	A	0,99	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	RP**10T3	RP**1204	RP**1605
	ØD	20-100	20-150	50-250
	Vite (inserti)	I60M3,5×8 (2,7 Nm)	I60M4×8,4 (3,4 Nm)	I60M5×13 (6,7 Nm)
	Chiave (inserti)	WT15IP		
	Chiave (inserti)		WT15IS	
	Chiave (inserti)			WT20IT

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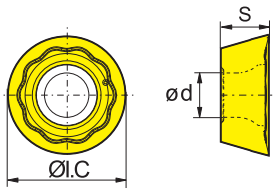
Inserti per fresatura

Fresa a spianare

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

RPMT	I.C	S	d
10 T3	10	3,97	4,1
12 04	12	4,76	4,4
16 05	16	5,57	5,5



RP** Inserti - Fresatura		HC¹ (CVD)									HC¹ (PVD)											HT		HC²		HW	
	P	◐	◐	◐	◐	◐	◐		◐	◐				◐	◐		◐	◐	◐	◐		●		●				
	M		◐	◐	◐	◐	◐							◐	◐	◐	◐	◐	◐	◐	◐	○		○				
	K							◐	◐	◐												●						
	N											◐														◐	◐	
	S				◐		◐						○	◐		◐	◐		◐		◐							
	H										○							◐										
ISO		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201		
	RPMT10T3MO-M								●									●			●							
	RPMT1204MO-M								●									●			●							
	RPMT1605MO-M																	○										
	RPMT10T3MO-MM																	●			○							
	RPMT1204MO-MM																	●			○							
	RPMT1605MO-MM															○					○							

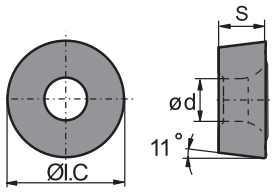
● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

RPMW	I.C	S	d
10 T3	10	3,97	4,1
12 04	12	4,76	4,4



RP** Inserti - Fresatura		HC¹ (CVD)									HC¹ (PVD)											HT		HC²		HW	
	P	◐	◐	◐	◐	◐	◐		◐	◐				◐	◐		◐	◐	◐	◐		●		●				
	M		◐	◐	◐	◐	◐							◐	◐	◐	◐	◐	◐	◐	◐	○		○				
	K							◐	◐	◐												●						
	N											◐														◐	◐	
	S				◐		◐						○	◐		◐	◐		◐		◐							
	H										○							◐										
ISO		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201		
	RPMW10T3MO-H								●									●										
	RPMW1204MO-H								●									●										

● In magazzino ○ Su richiesta

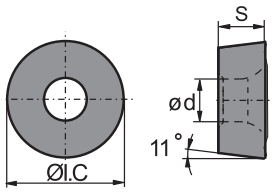
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

RPKT	I.C	S	d
10 T3	10	3,97	4,1
12 04	12	4,76	4,4



RP** Inserti - Fresatura		HC¹ (CVD)									HC¹ (PVD)												HT	HC²	HW	
		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
P		●	●	●	●	●	●		●	●				●	●		●	●	●	●		●	●		●		
M			●	●	●	●	●							●	●	●	●	●	●	●	●	●	●	●			
K								●	●	●												●					
N												●													●	●
S					●		●						●	●		●	●		●		●						
H											○							●									
ISO																											
	RPKT10T3MO-MM																				○						
	RPKT1204MO-MM																				○						

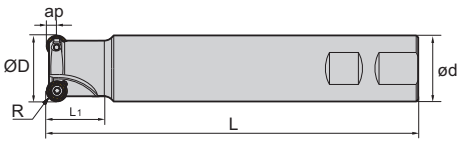
● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Fresa a spianare

FMR11



Articolo	✻	Stock	Dimensioni [mm] ØD	ød	L	$a_{p\,max}$	Denti	kg	Inserto
FMR11-032-XP32-RD10-03C	✻	○	32	32	120	5	3	0,64	RD**10T3
FMR11-040-XP32-RD10-04C	✻	○	40	32	120	5	4	0,7	
FMR11-032-XP32-RD12-03C	✻	○	32	32	120	6	3	0,64	RD**1204
FMR11-040-XP32-RD12-04C	✻	○	40	32	120	6	4	0,69	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

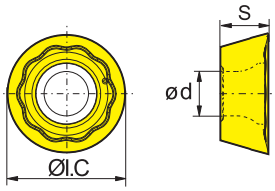
	Inserto	**RD**10T3**	**RD**1204**
	ØD	**20-78**	**20-78**
	Vite (inserti)	I60M3,5×8 (2,7 Nm)	I60M3,5×8 (2,7 Nm)
	Chiave (inserti)	WT15IP	WT15IP

Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

RDMT	I.C	S	d
10 T3	10	3,97	4,1
12 04	12	4,76	4,4



RD** Inserti - Fresatura		HC¹ (CVD)								HC¹ (PVD)											HT	HC²	HW	
	P	◉	◉	❁	◉	◉	❁		◉	◉			◉	❁		◉	◉	◉	❁		●	●		
	M		◉	❁	◉	◉	❁						◉	❁	◉	◉	◉	◉	❁	❁	◉	◉		
	K							❁	❁	❁											●			
	N										❁												❁	❁
	S				❁		❁					●	❁		❁	❁		❁		❁					
	H									○							❁							
ISO		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	RDMT10T3MO-M								●									●			●					
	RDMT1204MO-M								●							○		●			●					
	RDMT10T3MO-MM																	●			●					
	RDMT1204MO-MM															○		●			●					

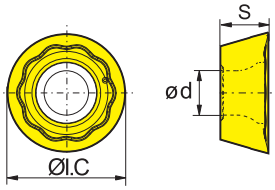
● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

RDMW	I.C	S	d
10 T3	10	3,97	4,1
12 04	12	4,76	4,4



RD** Inserti - Fresatura		HC¹ (CVD)								HC¹ (PVD)											HT	HC²	HW	
	P	◉	◉	❁	◉	◉	❁		◉	◉			◉	❁		◉	◉	◉	❁		●	●		
	M		◉	❁	◉	◉	❁						◉	❁	◉	◉	◉	◉	❁	❁	◉	◉		
	K							❁	❁	❁											●			
	N										❁												❁	❁
	S				❁		❁					●	❁		❁	❁		❁		❁					
	H									○							❁							
ISO		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	RDMW10T3MO-H								●									●								
	RDMW1204MO-H								●									●								

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

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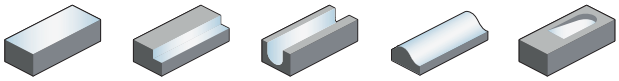
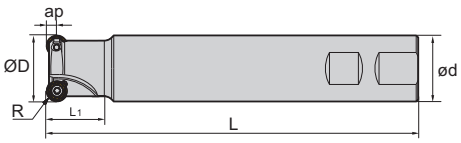
Fresa a spianare

FMR11





Articolo	✻	Stock	Dimensioni [mm] ØD	ød	L	$a_{p\,max}$	Denti	Inserto
FMR11-032-XP32-RP10-03C	✻	○	32	32	120	5	3	RP**10T3
FMR11-040-XP32-RP10-04C	✻	○	40	32	120	5	4	
FMR11-032-XP32-RP12-03C	✻	○	32	32	120	6	3	RP**1204
FMR11-040-XP32-RP12-04C	✻	○	40	32	120	6	4	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

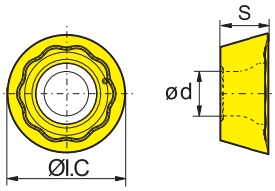
	Inserto	**RP**10T3**	**RP**1204**
	ØD	**20-78**	**20-78**
	Vite (inserti)	I60M3,5×8 (2,7 Nm)	I60M3,5×8 (2,7 Nm)
	Chiave (inserti)	WT15IP	WT15IP

Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

RPMT	I.C	S	d
10 T3	10	3,97	4,1
12 04	12	4,76	4,4



RP** Inserti - Fresatura		HC¹ (CVD)								HC¹ (PVD)											HT	HC²	HW	
	P	◉	◉	◉	◉	◉	◉		◉	◉			◉	◉		◉	◉	◉	◉	◉	◉	◉		
	M		◉	◉	◉	◉	◉						◉	◉	◉	◉	◉	◉	◉	◉	◉	◉		
	K							◉	◉	◉											◉			
	N										◉												◉	◉
	S				◉		◉					◉	◉		◉	◉		◉		◉				
	H									○							◉							
ISO		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	RPMT10T3MO-M								●									●			●					
	RPMT1204MO-M								●									●			●					
	RPMT10T3MO-MM																	●			○					
	RPMT1204MO-MM																	●			○					

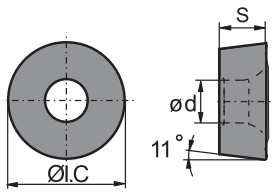
● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

RPMW	I.C	S	d
10 T3	10	3,97	4,1
12 04	12	4,76	4,4



RP** Inserti - Fresatura		HC¹ (CVD)								HC¹ (PVD)											HT	HC²	HW	
	P	◉	◉	◉	◉	◉	◉		◉	◉			◉	◉		◉	◉	◉	◉	◉	◉	◉		
	M		◉	◉	◉	◉	◉						◉	◉	◉	◉	◉	◉	◉	◉	◉	◉		
	K							◉	◉	◉											◉			
	N										◉												◉	◉
	S				◉		◉					◉	◉		◉	◉		◉		◉				
	H									○							◉							
ISO		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	RPMW10T3MO-H								●									●								
	RPMW1204MO-H								●									●								

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

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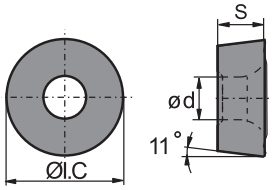
Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

RPKT	I.C	S	d
10 T3	10	3,97	4,1
12 04	12	4,76	4,4



RP** Inserti - Fresatura		HC[1] (CVD)									HC[1] (PVD)											HT		HC[2]		HW		
	ISO	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151		YNG151C		YD101	YD201	
P		◐	◐	❁	◐	◐	❁		◐	◐				◐	❁		◐	◐	◐	❁		●	●		●				
M			◑	❁	◑	◑	❁							◑	❁	◑	◑	◑	◑	❁	❁	●	●		●				
K								◐	❁	◐												●							
N												◐															◐	❁	
S					❁		❁						●	◑		◑	◑		◑		❁								
H											○							◐											
	RPKT10T3MO-MM																				○								
	RPKT1204MO-MM																				○								

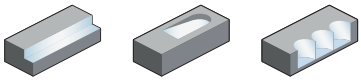
● In magazzino ○ Su richiesta

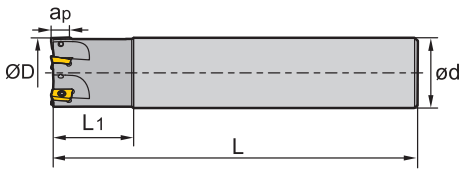
HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Fresa per spallamento

EMP01 Kr: 90°





Stelo cilindrico

Articolo	✻	Stock	Dimensioni [mm] ØD	ød	L_1	L	$a_{p\,max}$	Denti	kg	Inserto
EMP01-010-G10-AP07-02C	✻	○	10	10	20	70	6,4	2		APKT0702
EMP01-012-G12-AP07-02C	✻	●	12	12	25	75	6,4	2	0,31	
EMP01-014-G16-AP07-03C	✻	●	14	16	25	85	6,4	3	0,61	
EMP01-016-G16-AP07-04C	✻	●	16	16	30	90	6,4	4	0,75	
EMP01-012-G16-AP11-01		●	12	16	25	85	10,5	1	0,1	APKT11T3
EMP01-016-G16-AP11-02		●	16	16	25	90	10,5	2	0,1	
EMP01-016-G16-AP11-02C	✻	○	16	16	25	90	10,5	2	0,1	
EMP01-018-G25-AP11-02		○	18	25	35	115	10,5	2		
EMP01-020-G20-AP11-02		●	20	20	30	100	10,5	2	0,2	
EMP01-020-G20-AP11-02C	✻	●	20	20	30	100	10,5	2	0,2	
EMP01-020-G20-AP11-03		○	20	20	30	100	10,5	3	0,2	
EMP01-020-G20-AP11-03C	✻	●	20	20	30	100	10,5	3	0,2	
EMP01-025-G25-AP11-03		●	25	25	35	115	10,5	3	0,4	
EMP01-025-G25-AP11-03C	✻	○	25	25	35	115	10,5	3	0,4	
EMP01-025-G25-AP11-04		●	25	25	35	115	10,5	4	0,4	
EMP01-025-G25-AP11-04C	✻	●	25	25	35	115	10,5	4	0,4	
EMP01-032-G32-AP11-04		●	32	32	40	125	10,5	4	0,7	
EMP01-025-G25-AP16-02		●	25	25	35	115	15,5	2	0,4	APKT1604
EMP01-025-G25-AP16-02C	✻	●	25	25	35	115	15,5	2	0,4	
EMP01-032-G32-AP16-03		●	32	32	40	125	15,5	3	0,7	
EMP01-032-G32-AP16-03C	✻	●	32	32	40	125	15,5	3	0,7	
EMP01-040-G32-AP16-03		●	40	32	42	130	15,5	3	0,7	
EMP01-040-G32-AP16-03C	✻	●	40	32	42	130	15,5	3	0,7	
EMP01-040-G32-AP16-04		○	40	32	42	130	15,5	4	0,8	
EMP01-040-G32-AP16-04C	✻	○	40	32	42	130	15,5	4	0,8	
EMP01-050-G32-AP16-05		●	50	32	45	135	15,5	5	1	
EMP01-063-G32-AP16-06		●	63	32	45	135	15,5	6	1,4	

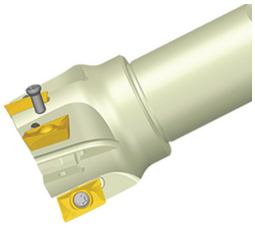
● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Parti di ricambio

	Inserto	APKT0702	APKT11T3	APKT1604
	ØD	10-25	12-32	25-63
	Vite (inserti)	I60M1,8×4 (0,5 Nm)		I60M4×8,4 (3,4 Nm)
	Vite (inserti)		I60M2,5×6,5T (1,0 Nm)	
	Chiave (inserti)	WT05IP	WT08IP	
	Chiave (inserti)			WT15S

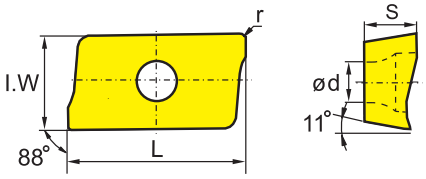


APKT	L	S	d
07 02	4,26	2,38	2
11 T3	12,24	3,6	2,8
16 04	17,877	5,76	4,4

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

AP** Inserti - Fresatura



	HC¹ (CVD)									HC¹ (PVD)										HT		HC²		HW		
	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151		YNG151C		YD101	YD201
P	◐	◐	◍	◐	◐	◍		◐	◐				◐	◍		◐	◐	◐	◍		●	●		●			
M		◐	◍	◐	◐	◍							◐	◍	◐	◐	◐	◐	◍	◍	●	●		●			
K							◐	◍	◍												●						
N										◐																◐	◍
S				◍		◍						●	◐		◐	◐		◐		◍							
H										○							◐										

	ISO	r	I.W	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	APKT11T304-ALH	0,4	6,5											●													●	●
	APKT11T308-ALH	0,8	6,5											●													●	●
	APKT160404-ALH	0,4	9,33																								●	
	APKT160408-ALH	0,8	9,33											●													●	○
	APKT11T304-APF	0,4	6,5																		●							
	APKT11T308-APF	0,8	6,5															○		●	●		○					
	APKT160408-APF	0,8	9,33															○		●	●	○	○					
	APKT11T304-APL	0,4	6,5															○			●		○					
	APKT11T308-APL	0,8	6,5															○			●		○					
	APKT160408-APL	0,8	9,33															○			●		○					
	APKT160420-APL	2	9,33															○			●		●					

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

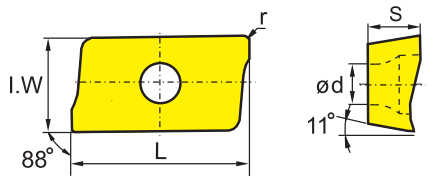
Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

APKT	L	S	d
07 02	4,26	2,38	2
11 T3	12,24	3,6	2,8
16 04	17,877	5,76	4,4

AP** Inserti - Fresatura



	HC[1] (CVD)								HC[1] (PVD)											HT	HC[2]	HW	
P	◉	◉	◉	◉	◉	◉		◉	◉				◉	◉		◉	◉	◉	◉		●	●			
M		◉	◉	◉	◉	◉							◉	◉	◉	◉	◉	◉	◉	◉	○	○	○		
K							◉	◉	◉												●				
N										◉														◉	◉
S				◉		◉						○	◉		◉	◉		◉		◉					
H									○								◉								

ISO		r	I.W	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	APKT070204-APM	0,4	6,91								●										●							
	APKT11T304-APM	0,4	6,5				●			●											●							
	APKT11T308-APM	0,8	6,5				●			●								○		●	●		○					
	APKT11T312-APM	1,2	6,5				●			●											●							
	APKT11T316-APM	1,6	6,5				●													●	●							
	APKT11T320-APM	2	6,5				●			●										●	●							
	APKT160408-APM	0,8	9,33				●			●	●							○		●	●		○					
	APKT160416-APM	1,6	9,33				●			●											●							
	APKT160420-APM	2	9,33				●			●											●							
	APKT160424-APM	2,4	9,33				●			●											●							
	APKT160430-APM	3	9,33			○	●														●							
	APKT11T304-LH	0,4	6,5																								○	○
	APKT11T308-LH	0,8	6,5																								●	○
	APKT160408-LH	0,8	9,33																								○	○
	APKT11T308-NM	0,8	6,5															●					●					
	APKT11T312-NM	1,2	6,5															●					●					
	APKT11T304-PF	0,4	6,5		○										○	○						○						
	APKT11T316-PF	1,6	6,5													○												
	APKT160408-PF	0,8	9,33						○																			
	APKT160430-PF	3	9,33	○																								
	APKT11T304-PM	0,4	6,5	○	○				○						○	○						○						
	APKT11T308-PM	0,8	6,5	○			○		●	○	○				○	○			○			○						
	APKT11T312-PM	1,2	6,5												○							○						
	APKT11T316-PM	1,6	6,5													○												
	APKT160408-PM	0,8	9,33	○	○	○	●		●	○	○				○	○	○		○			●						
	APKT160416-PM	1,6	9,33	○												○												
	APKT11T304-PR	0,4	6,5																			○						
	APKT11T316-PR	1,6	6,5																			○						
	APKT11T3-XR		6,5								●									●	●							

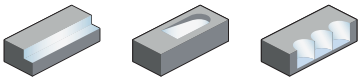
● In magazzino ○ Su richiesta

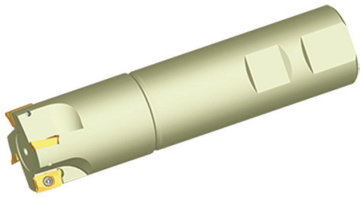
HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

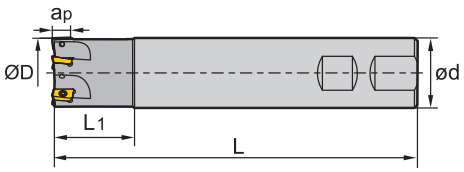
Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Fresa per spallamento

EMP01 Kr: 90°







Stelo Weldon

Articolo	✻	Stock	Dimensioni [mm] ØD	ød	L_1	L	$a_{p\,max}$	Denti	kg	Inserto
EMP01-020-XP20-AP07-05C	✻	●	20	20	30	100	6,4	5	0,31	APKT0702
EMP01-025-XP25-AP07-07C	✻	●	25	25	35	115	6,4	7	0,61	
EMP01-012-XP16-AP11-01		●	12	16	25	85	10,5	1	0,1	APKT11T3
EMP01-012-XP16-AP11-01C	✻	○	12	16	25	85	10,5	1	0,1	
EMP01-016-XP16-AP11-02		●	16	16	25	90	10,5	2	0,1	
EMP01-016-XP16-AP11-02C	✻	○	16	16	25	90	10,5	2	0,1	
EMP01-020-XP20-AP11-02		●	20	20	30	100	10,5	2	0,2	
EMP01-020-XP20-AP11-02C	✻	○	20	20	30	100	10,5	2	0,2	
EMP01-020-XP20-AP11-03C-L1-25-L-90	✻	○	20	20	25	90	10,5	3		
EMP01-020-XP20-AP11-03		●	20	20	30	100	10,5	3	0,2	
EMP01-020-XP20-AP11-03C	✻	●	20	20	30	100	10,5	3	0,2	
EMP01-025-XP25-AP11-03		●	25	25	35	115	10,5	3	0,4	
EMP01-025-XP25-AP11-03C	✻	●	25	25	35	115	10,5	3	0,4	
EMP01-025-XP25-AP11-04		●	25	25	35	115	10,5	4	0,4	
EMP01-025-XP25-AP11-04C	✻	○	25	25	35	115	10,5	4	0,4	
EMP01-032-XP32-AP11-04		●	32	32	40	125	10,5	4	0,7	
EMP01-032-XP32-AP11-04C	✻	○	32	32	40	125	10,5	4	0,7	
EMP01-025-XP25-AP16-02		●	25	25	35	115	15,5	2	0,4	APKT1604
EMP01-025-XP25-AP16-02C	✻	○	25	25	35	115	15,5	2	0,4	
EMP01-032-XP32-AP16-03		●	32	32	40	125	15,5	3	0,7	
EMP01-032-XP32-AP16-03C	✻	○	32	32	40	125	15,5	3	0,7	
EMP01-040-XP32-AP16-04		●	40	32	42	130	15,5	4	0,8	
EMP01-040-XP32-AP16-04C	✻	○	40	32	42	130	15,5	4	0,8	
EMP01-050-XP32-AP16-05		●	50	32	45	135	15,5	5	1	
EMP01-063-XP32-AP16-06		○	63	32	45	135	15,5	6	1,4	

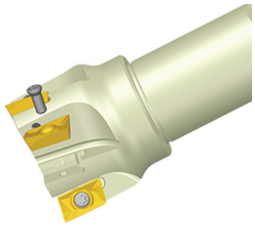
● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Parti di ricambio

	Inserto	APKT0702	APKT11T3	APKT1604
	ØD	12-25	12-32	25-63
	Vite (inserti)	I60M1,8×4 (0,5 Nm)		I60M4×8,4 (3,4 Nm)
	Vite (inserti)		I60M2,5×6,5T (1,0 Nm)	
	Chiave (inserti)	WT05IP	WT08IP	
	Chiave (inserti)			WT15S

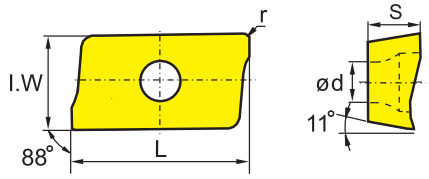


APKT	L	S	d
07 02	4,26	2,38	2
11 T3	12,24	3,6	2,8
16 04	17,877	5,76	4,4

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

Inserti - Fresatura

AP** Inserti - Fresatura



	HC¹ (CVD)									HC¹ (PVD)											HT	HC²	HW	
P	◎	◎	◉	◎	◎	◉		◎	◎				◎	◉		◎	◎	◎	◉		●	●	◎		
M		◎	◉	◎	◎	◉							◎	◉	◎	◎	◎	◎	◉	◉	◎	◎	◎		
K							◉	◉	◉											●					
N											◎													◎	◉
S				◉		◉						●	◎		◎	◎		◎		◉					
H										○							◉								

	ISO	r	I.W	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	APKT11T304-ALH	0,4	6,5											●													●	●
	APKT11T308-ALH	0,8	6,5											●													●	●
	APKT160404-ALH	0,4	9,33																								●	
	APKT160408-ALH	0,8	9,33											●													●	○
	APKT11T304-APF	0,4	6,5																		●							
	APKT11T308-APF	0,8	6,5															○		●	●		○					
	APKT160408-APF	0,8	9,33															○		●	●	○	○					
	APKT11T304-APL	0,4	6,5															○			●		○					
	APKT11T308-APL	0,8	6,5															○			●		○					
	APKT160408-APL	0,8	9,33															○			●		○					
	APKT160420-APL	2	9,33															○			●		●					

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti per fresatura

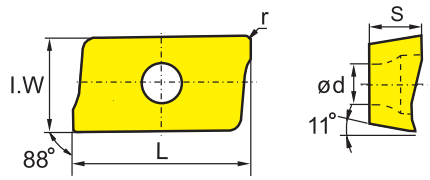
Fresa per spallamento

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

APKT	L	S	d
07 02	4,26	2,38	2
11 T3	12,24	3,6	2,8
16 04	17,877	5,76	4,4

AP** Inserti - Fresatura



	HC[1] (CVD)									HC[1] (PVD)											HT	HC[2]	HW	
P	❁	❁	❁	❁	❁	❁		❁	❁				❁	❁		❁	❁	❁	❁		●	●			
M		❁	❁	❁	❁	❁							❁	❁	❁	❁	❁	❁	❁	❁	●	●			
K							❁	❁	❁												●				
N											❁													❁	❁
S				❁		❁						●	❁		❁	❁		❁		❁					
H										○							❁								

	ISO	r	I.W	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	APKT070204-APM	0,4	6,91								●										●							
	APKT11T304-APM	0,4	6,5				●			●											●							
	APKT11T308-APM	0,8	6,5				●			●								○		●	●		○					
	APKT11T312-APM	1,2	6,5				●			●											●							
	APKT11T316-APM	1,6	6,5				●													●	●							
	APKT11T320-APM	2	6,5				●			●										●	●							
	APKT160408-APM	0,8	9,33				●			●	●							○		●	●		○					
	APKT160416-APM	1,6	9,33				●			●											●							
	APKT160420-APM	2	9,33				●			●											●							
	APKT160424-APM	2,4	9,33				●			●											●							
	APKT160430-APM	3	9,33			○	●														●							
	APKT11T304-LH	0,4	6,5																								○	○
	APKT11T308-LH	0,8	6,5																								●	○
	APKT160408-LH	0,8	9,33																								○	○
	APKT11T308-NM	0,8	6,5															●					●					
	APKT11T312-NM	1,2	6,5															●					●					
	APKT11T304-PF	0,4	6,5		○										○	○						○						
	APKT11T316-PF	1,6	6,5													○												
	APKT160408-PF	0,8	9,33						○																			
	APKT160430-PF	3	9,33	○																								
	APKT11T304-PM	0,4	6,5	○	○				○						○	○						○						
	APKT11T308-PM	0,8	6,5	○			○		●	○	○				○	○			○			○						
	APKT11T312-PM	1,2	6,5												○							○						
	APKT11T316-PM	1,6	6,5													○												
	APKT160408-PM	0,8	9,33	○	○	○	●		●	○	○				○	○	○		○			●						
	APKT160416-PM	1,6	9,33	○												○												
	APKT11T304-PR	0,4	6,5																			○						
	APKT11T316-PR	1,6	6,5																			○						
	APKT11T3-XR		6,5								●									●	●							

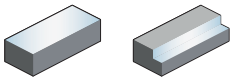
● In magazzino ○ Su richiesta

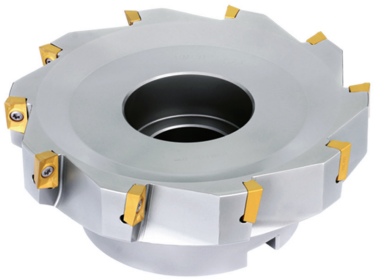
HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

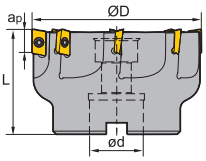
Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Fresa per spallamento

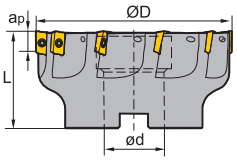
EMP02 Kr: 90°



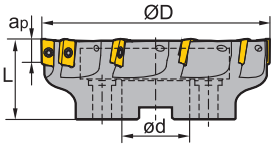




A



B



C

Articolo	✻	Stock	Dimensioni [mm] ØD	ød	L	$a_{p\,max}$	Denti	Attacco	kg	Inserto
EMP02-032-A16-AP07-08C	✻	●	32	16	35	6,4	8	A	0,34	APKT0702
EMP02-040-A16-AP07-10C	✻	●	40	16	40	6,4	10	A	0,4	
EMP02-050-A22-AP07-12C	✻	●	50	22	40	6,4	12	A	0,6	
EMP02-040-A16-AP11-04C	✻	●	40	16	40	11	4	A	0,237	APKT11T3
EMP02-040-A16-AP11-05C	✻	●	40	16	40	11	5	A	0,177	
EMP02-040-A16-AP11-06C	✻	●	40	16	40	11	6	A	0,234	
EMP02-050-A22-AP11-06		●	50	22	40	11	6	A	0,3	
EMP02-050-A22-AP11-06C	✻	●	50	22	40	11	6	A	0,3	
EMP02-050-A22-AP11-07C	✻	●	50	22	40	11	7	A	0,39	
EMP02-063-A22-AP11-08		●	63	22	40	11	8	A	0,6	
EMP02-063-A22-AP11-08C	✻	●	63	22	40	11	8	A	0,6	
EMP02-063-A22-AP11-09C	✻	●	63	22	40	11	9	A	0,54	
EMP02-080-A27-AP11-08		●	80	27	50	11	8	A	1,2	
EMP02-080-A27-AP11-08C	✻	●	80	27	50	11	8	A	1,2	
EMP02-080-A27-AP11-10C	✻	●	80	27	50	11	10	A	1,13	
EMP02-100-B32-AP11-10		●	100	32	50	11	10	B	1,7	
EMP02-100-B32-AP11-10C	✻	○	100	32	50	11	10	B	1,7	
EMP02-125-B40-AP11-10		○	125	40	63	11	10	B	3,42	
EMP02-040-A16-AP16-03		○	40	16	40	15,5	3	A	0,17	APKT1604
EMP02-040-A16-AP16-04C	✻	●	40	16	40	15,5	4	A	0,17	
EMP02-050-A22-AP16-05		●	50	22	40	15,5	5	A	0,3	
EMP02-050-A22-AP16-05C	✻	●	50	22	40	15,5	5	A	0,3	
EMP02-063-A22-AP16-06		●	63	22	40	15,5	6	A	0,5	
EMP02-063-A22-AP16-06C	✻	●	63	22	40	15,5	6	A	0,5	
EMP02-080-A27-AP16-06C	✻	○	80	27	50	15,5	6	A	1,08	
EMP02-080-A27-AP16-07		●	80	27	50	15,5	7	A	1,1	
EMP02-080-A27-AP16-07C	✻	●	80	27	50	15,5	7	A	1,1	
EMP02-100-B32-AP16-08		●	100	32	50	15,5	8	B	1,6	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti per fresatura

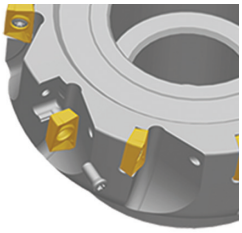
Articolo	✻	Stock	Dimensioni [mm] ØD	ød	L	$a_{p\,max}$	Denti	Attacco	kg	Inserto
EMP02-100-B32-AP16-08C	✻	●	100	32	50	15,5	8	B	1,6	APKT1604
EMP02-125-B40-AP16-06C	✻	○	125	40	63	15,5	6	B	3,18	
EMP02-125-B40-AP16-10		○	125	40	63	15,5	10	B	3,2	
EMP02-125-B40-AP16-10C	✻	○	125	40	63	15,5	10	B	3,2	
EMP02-160-B40-AP16-07C	✻	○	160	40	63	15,5	7	B	4,3	
EMP02-160-B40-AP16-10		○	160	40	63	15,5	10	B	6,3	
EMP02-160-B40-AP16-10C	✻	○	160	40	63	15,5	10	B	6,3	
EMP02-200-C60-AP16-12		○	200	60	63	15,5	12	C	8,1	
EMP02-250-C60-AP16-12		○	250	60	63	15,5	12	C	11,2	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**APKT11T3**	**APKT1604**	**APKT1604**
	ØD	**40-125**	**40-160**	**160-250**
	Cassetta			Locator-APKT16
	Vite (inserti)		I60M4×10 (3,4 Nm)	I60M4×10 (3,4 Nm)
	Vite (inserti)	I60M2,5×6,5T (1,0 Nm)		
	Chiave (inserti)	WT08IS	WT15IS	WT15IS



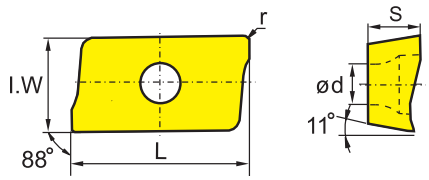
Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

APKT	L	S	d
07 02	4,26	2,38	2
11 T3	12,24	3,6	2,8
16 04	17,877	5,76	4,4

AP** Inserti - Fresatura



	HC[1] (CVD)								HC[1] (PVD)											HT	HC[2]	HW	
P	◎	◎	❁	◎	◎	❁		◎	◎			◎	❁		◎	◎	◎	❁		○	○		
M		◎	❁	◎	◎	❁						◎	❁	◎	◎	◎	◎	❁	❁	○	○		
K							❁	❁	❁										○				
N										❁												❁	❁
S				❁		❁					○	❁		❁	❁		❁		❁				
H									○							❁							

	ISO	r	I.W	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	APKT11T304-ALH	0,4	6,5											●													●	●
	APKT11T308-ALH	0,8	6,5											●													●	●
	APKT160404-ALH	0,4	9,33																								●	
	APKT160408-ALH	0,8	9,33											●													●	○
	APKT070204-APF	0,4	6,91								●										●							
	APKT11T304-APF	0,4	6,5																		●							
	APKT11T308-APF	0,8	6,5															○		●	●		○					
	APKT160408-APF	0,8	9,33															○		●	●	○	○					
	APKT11T304-APL	0,4	6,5															○			●		○					
	APKT11T308-APL	0,8	6,5															○			●		○					
	APKT160408-APL	0,8	9,33															○			●		○					
	APKT160420-APL	2	9,33															○			●		●					
	APKT070204-APM	0,4	6,91								●										●							
	APKT11T304-APM	0,4	6,5				●			●											●							
	APKT11T308-APM	0,8	6,5				●			●								○		●	●		○					
	APKT11T312-APM	1,2	6,5				●			●											●							
	APKT11T316-APM	1,6	6,5				●													●	●							
	APKT11T320-APM	2	6,5				●			●										●	●							
	APKT160408-APM	0,8	9,33				●			●	●							○		●	●		○					
	APKT160416-APM	1,6	9,33				●			●											●							
	APKT160420-APM	2	9,33				●			●											●							
	APKT160424-APM	2,4	9,33				●			●											●							
	APKT160430-APM	3	9,33			○	●														●							
	APKT11T304-LH	0,4	6,5																								○	○
	APKT11T308-LH	0,8	6,5																								●	○
	APKT160408-LH	0,8	9,33																								○	○
	APKT11T308-NM	0,8	6,5															●					●					
	APKT11T312-NM	1,2	6,5															●					●					
	APKT11T304-PF	0,4	6,5		○										○	○						○						
	APKT11T316-PF	1,6	6,5													○												
	APKT160408-PF	0,8	9,33						○																			
	APKT160430-PF	3	9,33	○																								

● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti per fresatura

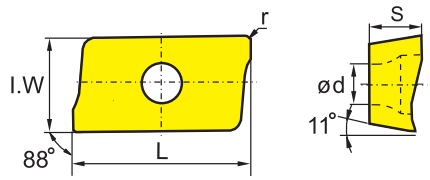
Fresa per spallamento

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

APKT	L	S	d
07 02	4,26	2,38	2
11 T3	12,24	3,6	2,8
16 04	17,877	5,76	4,4

AP** Inserti - Fresatura



	HC¹ (CVD)									HC¹ (PVD)											HT		HC²		HW		
	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151		YNG151C		YD101	YD201	
P	❁	❁	❁	❁	❁	❁		❁	❁				❁	❁		❁	❁	❁	❁		●	●		●				
M		❁	❁	❁	❁	❁							❁	❁	❁	❁	❁	❁	❁	❁	●	●		●				
K							❁	❁	❁												●							
N											❁															❁	❁	
S				❁		❁						●	❁		❁	❁		❁		❁								
H										○							❁											

	ISO	r	I.W	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	APKT11T304-PM	0,4	6,5	○	○				○						○	○						○						
	APKT11T308-PM	0,8	6,5	○			○		●	○	○				○	○			○			○						
	APKT11T312-PM	1,2	6,5												○							○						
	APKT11T316-PM	1,6	6,5													○												
	APKT160408-PM	0,8	9,33	○	○	○	●		●	○	○				○	○	○		○			●						
	APKT160416-PM	1,6	9,33	○												○												
	APKT11T304-PR	0,4	6,5																			○						
	APKT11T316-PR	1,6	6,5																			○						
	APKT0702-XR		6,91																	●	●							
	APKT11T3-XR		6,5								●									●	●							

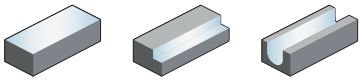
● In magazzino ○ Su richiesta

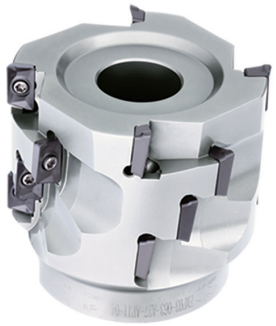
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

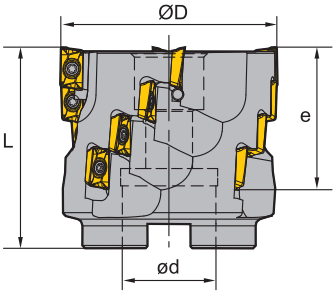
Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

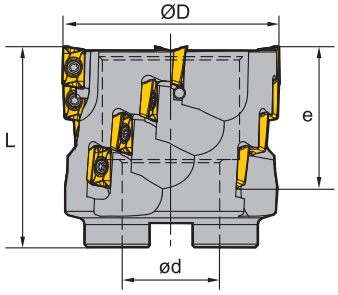
Fresa per spallamento

EMP03 Kr: 90°









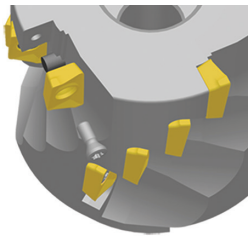
Articolo	✻	Stock	Dimensioni [mm] ØD	e	ød	L	Denti	Attacco	Numero inserti	kg	Inserto
EMP03-050-A22-AP11-04		●	50	39	22	58	4	A	16	0,5	APKT11T3
EMP03-050-A22-AP11-04C	✻	○	50	39	22	58	4	A	16	0,5	
EMP03-063-A27-AP11-04		●	63	39	27	58	4	A	16	0,9	
EMP03-063-A27-AP11-04C	✻	○	63	39	27	58	4	A	16	0,9	
EMP03-080-B32-AP11-05		●	80	39	32	63	5	B	20	1,3	
EMP03-080-B32-AP11-05C	✻	○	80	39	32	63	5	B	20	1,3	
EMP03-100-B40-AP11-06		●	100	39	40	63	6	B	24	2	
EMP03-100-B40-AP11-06C	✻	○	100	39	40	63	6	B	24	2	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**APKT11T3**
	ØD	**50-100**
	Vite (inserti)	I60M2,5×6,5T (1,0 Nm)
	Chiave (inserti)	WT08IS



Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

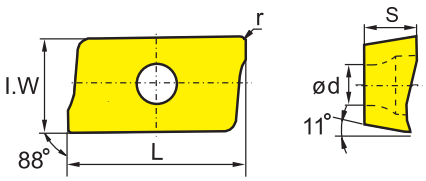
Inserti per fresatura

Fresa per spallamento

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

APKT	L	S	d
11 T3	12,24	3,6	2,8



AP** Inserti - Fresatura	HC¹ (CVD)									HC¹ (PVD)											HT		HC²		HW	
P	❁	❁	❁	❁	❁	❁		❁	❁				❁	❁		❁	❁	❁	❁	●	●		●			
M		❁	❁	❁	❁	❁							❁	❁	❁	❁	❁	❁	❁	❁	●	●		●		
K							❁	❁	❁											●						
N										❁															❁	❁
S				❁		❁						●	❁		❁	❁		❁		❁						
H										○							❁									

ISO		r	l.W	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	APKT11T304-ALH	0,4	6,5											●													●	●
	APKT11T308-ALH	0,8	6,5											●													●	●
	APKT11T304-APF	0,4	6,5																		●							
	APKT11T308-APF	0,8	6,5															○		●	●		○					
	APKT11T304-APL	0,4	6,5															○			●		○					
	APKT11T308-APL	0,8	6,5															○			●		○					
	APKT11T304-APM	0,4	6,5				●			●											●							
	APKT11T308-APM	0,8	6,5				●			●								○		●	●		○					
	APKT11T312-APM	1,2	6,5				●			●											●							
	APKT11T316-APM	1,6	6,5				●													●	●							
	APKT11T320-APM	2	6,5				●			●										●	●							
	APKT11T304-LH	0,4	6,5																								○	○
	APKT11T308-LH	0,8	6,5																								●	○
	APKT11T308-NM	0,8	6,5															●					●					
	APKT11T312-NM	1,2	6,5															●					●					
	APKT11T304-PF	0,4	6,5		○										○	○						○						
	APKT11T316-PF	1,6	6,5													○												
	APKT11T304-PM	0,4	6,5	○	○				○						○	○						○						
	APKT11T308-PM	0,8	6,5	○			○		●	○	○				○	○			○			○						
	APKT11T312-PM	1,2	6,5												○							○						
	APKT11T316-PM	1,6	6,5													○												
	APKT11T304-PR	0,4	6,5																			○						
	APKT11T316-PR	1,6	6,5																			○						
	APKT11T3-XR		6,5								●									●	●							

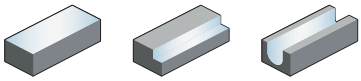
● In magazzino ○ Su richiesta

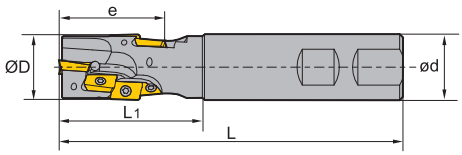
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Fresa per spallamento

EMP04 Kr: 90°





Stelo Weldon

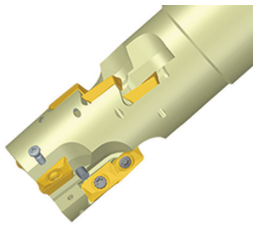
Articolo	✻	Stock	Dimensioni [mm] ØD	e	ød	L_1	L	Denti	Numero inserti	kg	Inserto
EMP04-020-XP20-AP11-01		●	20	29,4	20	45	120	1	3	0,3	APKT11T3
EMP04-025-XP25-AP11-02		●	25	38,9	25	55	130	2	8	0,4	
EMP04-032-XP32-AP11-02		●	32	48,5	32	65	140	2	10	0,7	
EMP04-040-XP40-AP11-02		●	40	58	40	75	150	2	14	1,3	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**APKT11T3**
	ØD	**20-40**
	Vite (inserti)	I60M2,5×6,5T (1,0 Nm)
	Chiave (inserti)	WT08IS



Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

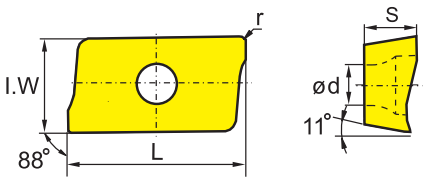
Inserti per fresatura

Fresa per spallamento

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

APKT	L	S	d
11 T3	12,24	3,6	2,8



AP** Inserti - Fresatura	HC¹ (CVD)									HC¹ (PVD)											HT		HC²		HW	
P	◉	◉	◉	◉	◉	◉		◉	◉				◉	◉			◉	◉	◉	◉		●	●			
M		◉	◉	◉	◉	◉							◉	◉	◉	◉	◉	◉	◉	◉		●	●			
K							◉	◉	◉												●					
N										◉															◉	◉
S				◉		◉					●	◉			◉	◉			◉		◉					
H										○								◉								

	ISO	r	I.W	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	APKT11T304-ALH	0,4	6,5											●													●	●
	APKT11T308-ALH	0,8	6,5											●													●	●
	APKT11T304-APF	0,4	6,5																		●							
	APKT11T308-APF	0,8	6,5															○		●	●		○					
	APKT11T304-APL	0,4	6,5															○			●		○					
	APKT11T308-APL	0,8	6,5															○			●		○					
	APKT11T304-APM	0,4	6,5				●			●											●							
	APKT11T308-APM	0,8	6,5				●			●								○		●	●		○					
	APKT11T312-APM	1,2	6,5				●			●											●							
	APKT11T316-APM	1,6	6,5				●													●	●							
	APKT11T320-APM	2	6,5				●			●										●	●							
	APKT11T304-LH	0,4	6,5																								○	○
	APKT11T308-LH	0,8	6,5																								●	○
	APKT11T308-NM	0,8	6,5															●					●					
	APKT11T312-NM	1,2	6,5															●					●					
	APKT11T304-PF	0,4	6,5		○										○	○						○						
	APKT11T316-PF	1,6	6,5													○												
	APKT11T304-PM	0,4	6,5	○	○				○						○	○						○						
	APKT11T308-PM	0,8	6,5	○			○		●	○	○				○	○			○			○						
	APKT11T312-PM	1,2	6,5												○							○						
	APKT11T316-PM	1,6	6,5													○												
	APKT11T304-PR	0,4	6,5																			○						
	APKT11T316-PR	1,6	6,5																			○						
	APKT11T3-XR		6,5								●									●	●							

● In magazzino ○ Su richiesta

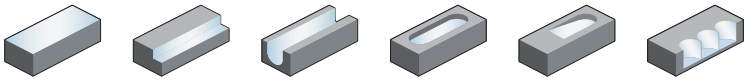
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

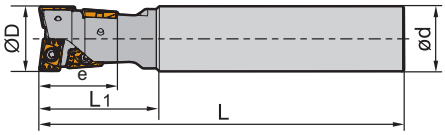
Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

ZCC-CT

Fresa per spallamento

EMP05 Kr: 90°





Stelo cilindrico

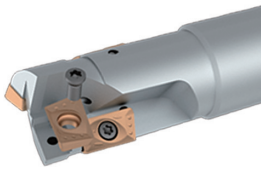
Articolo	✻	Stock	Dimensioni [mm] ØD	e	ød	L_1	L	Denti	kg	Inserto
EMP05-016-G16-AD08-C	✻	●	16	19	16	33	120	4	0,154	ADKT0803L & ADKT0903R
EMP05-020-G20-AD10-C	✻	●	20	23	20	35	130	4	0,262	ADKT1003L & ADKT1003R
EMP05-025-G25-AD12-C	✻	●	25	29	25	45	140	4	0,425	ADKT12T3L & ADKT12T3R
EMP05-040-G32-AD12-C	✻	●	40	40	32	55	160	6	0,943	
EMP05-032-G32-AD15-C	✻	●	32	34	32	50	150	4	0,425	ADKT1605L & ADKT1505R
EMP05-050-G40-AD15-C	✻	●	50	50	40	70	170	6	1,612	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**ADKT0803L & ADKT0903R**	**ADKT1003L & ADKT1003R**	**ADKT12T3L & ADKT12T3R**	**ADKT12T3L & ADKT12T3R**	**ADKT1605L & ADKT1505R**	**ADKT1605L & ADKT1505R**
	ØD	**16**	**20**	**25**	**40**	**32**	**50**
	Vite (inserti)	I60M2,2×5,5 (0,8 Nm)		I60M3×7 (1,8 Nm)	I60M3×7 (1,8 Nm)	I43M4×8 (3,4 Nm)	I43M4×8 (3,4 Nm)
	Vite (inserti)		I60M2,5×6,5T (1,0 Nm)				
	Chiave (inserti)	WT07IP	WT08IP	WT09IP	WT09IP		
	Chiave (inserti)					WT15S	WT15S



Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

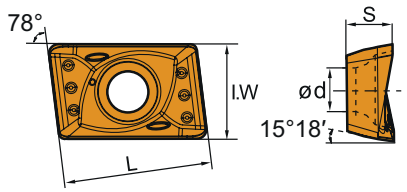
Inserti per fresatura

Fresa per spallamento

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

ADKT	L	S	d
08 03	7,96	3	2,4
10 03	10	3,2	2,8
12 T3	12,44	3,9	3,5
16 05	16	5	4,4



AD** Inserti - Fresatura		HC¹ (CVD)									HC¹ (PVD)											HT	HC²	HW	
		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
P		◐	◐	❁	◐	◐	❁		◐	◐				◐	❁		◐	◐	◐	❁		●	●	●		
M			◐	❁	◐	◐	❁							◐	❁	◐	◐	◐	◐	❁	❁	○	○	○		
K								◐	❁	❁												●				
N												◐													◐	❁
S					❁		❁						●	◐		◐	◐		◐		❁					
H											○							◐								
ISO	I.W																									
ADKT080308L-GM	5,33																		●							
ADKT100308L-GM	6,44																		●							
ADKT12T308L-GM	8																		●							
ADKT160508L-GM	9,62																		●							

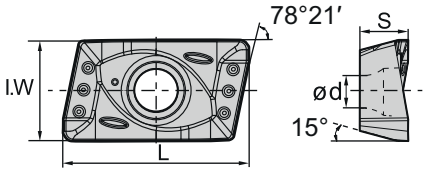
● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

ADKT	L	S	d
09 03	10	2,8	2,4
10 03	11,65	3,5	2,8
12 T3	15	3,9	3,54
15 05	17,05	4,95	4,5



AD** Inserti - Fresatura		HC¹ (CVD)									HC¹ (PVD)											HT	HC²	HW	
		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
P		◐	◐	❁	◐	◐	❁		◐	◐				◐	❁		◐	◐	◐	❁		●	●	●		
M			◐	❁	◐	◐	❁							◐	❁	◐	◐	◐	◐	❁	❁	○	○	○		
K								◐	❁	❁												●				
N												◐													◐	❁
S					❁		❁						●	◐		◐	◐		◐		❁					
H											○							◐								
ISO	I.W																									
ADKT090308R-GM	5																		●							
ADKT100308R-GM	6,04																		●							
ADKT12T308R-GM	8,16																		●							
ADKT150508R-GM	8,81																		●							

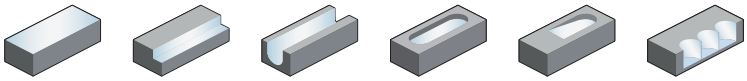
● In magazzino ○ Su richiesta

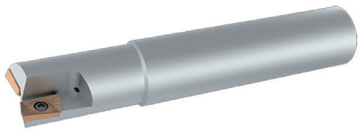
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

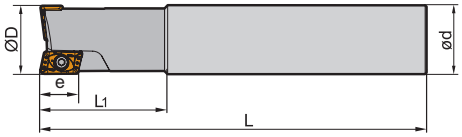
Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Fresa per spallamento

EMP05 Kr: 90°







Articolo	✻	Stock	Dimensioni [mm] ØD	e	ød	L_1	L	Denti	kg	Inserto
EMP05-S017-G16-AD08-C	✻	○	17	8,5	16	33	120	2	0,166	ADKT0803L & ADKT0903R
EMP05-S020-G20-AD10-C	✻	○	20	9,5	20	35	130	2	0,275	ADKT1003L & ADKT1003R
EMP05-S021-G20-AD10-C	✻	○	21	9,5	20	35	130	2	0,282	
EMP05-S025-G25-AD12-C	✻	○	25	12,5	25	45	140	2	0,453	ADKT12T3L & ADKT12T3R
EMP05-S026-G25-AD12-C	✻	○	26	12,5	25	45	140	2	0,467	
EMP05-S040-G32-AD12-C	✻	○	40	12,5	32	55	160	3	1,02	
EMP05-S032-G32-AD15-C	✻	○	32	14,5	32	50	150	2	0,81	ADKT1605L & ADKT1505R
EMP05-S033-G32-AD15-C	✻	○	33	14,5	32	50	150	2	0,829	
EMP05-S050-G40-AD15-C	✻	○	50	14,5	40	70	170	3	1,725	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	ADKT0803L & ADKT0903R	ADKT1003L & ADKT1003R	ADKT1003L & ADKT1003R	ADKT12T3L & ADKT12T3R	ADKT12T3L & ADKT12T3R	ADKT12T3L & ADKT12T3R	ADKT1605L & ADKT1505R	ADKT1605L & ADKT1505R	ADKT1605L & ADKT1505R
	ØD	17	20	21	25	26	40	32	33	50
	Vite (inserti)	I60M2,2×5,5 (0,8 Nm)			I60M3×7 (1,8 Nm)	I60M3×7 (1,8 Nm)	I60M3×7 (1,8 Nm)	I43M4×8 (3,4 Nm)	I43M4×8 (3,4 Nm)	I43M4×8 (3,4 Nm)
	Vite (inserti)		I60M2,5×6,5T (1,0 Nm)	I60M2,5×6,5T (1,0 Nm)						
	Chiave (inserti)	WT07IP	WT08IP	WT08IP	WT09IP	WT09IP	WT09IP			
	Chiave (inserti)							WT15S	WT15S	WT15S

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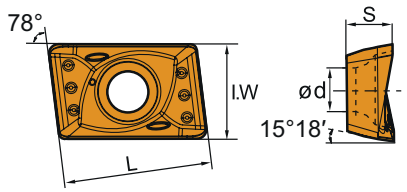
Inserti per fresatura

Fresa per spallamento

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

ADKT	L	S	d
08 03	7,96	3	2,4
10 03	10	3,2	2,8
12 T3	12,44	3,9	3,5
16 05	16	5	4,4



AD** Inserti - Fresatura		HC¹ (CVD)									HC¹ (PVD)											HT		HC²		HW	
		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151		YNG151C		YD101	YD201
P		◉	◉	❁	◉	◉	❁		◉	◉				◉	❁		◉	◉	◉	❁		●	●		●			
M			◉	❁	◉	◉	❁							◉	❁	◉	◉	◉	◉	❁	❁	●	●		●			
K								◉	❁	❁												●					
N												◉														◉	❁	
S					❁		❁						●	◉		◉	◉		◉		❁							
H											○							◉										
ISO	I.W																											
ADKT080308L-GM	5,33																		●									
ADKT100308L-GM	6,44																		●									
ADKT12T308L-GM	8																		●									
ADKT160508L-GM	9,62																		●									

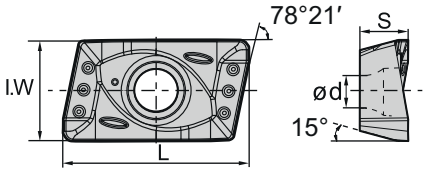
● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

ADKT	L	S	d
09 03	10	2,8	2,4
10 03	11,65	3,5	2,8
12 T3	15	3,9	3,54
15 05	17,05	4,95	4,5

Inserti - Fresatura



AD** Inserti - Fresatura		HC¹ (CVD)									HC¹ (PVD)											HT		HC²		HW	
		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151		YNG151C		YD101	YD201
P		◉	◉	❁	◉	◉	❁		◉	◉				◉	❁		◉	◉	◉	❁		●	●		●			
M			◉	❁	◉	◉	❁							◉	❁	◉	◉	◉	◉	❁	❁	●	●		●			
K								◉	❁	❁												●					
N												◉														◉	❁	
S					❁		❁						●	◉		◉	◉		◉		❁							
H											○							◉										
ISO	I.W																											
ADKT090308R-GM	5																		●									
ADKT100308R-GM	6,04																		●									
ADKT12T308R-GM	8,16																		●									
ADKT150508R-GM	8,81																		●									

● In magazzino ○ Su richiesta

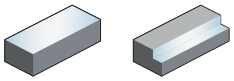
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

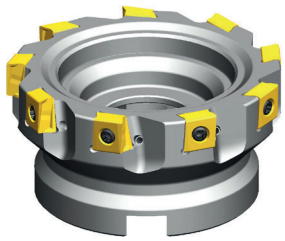
Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

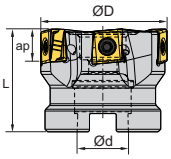
ZCC-CT

Fresa per spallamento

EMP09 Kr: 90°







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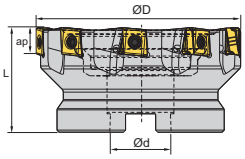

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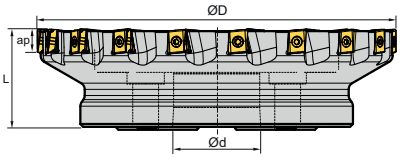


C

Articolo	✻	Stock	Dimensioni [mm] ØD	ød	L	$a_{p\,max}$	Denti	Attacco	kg	Inserto
EMP09-040-A16-LN08-05C	✻	●	40	16	40	8	5	A	0,27	LNKT0804PNR**
EMP09-040-A16-LN08-06C	✻	○	40	16	40	8	6	A	0,22	
EMP09-050-A22-LN08-06C	✻	●	50	22	40	8	6	A	0,38	
EMP09-050-A22-LN08-07C	✻	●	50	22	40	8	7	A	0,35	
EMP09-063-A22-LN08-08C	✻	●	63	22	40	8	8	A	0,63	
EMP09-063-A22-LN08-10C	✻	○	63	22	40	8	10	A	0,59	
EMP09-063-A27-LN08-10C	✻	●	63	27	50	8	10	A	0,73	
EMP09-080-A27-LN08-10C	✻	○	80	27	50	8	10	A	1,29	
EMP09-080-A27-LN08-12C	✻	●	80	27	50	8	12	A	1,3	
EMP09-040-A16-LN12-04C	✻	●	40	16	40	11,5	4	A	0,19	LNKT1206PNR**
EMP09-050-A22-LN12-05C	✻	●	50	22	40	11,5	5	A	0,33	
EMP09-050-A22-LN12-06C	✻	●	50	22	40	11,5	6	A	0,32	
EMP09-063-A22-LN12-06C	✻	●	63	22	40	11,5	6	A	0,53	
EMP09-063-A22-LN12-08C	✻	○	63	22	40	11,5	8	A	0,6	
EMP09-080-A27-LN12-07C	✻	●	80	27	50	11,5	7	A	1,18	
EMP09-080-A27-LN12-10C	✻	●	80	27	50	11,5	10	A	1,24	
EMP09-100-B32-LN12-09C	✻	●	100	32	50	11,5	9	B	1,62	
EMP09-100-B32-LN12-13C	✻	○	100	32	50	11,5	13	B	1,69	
EMP09-125-B40-LN12-11C	✻	●	125	40	63	11,5	11	B	3,25	
EMP09-125-B40-LN12-16C	✻	○	125	40	63	11,5	16	B	3,17	
EMP09-125-B40-LN12-17C	✻	○	125	40	63	11,5	17	B	3,16	
EMP09-130-B40-LN12-13C	✻	○	130	40	63	11,5	13	B	3,35	
EMP09-160-B40-LN12-12C	✻	●	160	40	63	11,5	12	B	6,42	
EMP09-200-C60-LN12-16		○	200	60	70	11,5	16	C	8,83	
EMP09-050-A22-LN16-05C	✻	○	50	22	40	15	5	A	0,32	LNKT1607PNR**
EMP09-063-A22-LN16-05C	✻	○	63	22	40	15	5	A	0,6	
EMP09-063-A22-LN16-06C	✻	○	63	22	40	15	6	A	0,58	
EMP09-063-A27-LN16-06C	✻	●	63	27	50	15	6	A	0,72	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti per fresatura

Fresa per spallamento

Articolo	✻	Stock	Dimensioni [mm] ØD	ød	L	$a_{p\,max}$	Denti	Attacco	kg	Inserto
EMP09-080-A27-LN16-06C	✻	●	80	27	50	15	6	A	1,28	LNKT1607PNR**
EMP09-100-B32-LN16-08C	✻	●	100	32	50	15	8	B	1,68	
EMP09-100-B32-LN16-10C	✻	○	100	32	50	15	10	B	1,76	
EMP09-125-B40-LN16-10C	✻	●	125	40	63	15	10	B	3,25	
EMP09-160-B40-LN16-12C	✻	●	160	40	63	15	12	B	6,35	
EMP09-160-B40-LN16-16C	✻	○	160	40	63	15	16	B	6,32	
EMP09-200-C60-LN16-16		○	200	60	70	15	16	C	8,71	
EMP09-250-C60-LN16-12		○	250	60	70	15	12	C	12,4	
EMP09-250-C60-LN16-18		○	250	60	70	15	18	C	12,1	
EMP09-315-D60-LN16-16		○	315	60	80	15	16	D	22,9	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

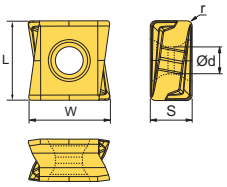
	Inserto	LNKT0804PNR**	LNKT1206PNR**	LNKT1607PNR**
	ØD	40-80	40-250	40-360
	Vite (inserti)	I60M3×7 (1,8 Nm)	I60M4×12 (3,4 Nm)	I60M5×13 (6,7 Nm)
	Chiave (inserti)	WT09IP		
	Chiave (inserti)		WT15IS	WT20IS

Inserti - Fresatura

Buone condizioni di lavorazione
Condizioni di lavorazione normali
Condizioni di lavorazione sfavorevoli

LNKT	L	S	d
08 04	8,75	4,45	3,4
12 06	12,7	6,75	4,4
16 07	16,05	7,35	5,5

LN** Inserti - Fresatura



	HC¹ (CVD)									HC¹ (PVD)											HT		HC²		HW	
	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151		YNG151C		YD101	YD201
P	✻	✻	✻	✻	✻	✻		✻	✻				✻	✻		✻	✻	✻	✻		●	●		●			
M		✻	✻	✻	✻	✻							✻	✻	✻	✻	✻	✻	✻	✻	●	●		●			
K							✻	✻	✻												●					
N											✻														✻	✻
S				✻		✻						●	✻		✻	✻		✻		✻						
H										○							✻									

	ISO	W	r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	LNKT080404PNR-GL	8,5	0,4								●										●		●					
	LNKT120608PNR-GL	13	0,8								●										●		●					
	LNKT160708PNR-GL	15	0,8								●										●		●					

● In magazzino ○ Su richiesta

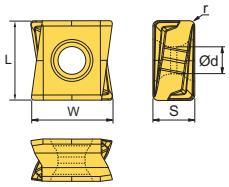
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

LNKT	L	S	d
08 04	8,75	4,45	3,4
12 06	12,7	6,75	4,4
16 07	16,05	7,35	5,5



LN** Inserti - Fresatura	HC¹ (CVD)								HC¹ (PVD)											HT	HC²	HW	
P	◉	◉	◉	◉	◉	◉		◉	◉				◉	◉		◉	◉	◉	◉		●	●			
M		◉	◉	◉	◉	◉							◉	◉	◉	◉	◉	◉	◉	◉	○	○			
K							◉	◉	◉											●					
N										◉													◉	◉	
S				◉		◉						○	◉		◉	◉		◉		◉					
H									○								◉								

ISO	W	r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
LNKT080404PNR-GM	8,5	0,4				●														●							
LNKT120608PNR-GM	13	0,8				●				●										●							
LNKT160708PNR-GM	15	0,8				●			○											●							

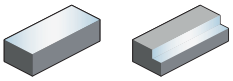
● In magazzino ○ Su richiesta

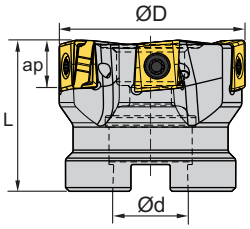
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Fresa per spallamento

EMP09 Kr: 90°





Articolo	✻	Stock	Dimensioni [mm] ØD	e	ød	L	File di denti	Denti	Attacco	kg	Inserto
EMP09-032x38-A16-LN08-03C	✻	○	32	38	16	55	3	15	A	0,18	LNKT0804PNR-GM
EMP09-040x38-A16-LN08-04C	✻	○	40	38	16	55	4	20	A	0,32	
EMP09-040x43-A16-LN12-02C	✻	○	40	43	16	70	2	8	A	0,4	LNKT1206PNR-GM
EMP09-050x43-A22-LN12-03C	✻	●	50	43	22	70	3	12	A	0,64	
EMP09-050x63-A22-LN12-03C	✻	○	50	64,6	22	85	3	18	A	0,73	
EMP09-063x43-A27-LN12-04C	✻	○	63	43	27	70	4	16	A	1,08	
EMP09-063x53-A27-LN12-04C	✻	●	63	53	27	80	4	20	A	1,31	
EMP09-063x85-A27-LN12-04C	✻	○	63	85	27	110	4	32	A	1,152	
EMP09-080x53-A27-LN12-05C	✻	○	80	53	27	80	5	25	A	2,33	
EMP09-080x53-A32-LN12-05C	✻	○	80	54,6	32	80	5	25	A	2,33	
EMP09-080x74-A32-LN12-05C	✻	○	80	74	32	100	5	35	A		
EMP09-100x65-A40-LN12-06C	✻	○	100	65	40	90	6	36	A	3,57	
EMP09-125x54-A40-LN12-07C	✻	○	125	54	40	80	7	35	A	5,53	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	LNKT0804PNR-GM	LNKT1206PNR-GM
	ØD	25-80	40-150
	Vite (inserti)	I60M3×7 (1,8 Nm)	I60M4×12 (3,4 Nm)
	Chiave		WT15IS
	Chiave (inserti)	WT09IP	

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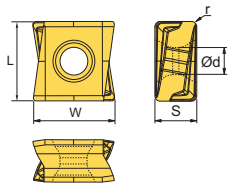
Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

LNKT	L	S	d
08 04	8,75	4,45	3,4
12 06	12,7	6,75	4,4



LN** Inserti - Fresatura	HC¹ (CVD)								HC¹ (PVD)											HT	HC²	HW	
P	❄	❄	❄	❄	❄	❄		❄	❄				❄	❄		❄	❄	❄	❄		●	●		
M		❄	❄	❄	❄	❄							❄	❄	❄	❄	❄	❄	❄	❄	●	●		
K							❄	❄	❄											●				
N										❄													❄	❄
S				❄		❄					●	❄			❄	❄		❄		❄				
H									○								❄							

	ISO	W	r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	LNKT080404PNR-GL	8,5	0,4								●										●		●					
	LNKT120608PNR-GL	13	0,8								●										●		●					
	LNKT080404PNR-GM	8,5	0,4				●														●							
	LNKT120608PNR-GM	13	0,8				●				●										●							

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

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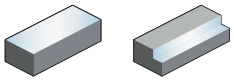
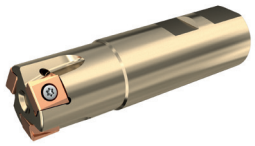
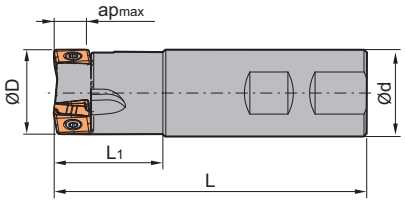
Fresa per spallamento

EMP09 Kr: 90°







Stelo Weldon

Articolo	✻	Stock	Dimensioni [mm] ØD	ød	L_1	L	$a_{p\,max}$	Denti	kg	Inserto
EMP09-018-XP20-LN08-02C	✻	○	18	20	25	100	8	2	0,2	LNKT0804PNR**
EMP09-020-XP20-LN08-03C	✻	○	20	20	25	100	8	3	0,26	
EMP09-022-XP20-LN08-03C	✻	○	22	20	25	100	8	3	0,22	
EMP09-025-XP25-LN08-03C	✻	○	25	25		100	8	3	0,36	
EMP09-025-XP25-LN08-04C	✻	●	25	25	32	100	8	4	0,4	
EMP09-032-XP32-LN08-04C	✻	○	32	32	40	115	8	4	0,695	
EMP09-032-XP32-LN08-05C	✻	●	32	32	40	115	8	5	0,715	
EMP09-040-XP40-LN08-06C	✻	○	40	40	40	125	8	6	1,154	
EMP09-025-XP25-LN12-02C	✻	○	25	25	32	100	11,5	2	0,3	LNKT1206PNR**
EMP09-032-XP32-LN12-03C	✻	○	32	32		115	11,5	3	0,63	
EMP09-035-XP32-LN12-03C	✻	○	35	32	40	115	11,5	3	0,69	
EMP09-040-XP40-LN12-03C	✻	○	40	40	40	125	11,5	3	1,139	
EMP09-040-XP40-LN12-04C	✻	○	40	40		125	11,5	4	1,1	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

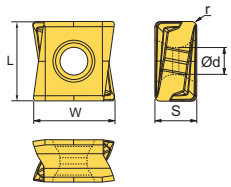
	Inserto	LNKT0804PNR**	LNKT1206PNR**
	ØD	16-45	20-50
	Vite (inserti)	I60M3×7 (1,8 Nm)	I60M4×12 (3,4 Nm)
	Chiave		WT15IS
	Chiave (inserti)	WT09IP	WT15IP

Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

LNKT	L	S	d
08 04	8,75	4,45	3,4
12 06	12,7	6,75	4,4



LN** Inserti - Fresatura	HC¹ (CVD)									HC¹ (PVD)											HT	HC²	HW	
P	❁	❁	❁	❁	❁	❁		❁	❁				❁	❁		❁	❁	❁	❁		●		●		
M		❁	❁	❁	❁	❁							❁	❁	❁	❁	❁	❁	❁	❁	●		●		
K							❁	❁	❁											●					
N											❁													❁	❁
S				❁		❁						●	❁		❁	❁		❁		❁					
H										○							❁								

	ISO	W	r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	LNKT080404PNR-GL	8,5	0,4								●									●	●		●					
	LNKT120608PNR-GL	13	0,8								●									●	●		●					
	LNKT080404PNR-GM	8,5	0,4				●				●									●	●		○					
	LNKT080408PNR-GM	8,5	0,8	○							○									●	●							
	LNKT080412PNR-GM	8,5	1,2	○																								
	LNKT080415PNR-GM	8,5	1,5																	○								
	LNKT120608PNR-GM	13	0,8				●			○	●									●	●		○					
	LNKT120612PNR-GM	13	1,2	○			○				●										○							
	LNKT120616PNR-GM	13	1,6	○			○				○										○							
	LNKT120624PNR-GM	13	2,4								●										●							
	LNKT120632PNR-GM	13	3,2				○				●										●							

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

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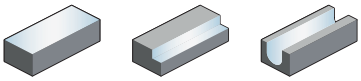
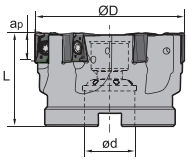
Fresa per spallamento

EMP13 Kr: 90°





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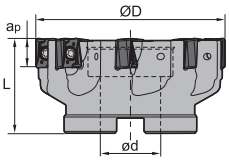

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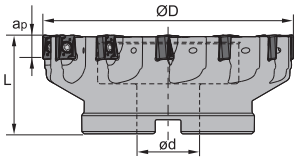


C

Articolo	✻	Stock	Dimensioni [mm] ØD	ød	L	$a_{p\,max}$	Denti	Attacco	kg	Inserto
EMP13-040-A16-AN11-04C	✻	○	40	16	40	11,2	4	A	0,45	
EMP13-044-A16-AN11-04C	✻	○	44	22	40	11,2	4	A	0,52	
EMP13-050-A22-AN11-06C	✻	●	50	22	40	11,2	6	A	0,3	
EMP13-063-A22-AN11-06	✻	○	63	22	40	11,2	6	A	0,49	
EMP13-063-A22-AN11-07C	✻	●	63	22	40	11,2	7	A	0,49	
EMP13-080-A27-AN11-07	✻	○	80	27	50	11,2	7	A	1,18	
EMP13-080-A27-AN11-07C	✻	○	80	27	50	11,2	7	A	1,07	ANGX1105
EMP13-080-A27-AN11-09C	✻	●	80	27	50	11,2	9	A	1,18	
EMP13-100-B32-AN11-12		●	100	32	50	11,2	12	B	1,46	
EMP13-100-B32-AN11-12C	✻	○	100	32	50	11,2	12	B	1,46	
EMP13-125-B40-AN11-14		●	125	40	63	11,2	14	B	2,92	
EMP13-125-B40-AN11-14C	✻	○	125	40	63	11,2	14	B	2,92	
EMP13-160-C40-AN11-16		●	160	40	63	11,2	16	C	4,3	
EMP13-050-A22-AN15-04C	✻	●	50	22	40	14,5	4	A	0,26	
EMP13-060-A22-AN15-05C	✻	○	60	22	40	14,5	5	A	0,53	
EMP13-063-A22-AN15-05C	✻	●	63	22	40	14,5	5	A	0,53	
EMP13-080-A27-AN15-06C	✻	●	80	27	50	14,5	6	A	1,23	
EMP13-100-B32-AN15-08		●	100	32	50	14,5	8	B	1,52	
EMP13-100-B32-AN15-08C	✻	○	100	32	50	14,5	8	B	1,52	ANGX1506
EMP13-125-B40-AN15-10		●	125	40	63	14,5	10	B	3,05	
EMP13-125-B40-AN15-10C	✻	○	125	40	63	14,5	10	B	3,05	
EMP13-160-C40-AN15-12		●	160	40	63	14,5	12	C	4,46	
EMP13-200-C60-AN15-16		○	200	60	63	14,5	16	C	6,26	
EMP13-250-C60-AN15-18		○	250	60	63	14,5	18	C	12,86	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Parti di ricambio

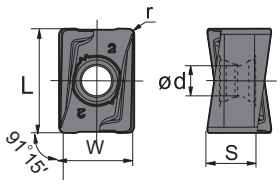
	Inserto	ANGX1105	ANGX1506
	ØD	40-160	50-250
	Vite (inserti)	I60M3×9 (1,8 Nm)	I60M4×12 (3,4 Nm)
	Chiave (inserti)	WT09IS	WT15IS

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

ANGX	L	S	d
11 05	11,85	5,7	3,5
15 06	15,43	7,3	4,4

Inserti - Fresatura

AN** Inserti - Fresatura



	HC¹ (CVD)								HC¹ (PVD)											HT	HC²	HW	
P	◉	◉	◉	◉	◉	◉		◉	◉				◉	◉		◉	◉	◉	◉		●	●			
M		◉	◉	◉	◉	◉							◉	◉	◉	◉	◉	◉	◉	◉	○	○			
K							◉	◉	◉											●					
N										◉														◉	◉
S				◉		◉						●	◉		◉	◉		◉		◉					
H									○								◉								

	ISO	W	r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	ANGX110504PNR-GM	8,4	0,4				●			●									●		●							
	ANGX110508PNR-GM	8,4	0,8	●			●			●	●								●	●	●		●					
	ANGX110520PNR-GM	8,4	2				●				●								●									
	ANGX150608PNR-GM	11	0,8	○			●			●	●								●	●	●		●					
	ANGX150612PNR-GM	11	1,2	○																								
	ANGX150616PNR-GM	11	1,6				●			●									●									
	ANGX150620PNR-GM	11	2							●	●								●									
	ANGX110502PNR-LH	8,4	0,2																								○	
	ANGX110504PNR-LH	8,4	0,4																								●	
	ANGX150608PNR-LH	11	0,8																								●	

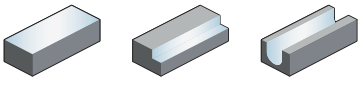
● In magazzino ○ Su richiesta

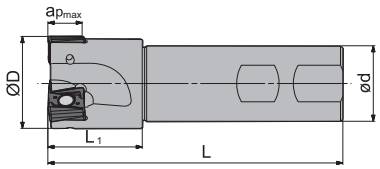
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Fresa per spallamento

EMP13 Kr: 90°





Stelo Weldon

Articolo	✻	Stock	Dimensioni [mm] ØD	ød	L_1	L	$a_{p\,max}$	Denti	kg	Inserto
EMP13-025-XP25-AN11-02C	✻	●	25	25	32	100	11,2	2	0,31	ANGX1105
EMP13-032-XP32-AN11-03C	✻	●	32	32	40	115	11,2	3	0,61	
EMP13-040-XP32-AN11-04C	✻	●	40	32	40	125	11,2	4	0,75	
EMP13-032-XP32-AN15-02C	✻	●	32	32	40	125	11,2	2	0,66	ANGX1506
EMP13-040-XP32-AN15-03C	✻	●	40	32	40	125	11,2	3	0,76	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

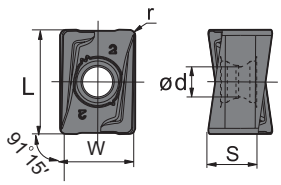
	Inserto	ANGX1105	ANGX1506
	ØD	25-40	25-40
	Vite (inserti)	I60M3×9 (1,8 Nm)	I60M4×12 (3,4 Nm)
	Chiave (inserti)	WT09IS	WT15IS

Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

ANGX	L	S	d
11 05	11,85	5,7	3,5
15 06	15,43	7,3	4,4



AN** Inserti - Fresatura	HC¹ (CVD)									HC¹ (PVD)													HT	HC²	HW	
P	❊	❊	❊	❊	❊	❊		❊	❊				❊	❊		❊	❊	❊	❊		●	●		●		
M		❊	❊	❊	❊	❊							❊	❊	❊	❊	❊	❊	❊	❊	❊	●	●			
K							❊	❊	❊												●					
N											❊														❊	❊
S				❊		❊						●	❊		❊	❊		❊			❊						
H										○									❊							

	ISO	W	r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	ANGX110504PNR-GM	8,4	0,4				●			●									●		●							
	ANGX110508PNR-GM	8,4	0,8	●			●			●	●								●	●	●		●					
	ANGX110520PNR-GM	8,4	2				●				●								●									
	ANGX150608PNR-GM	11	0,8	○			●			●	●								●	●	●		●					
	ANGX150612PNR-GM	11	1,2	○																								
	ANGX150616PNR-GM	11	1,6				●			●									●									
	ANGX150620PNR-GM	11	2							●	●								●									
	ANGX110502PNR-LH	8,4	0,2																								○	
	ANGX110504PNR-LH	8,4	0,4																								●	
	ANGX150608PNR-LH	11	0,8																								●	

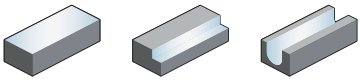
● In magazzino ○ Su richiesta

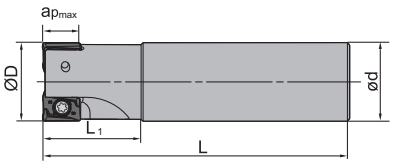
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Fresa per spallamento

EMP13 Kr: 90°





Stelo cilindrico

Articolo	✻	Stock	Dimensioni [mm] ØD	e	ød	L_1	L	$a_{p\,max}$	Denti	kg	Inserto
EMP13-025-G25-AN11-02C	✻	●	25	11,2	25	32	100	11,2	2	0,31	ANGX1105
EMP13-032-G32-AN11-03C	✻	●	32	11,2	32	40	115	11,2	3	0,61	
EMP13-040-G32-AN11-04C	✻	●	40	11,2	32	40	125	11,2	4	0,75	
EMP13-032-G32-AN15-02C	✻	●	32	14,5	32	40	125	14,5	2	0,66	ANGX1506
EMP13-040-G32-AN15-03C	✻	●	40	14,5	32	40	125	14,5	3	0,76	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

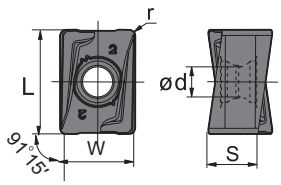
	Inserto	ANGX1105	ANGX1506
	ØD	25-40	25-40
	Vite (inserti)	I60M3×9 (1,8 Nm)	I60M4×12 (3,4 Nm)
	Chiave (inserti)	WT09IS	WT15IS

Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

ANGX	L	S	d
11 05	11,85	5,7	3,5
15 06	15,43	7,3	4,4



AN** Inserti - Fresatura	HC¹ (CVD)									HC¹ (PVD)												HT	HC²	HW	
P	❄	❄	❄	❄	❄	❄		❄	❄				❄	❄		❄	❄	❄	❄		●	●	●			
M		❄	❄	❄	❄	❄							❄	❄	❄	❄	❄	❄	❄	❄	❄	●	❄			
K							❄	❄	❄												●					
N											❄														❄	❄
S				❄		❄						●	❄		❄	❄		❄		❄						
H										○							❄									

	ISO	W	r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	ANGX110504PNR-GM	8,4	0,4				●			●									●		●							
	ANGX110508PNR-GM	8,4	0,8	●			●			●	●								●	●	●		●					
	ANGX110520PNR-GM	8,4	2				●				●								●									
	ANGX150608PNR-GM	11	0,8	○			●			●	●								●	●	●		●					
	ANGX150612PNR-GM	11	1,2	○																								
	ANGX150616PNR-GM	11	1,6				●			●									●									
	ANGX150620PNR-GM	11	2							●	●								●									
	ANGX110502PNR-LH	8,4	0,2																								○	
	ANGX110504PNR-LH	8,4	0,4																								●	
	ANGX150608PNR-LH	11	0,8																								●	

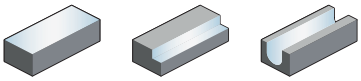
● In magazzino ○ Su richiesta

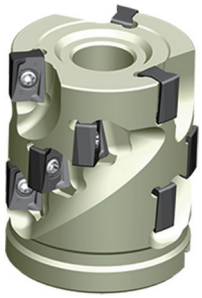
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

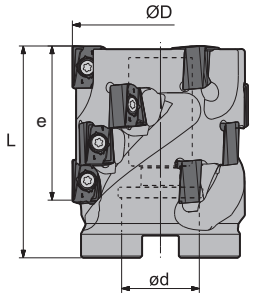
Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Fresa per spallamento

EMP13 Kr: 90°







Articolo	✻	Stock	Dimensioni [mm] ØD	e	ød	L	Denti	Numero inserti	kg	Inserto
EMP13-050x43-A22-AN11-03		●	50	43	22	60	3	12	0,52	ANGX1105
EMP13-063x64-A27-AN11-04		○	63	64	27	80	4	24	1,15	
EMP13-063x53-A27-AN15-03		○	63	53	27	75	3	12	1,14	ANGX1506
EMP13-080x53-A32-AN15-04		●	80	53	32	75	4	16	1,82	
EMP13-082x67-A32-AN15-04		○	80	67	32	90	4	20	2,2	
EMP13-080x75-A32-AN15-05		○	80	75	32	95	5	30	2,07	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

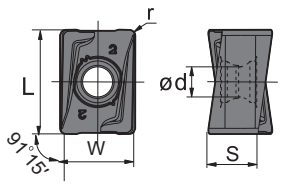
	Inserto	**ANGX1105**	**ANGX1506**
	ØD	**50-63**	**63-120**
	Vite (inserti)	I60M3×9 (1,8 Nm)	I60M4×12 (3,4 Nm)
	Chiave (inserti)	WT09IS	WT15IS

Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

ANGX	L	S	d
11 05	11,85	5,7	3,5
15 06	15,43	7,3	4,4



AN** Inserti - Fresatura	HC¹ (CVD)									HC¹ (PVD)												HT	HC²	HW	
P	❊	❊	❊	❊	❊	❊		❊	❊				❊	❊		❊	❊	❊	❊		●	●	●			
M		❊	❊	❊	❊	❊							❊	❊	❊	❊	❊	❊	❊	❊	●	●	●			
K							❊	❊	❊												●					
N											❊														❊	❊
S				❊		❊						●	❊		❊	❊		❊		❊						
H										○							❊									

	ISO	W	r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	ANGX110504PNR-GM	8,4	0,4				●			●									●		●							
	ANGX110508PNR-GM	8,4	0,8	●			●			●	●								●	●	●		●					
	ANGX110520PNR-GM	8,4	2				●				●								●									
	ANGX150608PNR-GM	11	0,8	○			●			●	●								●	●	●		●					
	ANGX150612PNR-GM	11	1,2	○																								
	ANGX150616PNR-GM	11	1,6				●			●									●									
	ANGX150620PNR-GM	11	2							●	●								●									
	ANGX110502PNR-LH	8,4	0,2																								○	
	ANGX110504PNR-LH	8,4	0,4																								●	
	ANGX150608PNR-LH	11	0,8																								●	

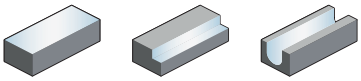
● In magazzino ○ Su richiesta

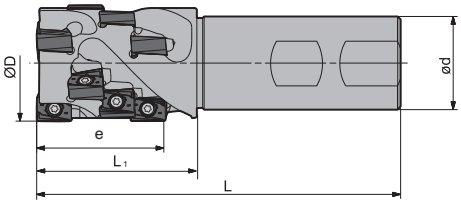
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Fresa per spallamento

EMP13 Kr: 90°





Stelo Weldon

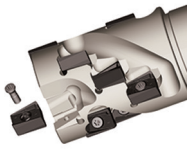
Articolo	✻	Stock	Dimensioni [mm] ØD	e	ød	L_1	L	Denti	Numero inserti	kg	Inserto
EMP13-032x43-XP32-AN11-02		○	32	43	32	48	115	2	8	0,61	ANGX1105
EMP13-040x43-XP32-AN11-03		○	40	43	32	55	125	3	12	0,79	
EMP13-050x60-XP40-AN11-03C	✻	○	50	60	40		160	3	18	1,53	
EMP13-040x40-XP32-AN15-02		○	40	40	32	55	115	2	6	0,79	ANGX1506
EMP13-050x53-XP40-AN15-02		○	50	53	40	70	145	2	8	1,53	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	ANGX1105	ANGX1506
	ØD	32-60	40-50
	Vite (inserti)	I60M3×9 (1,8 Nm)	I60M4×12 (3,4 Nm)
	Chiave (inserti)	WT09IS	WT15IS

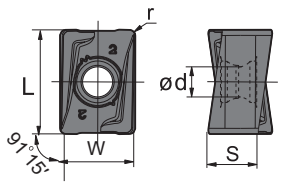


Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

ANGX	L	S	d
11 05	11,85	5,7	3,5
15 06	15,43	7,3	4,4



AN** Inserti - Fresatura	HC¹ (CVD)								HC¹ (PVD)												HT	HC²	HW	
P	❄	❄	❄	❄	❄	❄		❄	❄				❄	❄		❄	❄	❄	❄		●	●		
M		❄	❄	❄	❄	❄							❄	❄	❄	❄	❄	❄	❄	❄	●	●		
K							❄	❄	❄											●				
N										❄													❄	❄
S				❄		❄					●	❄		❄	❄		❄		❄					
H									○							❄								

	ISO	W	r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	ANGX110504PNR-GM	8,4	0,4				●			●									●		●							
	ANGX110508PNR-GM	8,4	0,8	●			●			●	●								●	●	●		●					
	ANGX110520PNR-GM	8,4	2				●				●								●									
	ANGX150608PNR-GM	11	0,8	○			●			●	●								●	●	●		●					
	ANGX150612PNR-GM	11	1,2	○																								
	ANGX150616PNR-GM	11	1,6				●			●									●									
	ANGX150620PNR-GM	11	2							●	●								●									
	ANGX110502PNR-LH	8,4	0,2																								○	
	ANGX110504PNR-LH	8,4	0,4																								●	
	ANGX150608PNR-LH	11	0,8																								●	

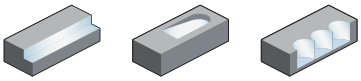
● In magazzino ○ Su richiesta

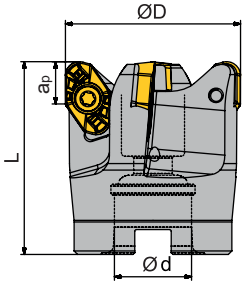
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

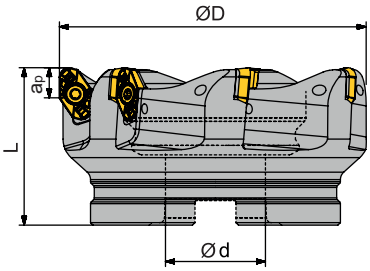
Fresa per spallamento

EMP14 Kr: 90°





A



B

Articolo	✻	Stock	Dimensioni [mm]				Denti	Attacco	kg	Inserto
			ØD	ød	L	$a_{p\,max}$				
EMP14-040-A16-VP22-03C	✻	○	40	16	55	10	3	A	0,234	VPGT2205
EMP14-040-A16-VP22-03CA	✻	●	40	16	55	10	3	A	0,24	
EMP14-042-A16-VP22-03C	✻	○	42	16	55	10	3	A	0,256	
EMP14-042-A16-VP22-03CA	✻	●	42	16	55	10	3	A	0,27	
EMP14-050-A22-VP22-03C	✻	○	50	22	55	10	3	A		
EMP14-050-A22-VP22-03CA	✻	○	50	22	55	10	3	A		
EMP14-050-A22-VP22-04C	✻	○	50	22	55	10	4	A	0,352	
EMP14-050-A22-VP22-04CA	✻	●	50	22	55	10	4	A	0,36	
EMP14-052-A22-VP22-04C	✻	●	52	22	55	10	4	A	0,385	
EMP14-052-A22-VP22-04CA	✻	●	52	22	55	10	4	A	0,4	
EMP14-063-A27-VP22-04C	✻	●	63	27	55	10	4	A	0,61	
EMP14-063-A27-VP22-04CA	✻	●	63	27	55	10	4	A	0,62	
EMP14-066-A27-VP22-05C	✻	○	66	27	55	10	5	A	0,625	
EMP14-066-A27-VP22-05CA	✻	○	66	27	55	10	5	A	0,68	
EMP14-080-A27-VP22-05C	✻	●	80	27	55	10	5	A	0,95	
EMP14-080-A27-VP22-05CA	✻	●	80	27	55	10	5	A	0,97	
EMP14-100-B32-VP22-06C	✻	○	100	32	55	10	6	B	1,4	
EMP14-100-B32-VP22-06CA	✻	○	100	32	55	10	6	B	1,32	
EMP14-125-B40-VP22-05C	✻	○	125	40	63	10	5	B		
EMP14-125-B40-VP22-05CA	✻	○	125	40	63	10	5	B		
EMP14-125-B40-VP22-07C	✻	●	125	40	63	10	7	B	2,7	
EMP14-125-B40-VP22-07CA	✻	●	125	40	63	10	7	B	2,75	

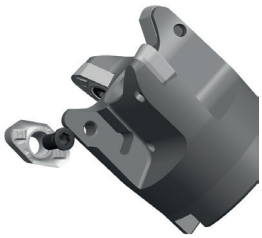
● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Parti di ricambio

	Inserto	VPGT2205
	ØD	20-150
	Vite (inserti)	I60M5×11 (6,7 Nm)
	Chiave (inserti)	WT20IT

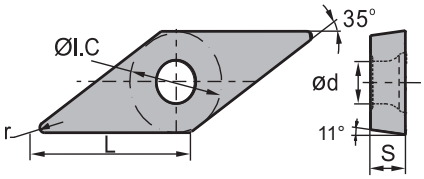


- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

VPGT	L	I.C	S	d
22 05	9	12,7	5,56	5,5

Inserti - Fresatura

VP** Inserti positivi



	HC¹ (CVD)								HC¹ (PVD)											HT	HC²	HW	
P	◉	◉	❁	◉	◉	❁		◉	◉				◉	❁		◉	◉	◉	❁		●	●			
M		❁	❁	❁	❁	❁							❁	❁	❁	❁	❁	❁	❁	❁	○	○			
K							❁	❁	❁												●				
N											❁													❁	❁
S				❁		❁						●	❁		❁	❁		❁		❁					
H										○							❁								

ISO		r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	VPGT220502-LP	0,2																								○	
	VPGT220505-LP	0,5																								●	
	VPGT220508-LP	0,8																	○							●	
	VPGT220510-LP	1																								●	
	VPGT220515-LP	1,5																								○	
	VPGT220520-LP	2																								●	
	VPGT220525-LP	2,5																	○							●	
	VPGT220530-LP	3																	○							●	
	VPGT220532-LP	3,2																	○							●	
	VPGT220540-LP	4																	○							●	
	VPGT220550-LP	5																								●	
	VPGT220560-LP	6																								○	
	VPGT220564-LP	6,4																								○	

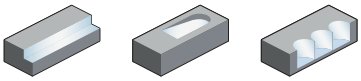
● In magazzino ○ Su richiesta

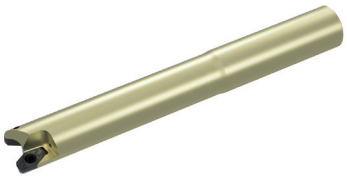
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

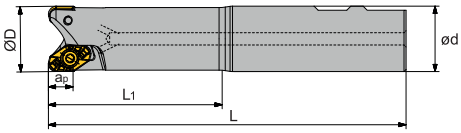
Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Fresa per spallamento

EMP14 Kr: 90°







Stelo Weldon

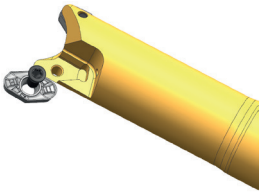
Articolo	✻	Stock	Dimensioni [mm]					Denti	kg	Inserto
			ØD	ød	L_1	L	$a_{p\,max}$			
EMP14-032-XP32-VP22-02C	✻	●	32	32	30	125	10	2	0,642	VPGT2205
EMP14-032-XP32-VP22-02CA	✻	●	32	32	30	125	10	2	0,65	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**VPGT2205**
	ØD	**20-150**
	Vite (inserti)	I60M5×11 (6,7 Nm)
	Chiave (inserti)	WT20IT

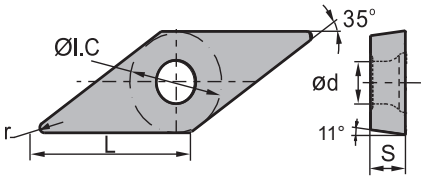


Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

VPGT	L	I.C	S	d
22 05	9	12,7	5,56	5,5

VP** Inserti positivi		HC[1] (CVD)								HC[1] (PVD)											HT	HC[2]	HW	
	P	●	●	●	●	●	●		●	●			●	●		●	●	●	●		●	●			
	M		●	●	●	●	●						●	●	●	●	●	●	●	●	●	●			
	K							●	●	●											●				
	N										●													●	●
	S				●		●					●	●		●	●		●		●					
	H									○							●								
ISO	r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
VPGT220502-LP	0,2																								○	
VPGT220505-LP	0,5																								●	
VPGT220508-LP	0,8																	○							●	
VPGT220510-LP	1																								●	
VPGT220515-LP	1,5																								○	
VPGT220520-LP	2																								●	
VPGT220525-LP	2,5																	○							●	
VPGT220530-LP	3																	○							●	
VPGT220532-LP	3,2																	○							●	
VPGT220540-LP	4																	○							●	
VPGT220550-LP	5																								●	
VPGT220560-LP	6																								○	
VPGT220564-LP	6,4																								○	

● In magazzino ○ Su richiesta

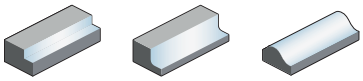
HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

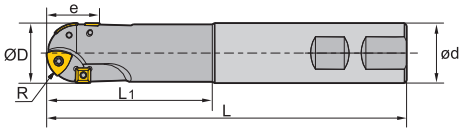
Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Note

Fresa profilata

BMR01





Stelo Weldon

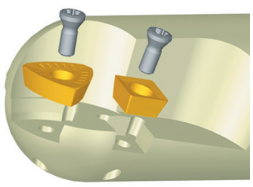
Articolo	✻	Stock	Dimensioni [mm] R	ØD	e	ød	L_1	L	Denti ZDET	SPMT	kg	Inserto
BMR01-020-XP20-S		○	10	20	20	20	50	125	2	2	0,3	ZDET08T2 & SPMT0603
BMR01-020-XP20-M		○	10	20	20	20	75	150	2	2	0,3	
BMR01-020-XP20-L		○	10	20	20	20	100	200	2	2	0,4	
BMR01-025-XP25-S		○	12,5	25	23	25	70	150	2	2	0,5	ZDET1103 & SPMT0603
BMR01-025-XP25-M		○	12,5	25	23	25	95	175	2	2	0,6	
BMR01-025-XP25-L		○	12,5	25	23	25	100	200	2	2	0,7	
BMR01-032-XP32-S		○	16	32	31	32	85	175	2	2	0,9	ZDET13T2 & SDMT0903
BMR01-032-XP32-M		○	16	32	31	32	100	200	2	2	1,1	
BMR01-032-XP32-L		○	16	32	31	32	150	250	2	2	1,4	
BMR01-040-XP40-S		○	20	40	41	40	85	175	3	2	1,4	ZPNT2204 & SPMT1204
BMR01-040-XP40-M		○	20	40	41	40	100	200	3	2	1,7	
BMR01-040-XP40-L		○	20	40	41	40	150	250	3	2	2,1	
BMR01-050-XP40-S		○	25	50	45	40	100	200	3	2	1,8	
BMR01-050-XP40-M		○	25	50	45	40	100	300	3	2	2,8	
BMR01-063-XP40-S		○	31,5	63	52	40	100	200	4	2	3	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**ZDET08T2 & SPMT0603**	**ZDET1103 & SPMT0603**	**ZDET13T2 & SDMT0903**	**ZPNT2204 & SPMT1204**
	ØD	**20**	**25**	**32**	**40-63**
	Vite (inserti)	I43M2,5×5,7 (1,0 Nm)	I43M2,5×5,7 (1,0 Nm)	I43M4×8 (3,4 Nm)	I43M5×11 (6,7 Nm)
	Chiave (inserti)	WT07IP	WT07IP		
	Chiave (inserti)			WT15IS	WT20IS



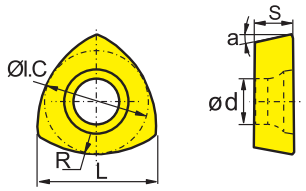
Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

Inserti per fresatura Fresa profilata

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

ZDET	L	I.C	S	d
08 T2	8,4	6,75	2,78	2,8
11 03	10,6	8,5	3,18	2,8
13 T3	13,2	10,5	3,97	4,4
22 04	16,1	12,7	4,76	5,56



ZD** Inserti fresatura		HC[1] (CVD)									HC[1] (PVD)												HT		HC[2]		HW		
	P	✿	✿	❀	✿	✿	❀		✿	✿				✿	❀		✿	✿	✿	❀		●	●		●				
	M		✿	❀	✿	✿	❀							✿	❀	✿	✿	✿	✿	❀	❀	●	●		●				
	K							✿	❀	❀												●							
	N											✿															✿	❀	
	S				❀		❀						●	✿		✿	✿		✿		❀								
	H										○							✿											
ISO	R	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151		YNG151C		YD101	YD201	
ZDET13T3CYR16-PM	16					○								○															
ZDET08T2CYR10	10					○																							
ZDET1103CYR12.5	12,5					○																							
ZPNT2204CY(R20)	20					○																							
ZPNT2204CY(R25)	25					○																							
ZPNT2204CY(R31)	31,5					○																							

● In magazzino ○ Su richiesta

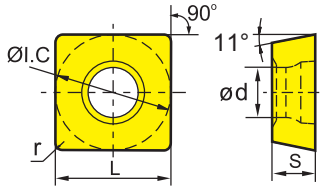
HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SPMT	L	I.C	S	d
06 03	6,35	6,35	3,18	2,8
12 04	12,7	12,7	4,76	5,5



SP** Inserti fresatura		HC¹ (CVD)									HC¹ (PVD)											HT	HC²	HW	
		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
ISO	r																									
SPMT060304-KT			○																							
SPMT060304	0,4					●														○						
SPMT120408	0,8	○	●	○		●	○											●		○						

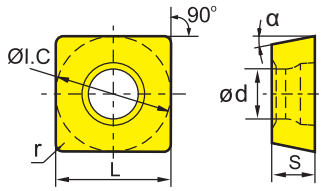
● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SDMT	L	I.C	S	d
09 03	9,525	9,525	3,18	4,4



SD** Inserti - Fresatura		HC¹ (CVD)									HC¹ (PVD)											HT	HC²	HW	
		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
ISO	r																									
SDMT090308	0,8					○																				

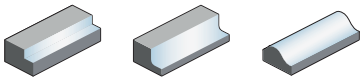
● In magazzino ○ Su richiesta

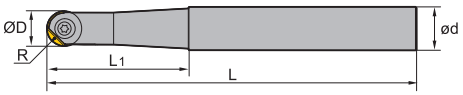
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Fresa profilata

BMR02





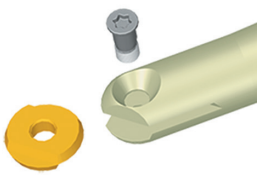
Articolo	✻	Stock	Dimensioni [mm] R	ØD	ød	L_1	L	kg	Inserto
BMR02-012-G16-S		●	6	12	16	40	110	0,1	ROHX1203
BMR02-012-G16-M		●	6	12	16	50	130	0,2	
BMR02-012-G16-L		●	6	12	16	50	160	0,2	
BMR02-016-G20-S		●	8	16	20	45	140	0,3	ROHX1604
BMR02-016-G20-M		●	8	16	20	65	170	0,3	
BMR02-016-G20-L		●	8	16	20	65	200	0,4	
BMR02-020-G25-S		●	10	20	25	60	160	0,5	ROHX2005
BMR02-020-G25-M		●	10	20	25	80	200	0,6	
BMR02-020-G25-L		●	10	20	25	80	240	0,8	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	ROHX1203	ROHX1604	ROHX2005
	ØD	12	16	20
	Vite (inserti)	I70M4×10TT (3,4 Nm)	I70M5×12TT (6,7 Nm)	I70M5×16TT (6,7 Nm)
	Chiave (inserti)	WT15IS	WT20IS	WT20IS

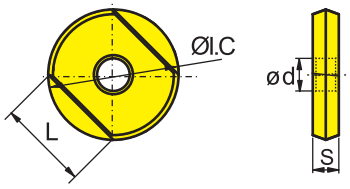


Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

ROHX		L	I.C	S	d
12	03	8,5	12	3	4
16	04	11,3	16	4	5
20	05	14,1	20	5	5



RO** Inserti positivi	HC¹ (CVD)									HC¹ (PVD)											HT	HC²	HW	
ISO	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
P	◉	◉	◉	◉	◉	◉		◉	◉				◉	◉		◉	◉	◉	◉		●	●	●		
M		◉	◉	◉	◉	◉							◉	◉	◉	◉	◉	◉	◉	◉	●	●	●		
K							◉	◉	◉												●				
N											◉													◉	◉
S				◉		◉						●	◉		◉	◉		◉		◉					
H										○							◉								
ROHX2005													○								●				
ROHX1203												○	○								●				
ROHX1604													○								●				

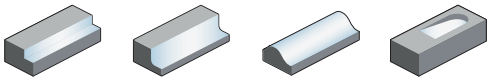
● In magazzino ○ Su richiesta

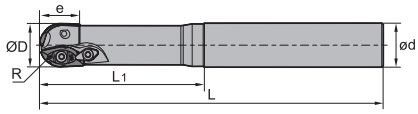
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

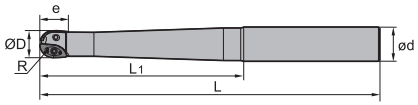
Fresa profilata

BMR03





A



B

Stelo cilindrico

Articolo	✻	Stock	Dimensioni [mm] R	ØD	e	ød	L_1	L	Denti	Attacco	kg	Inserto
BMR03-016-G20-S		●	8	16	16	20	70	150	2	B	0,3	XPHT16
BMR03-016-G20-M		●	8	16	16	20	80	180	2	B	0,4	
BMR03-020-G25-S		●	10	20	20	25	80	180	2	B	0,5	XPHT20
BMR03-020-G25-M		●	10	20	20	25	100	200	2	B	0,6	
BMR03-020-G25-L		●	10	20	20	25	150	250	2	B	0,7	
BMR03-020-G25-XL		○	10	20	20	25	110	300	2	B	1	
BMR03-025-G25-S		●	12,5	25	25	25	80	180	2	B	0,6	XPHT25
BMR03-025-G25-M		●	12,5	25	25	25	100	200	2	B	0,7	
BMR03-025-G25-L		○	12,5	25	25	25	110	250	2	B	0,8	
BMR03-025-G25-XL		○	12,5	25	25	25	120	300	2	B	1	
BMR03-030-G32-S		○	15	30	30	32	120	200	2	A	1	XPHT30
BMR03-030-G32-M		●	15	30	30	32	150	250	2	A	1,3	
BMR03-030-G32-L		○	15	30	30	32	200	300	2	A	1,6	
BMR03-032-G32-S		●	16	32	32	32	120	200	2	A	1,1	XPHT32
BMR03-032-G32-M		●	16	32	32	32	150	250	2	A	1,4	
BMR03-032-G32-L		●	16	32	32	32	200	300	2	A	1,6	
BMR03-032-G32-XL		○	16	32	32	32	200	350	2	A	2	
BMR03-040-G40-S		○	20	40	40	40	120	200	2	A	1,6	XPHT40
BMR03-040-G40-M		○	20	40	40	40	150	250	2	A	2	
BMR03-040-G40-L		●	20	40	40	40	200	300	2	A	2,5	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

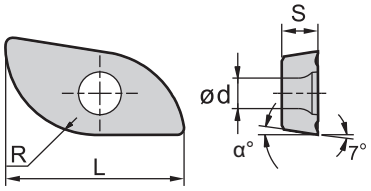
Parti di ricambio

	Inserto	XPHT16	XPHT20	XPHT25	XPHT30	XPHT32	XPHT40
	ØD	16	20	25	30	32	40
	Staffa						CBH5R1
	Staffa				WD-208	WD-208	
	Vite (staffa)				I60M5×13 (6,7 Nm)	I60M5×13 (6,7 Nm)	I43M6×16 (9,1 Nm)
	Vite (inserti)	I60M2,5×6,5 (1,0 Nm)		I60M4×10 (3,4 Nm)	I60M5×13 (6,7 Nm)	I60M5×13 (6,7 Nm)	I43M6×16 (9,1 Nm)
	Vite (inserti)		I60M3,5×08TT (2,7 Nm)				
	Chiave (staffa)				WT20IT	WT20IT	WT25IT
	Chiave (inserti)		WT10IP				
	Chiave (inserti)				WT20IT	WT20IT	WT25IT
	Chiave (inserti)	WT07P					
	Chiave (inserti)			WT15S			

XPHT	L	S	d
16	16	3,18	3,1
20	20	3,97	4
25	25	4,76	4,7
30	30	6,35	5,8
32	32	6,35	5,8
40	40	7,94	6,8

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli



XP** Inserti fresatura	HC[1] (CVD)									HC[1] (PVD)												HT	HC[2]	HW	
P																									
M																									
K																									
N																									
S																									
H																									

	ISO	R	α	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	XPHT16R0803-GM	8	9																			●						
	XPHT20R10T3-GM	10	9																			●						
	XPHT25R1204-GM	12,5	9																○			●						
	XPHT30R1506-GM	15	11																			●						
	XPHT32R1606-GM	16	9																			●						
	XPHT40R2007-GM	20	9																			●						

● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

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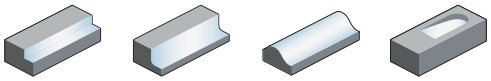
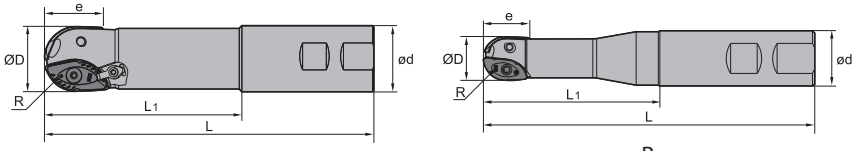
Fresa profilata

BMR03





Articolo	✻	Stock	Dimensioni [mm] R	ØD	e	ød	L_1	L	Denti	Attacco	kg	Inserto
BMR03-016-XP20-M		●	8	16	16	20	60	111	2	B	0,2	XPHT16
BMR03-020-XP25-M		●	10	20	20	25	70	127	2	B	0,3	XPHT20
BMR03-020-XP25-L		●	10	20	20	25	80	150	2	B	0,4	
BMR03-025-XP25-M		●	12,5	25	25	25	80	137	2	B	0,4	XPHT25
BMR03-025-XP25-L		●	12,5	25	25	25	100	200	2	B	0,6	
BMR03-030-XP32-M		●	15	30	30	32	100	161	2	A	0,8	XPHT30
BMR03-030-XP32-L		●	15	30	30	32	150	250	2	A	1,3	
BMR03-032-XP32-M		●	16	32	32	32	100	161	2	A	0,8	XPHT32
BMR03-032-XP32-L		○	16	32	32	32	120	250	2	A	1,3	
BMR03-040-XP40-M		○	20	40	40	40	100	175	2	A	1,3	XPHT40
BMR03-040-XP40-L		●	20	40	40	40	120	250	2	A	2	
BMR03-050-XP50-M		○	25	50	50	50	100	200	2	A	2,5	XPHT50
BMR03-050-XP50-L		○	25	50	50	50	150	250	2	A	3,1	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Parti di ricambio

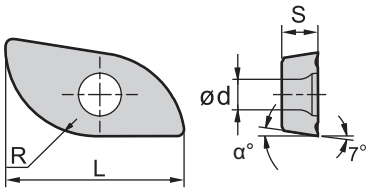
	Inserto	XPHT16	XPHT20	XPHT25	XPHT30	XPHT32	XPHT40	XPHT50
	ØD	16	20	25	30	32	40	50
	Staffa						CBH5R1	CBH5R1
	Staffa				WD-208	WD-208		
	Vite (staffa)				I60M5×13 (6,7 Nm)	I60M5×13 (6,7 Nm)	I43M6×16 (9,1 Nm)	I43M6×16 (9,1 Nm)
	Vite (inserti)	I60M2,5×6,5 (1,0 Nm)		I60M4×10 (3,4 Nm)	I60M5×13 (6,7 Nm)	I60M5×13 (6,7 Nm)	I43M6×16 (9,1 Nm)	I43M8×21 (16,2 Nm)
	Vite (inserti)		I60M3,5×08TT (2,7 Nm)					
	Chiave (staffa)				WT20IT	WT20IT	WT25IT	WT25IT
	Chiave (inserti)		WT10IP					
	Chiave (inserti)				WT20IT	WT20IT	WT25IT	WT30IT
	Chiave (inserti)	WT07P						
	Chiave (inserti)			WT15S				

XPHT	L	S	d
16	16	3,18	3,1
20	20	3,97	4
25	25	4,76	4,7
30	30	6,35	5,8
32	32	6,35	5,8
40	40	7,94	6,8
50	50	7,94	9,2

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

Inserti - Fresatura

XP** Inserti fresatura



	HC¹ (CVD)								HC¹ (PVD)											HT	HC²	HW	
	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
P	◉	◉	◉	◉	◉	◉		◉	◉				◉	◉		◉	◉	◉	◉		●	●	●		
M		◉	◉	◉	◉	◉							◉	◉	◉	◉	◉	◉	◉	◉	●	●	●		
K							◉	◉	◉												●				
N											◉													◉	◉
S				◉		◉						●	◉		◉	◉		◉		◉					
H										○							◉								

	ISO	R	α	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	XPHT16R0803-GM	8	9																			●						
	XPHT20R10T3-GM	10	9																			●						
	XPHT25R1204-GM	12,5	9																○			●						
	XPHT30R1506-GM	15	11																			●						
	XPHT32R1606-GM	16	9																			●						
	XPHT40R2007-GM	20	9																			●						
	XPHT50R2507-GM	25	9																			●						

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

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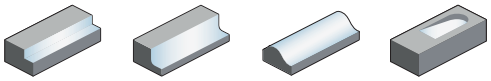
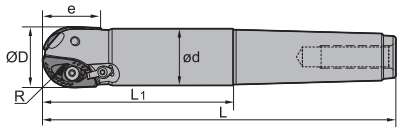
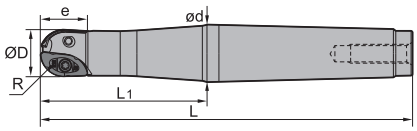
Fresa profilata

BMR03





A



B

Stelo a conicità Morse

Articolo	✻	Stock	Dimensioni [mm] R	ØD	e	ød	L_1	L	Denti	Attacco	kg	Inserto
BMR03-020-MT3-M		○	10	20	20	18,7	70	156	2	B	0,4	XPHT20
BMR03-020-MT3-L		○	10	20	20	18,7	100	186	2	B	0,4	
BMR03-025-MT3-M		○	12,5	25	25	23,5	70	156	2	B	0,4	XPHT25
BMR03-025-MT3-L		○	12,5	25	25	23,5	100	186	2	B	0,4	
BMR03-030-MT4-M		○	15	30	30	28,2	70	189	2	A	0,8	XPHT30
BMR03-030-MT4-L		○	15	30	30	28,2	120	229	2	A	1	
BMR03-032-MT4-M		○	16	32	32	29,2	70	179	2	A	0,9	XPHT32
BMR03-032-MT4-L		●	16	32	32	29,2	100	209	2	A	0,9	
BMR03-040-MT5-L		○	20	40	40	36,9	90	226	2	A	1,8	XPHT40
BMR03-050-MT5-M		●	25	50	50	46,8	100	236	2	A	2,2	XPHT50
BMR03-050-MT5-L		○	25	50	50	46,8	150	286	2	A	2,9	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Parti di ricambio

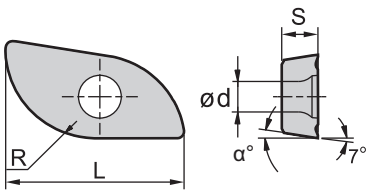
	Inserto	XPHT20	XPHT25	XPHT30	XPHT32	XPHT40	XPHT50
	ØD	**20**	**25**	**30**	**32**	**40**	**50**
	Staffa					CBH5R1	CBH5R1
	Staffa			WD-208	WD-208		
	Vite (staffa)			I60M5×13 (6,7 Nm)	I60M5×13 (6,7 Nm)	I43M6×16 (9,1 Nm)	I43M6×16 (9,1 Nm)
	Vite (inserti)		I60M4×10 (3,4 Nm)	I60M5×13 (6,7 Nm)	I60M5×13 (6,7 Nm)	I43M6×16 (9,1 Nm)	I43M8×21 (16,2 Nm)
	Vite (inserti)	I60M3,5×08TT (2,7 Nm)					
	Chiave (staffa)			WT20IT	WT20IT	WT25IT	WT25IT
	Chiave (inserti)	WT10IP					
	Chiave (inserti)			WT20IT	WT20IT	WT25IT	WT30IT
	Chiave (inserti)		WT15S				

XPHT	L	S	d
20	20	3,97	4
25	25	4,76	4,7
30	30	6,35	5,8
32	32	6,35	5,8
40	40	7,94	6,8
50	50	7,94	9,2

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

Inserti - Fresatura

XP** Inserti fresatura



	HC[1] (CVD)								HC[1] (PVD)											HT	HC[2]	HW	
P	◐	◐	❁	◐	◐	❁		◐	◐			◐	❁		◐	◐	◐	❁		●	●		
M		◐	❁	◐	◐	❁						◐	❁	◐	◐	◐	◐	❁	❁	●	●		
K							❁	❁	❁										●				
N										❁												❁	❁
S				❁		❁					●	❁		❁	❁		❁						
H									○							❁							

	ISO	R	α	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	XPHT20R10T3-GM	10	9																			●						
	XPHT25R1204-GM	12,5	9																○			●						
	XPHT30R1506-GM	15	11																			●						
	XPHT32R1606-GM	16	9																			●						
	XPHT40R2007-GM	20	9																			●						
	XPHT50R2507-GM	25	9																			●						

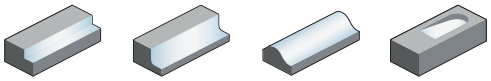
● In magazzino ○ Su richiesta

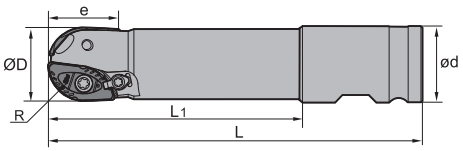
HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Fresa profilata

BMR03





Stelo complesso

Articolo	✻	Stock	Dimensioni [mm]						Denti	kg	Inserto
			R	ØD	e	ød	L_1	L			
BMR03-040-XPX-M		○	20	40	40	50,8	170	250	2	1,3	XPHT40
BMR03-040-XPX-L		○	20	40	40	50,8	220	300	2	3,1	
BMR03-040-XPX-XL		○	20	40	40	50,8	270	350	2	3,5	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

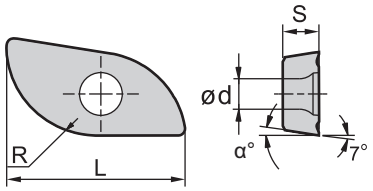
	Inserto	**XPHT40**
	ØD	**40**
	Staffa	CBH5R1
	Vite (staffa)	I43M6×16 (9,1 Nm)
	Vite (inserti)	I43M6×16 (9,1 Nm)
	Chiave (staffa)	WT25IT
	Chiave (inserti)	WT25IT

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

XPHT	L	S	d
40	40	7,94	6,8

Inserti - Fresatura



XP** Inserti fresatura	HC¹ (CVD)									HC¹ (PVD)												HT	HC²	HW	
	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
P	◉	◉	◉	◉	◉	◉		◉	◉				◉	◉		◉	◉	◉	◉		●	●	●		
M		◉	◉	◉	◉	◉							◉	◉	◉	◉	◉	◉	◉	◉	●	●	●		
K							◉	◉	◉												●				
N											◉													◉	◉
S				◉		◉						●	◉		◉	◉		◉		◉					
H										○							◉								

	ISO	R	α	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	XPHT40R2007-GM	20	9																			●						

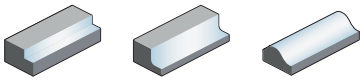
● In magazzino ○ Su richiesta

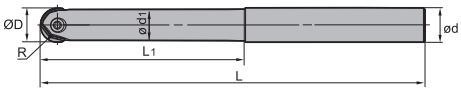
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Fresa profilata

BMR04





Stelo cilindrico

Articolo	✻	Stock	Dimensioni [mm] R	ØD	ød	Ød1	L_1	L	kg	Inserto
BMR04-012-G12-M		●	6	12	12	11	35	125	0,1	ZOHX12
BMR04-012-G12-L		●	6	12	12	11	45	150	0,1	
BMR04-016-G16-M		●	8	16	16	14	40	150	0,2	ZOHX16
BMR04-016-G16-L		●	8	16	16	14	55	180	0,3	
BMR04-020-G20-M		●	10	20	20	18	65	180	0,4	ZOHX20
BMR04-020-G20-L		●	10	20	20	18	100	250	0,6	
BMR04-025-G25-M		●	12,5	25	25	23	70	200	0,7	ZOHX25
BMR04-025-G25-L		●	12,5	25	25	23	100	250	0,9	
BMR04-030-G32-M		●	15	30	32	27	80	250	1,2	ZOHX30
BMR04-030-G32-L		●	15	30	32	27	110	300	1,5	
BMR04-032-G32-M		●	16	32	32	29	80	250	1,4	ZOHX32
BMR04-032-G32-L		●	16	32	32	29	110	300	1,7	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

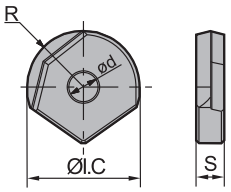
	Inserto	ZOHX12	ZOHX16	ZOHX20	ZOHX25	ZOHX30	ZOHX32
	ØD	12	16	20	25	30	32
	Vite (inserti)	I70M4×10TT (3,4 Nm)	I70M5×12TT (6,7 Nm)	I70M5×16TT (6,7 Nm)	I70M6×20TT (9,1 Nm)	I70M8×25TT (16,2 Nm)	I70M8×25TT (16,2 Nm)
	Chiave (inserti)	WT15IP	WT20IP	WT20IP	WT20IP		
	Chiave (inserti)					WT30IT	WT30IT

Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

ZOHX	I.C	S	d
12	12	3	4
16	16	4	5
20	20	5	5
25	25	6	6
30	30	7	8
32	32	7	8

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

Inserti - Fresatura



ZO** Inserti fresatura		HC¹ (CVD)								HC¹ (PVD)											HT	HC²	HW	
P		⊛	⊛	⊛	⊛	⊛	⊛		⊛	⊛				⊛	⊛		⊛	⊛	⊛	⊛		●	●		
M			⊛	⊛	⊛	⊛	⊛							⊛	⊛	⊛	⊛	⊛	⊛	⊛	⊛	●	●	●		
K								⊛	⊛	⊛												●				
N												⊛													⊛	⊛
S					⊛		⊛						⊛	⊛			⊛	⊛		⊛		⊛				
H											○								⊛							
ISO	R	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
ZOHX1203-GF	6																					●				
ZOHX1604-GF	8																					●				
ZOHX2005-GF	10																					●				
ZOHX2506-GF	12,5																					○				
ZOHX3007-GF	15																					●				
ZOHX3207-GF	16																					●				
ZOHX1203-GM	6																					●				
ZOHX1604-GM	8																					●				
ZOHX2005-GM	10																					●				
ZOHX2506-GM	12,5																					○				
ZOHX3007-GM	15																					●				
ZOHX3207-GM	16																					●				
ZOHX1203-HM	6										○															
ZOHX1604-HM	8										○															
ZOHX2005-HM	10										○															
ZOHX2506-HM	12,5										○															
ZOHX3007-HM	15										○															
ZOHX3207-HM	16										○															

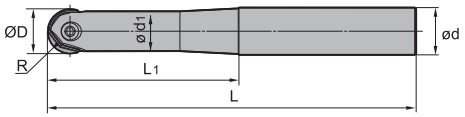
● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Fresa profilata

BMR04



Stelo cilindrico

Articolo	✻	Stock	Dimensioni [mm] R	ØD	ød	Ød1	L_1	L	kg	Inserto
BMR04-012-G16-M		●	6	12	16	11	50	125	0,2	ZOHX12
BMR04-012-G16-L		●	6	12	16	11	70	150	0,2	
BMR04-016-G20-M		●	8	16	20	14	60	150	0,3	ZOHX16
BMR04-016-G20-L		●	8	16	20	14	80	180	0,3	
BMR04-020-G25-M		●	10	20	25	18	75	180	0,6	ZOHX20
BMR04-020-G25-L		●	10	20	25	18	95	200	0,6	
BMR04-025-G32-M		●	12,5	25	32	23	90	200	1	ZOHX25
BMR04-025-G32-L		●	12,5	25	32	23	110	250	1,3	
BMR04-030-G40-M		●	15	30	40	27	110	250	2	ZOHX30
BMR04-032-G40-L		●	16	32	40	29	125	300	2,4	ZOHX32

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

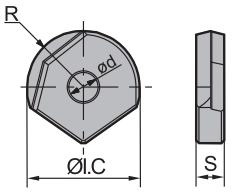
	Inserto	**ZOHX12**	**ZOHX16**	**ZOHX20**	**ZOHX25**	**ZOHX30**	**ZOHX32**
	ØD	**12**	**16**	**20**	**25**	**30**	**32**
	Vite (inserti)	I70M4×10TT (3,4 Nm)	I70M5×12TT (6,7 Nm)	I70M5×16TT (6,7 Nm)	I70M6×20TT (9,1 Nm)	I70M8×25TT (16,2 Nm)	I70M8×25TT (16,2 Nm)
	Chiave (inserti)	WT15IP	WT20IP	WT20IP	WT20IP		
	Chiave (inserti)					WT30IT	WT30IT

Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

ZOHX	I.C	S	d
12	12	3	4
16	16	4	5
20	20	5	5
25	25	6	6
30	30	7	8
32	32	7	8

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

Inserti - Fresatura



ZO** Inserti fresatura		HC¹ (CVD)								HC¹ (PVD)											HT	HC²	HW	
	P	◉	◉	◉	◉	◉	◉		◉	◉			◉	◉		◉	◉	◉	◉		●	●		
	M		◉	◉	◉	◉	◉						◉	◉	◉	◉	◉	◉	◉	◉	●	●		
	K							◉	◉	◉											●			
	N										◉													◉ ◉
	S				◉		◉					◉	◉		◉	◉		◉		◉					
	H									○							◉							
ISO	R	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	ZOHX1203-GF	6																				●				
	ZOHX1604-GF	8																				●				
	ZOHX2005-GF	10																				●				
	ZOHX2506-GF	12,5																				○				
	ZOHX3007-GF	15																				●				
	ZOHX3207-GF	16																				●				
	ZOHX1203-GM	6																				●				
	ZOHX1604-GM	8																				●				
	ZOHX2005-GM	10																				●				
	ZOHX2506-GM	12,5																				○				
	ZOHX3007-GM	15																				●				
	ZOHX3207-GM	16																				●				
	ZOHX1203-HM	6									○															
	ZOHX1604-HM	8									○															
	ZOHX2005-HM	10									○															
	ZOHX2506-HM	12,5									○															
	ZOHX3007-HM	15									○															
	ZOHX3207-HM	16									○															

● In magazzino ○ Su richiesta

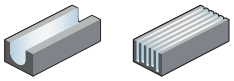
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

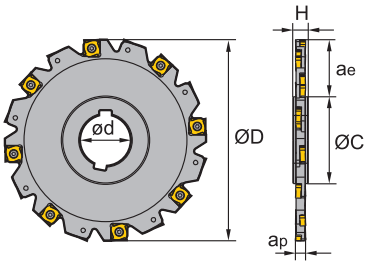
Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Note

Frese a disco

SMP01 Kr: 90°





K

Articolo	✻	Stock	Dimensioni [mm] ØD	ød	Øc	H	a_p	$a_{e\,max}$	Attacco	kg	Inserto
SMP01-100x4-K27-SN12-10		○	100	27	45	12	4	25	K	0,2	
SMP01-125x4-K40-SN12-12		○	125	40	56	12	4	32	K	0,3	XSEQ1202
SMP01-160x4-K40-SN12-16		●	160	40	67	12	4	44	K	0,5	
SMP01-100x5-K27-SN12-10		○	100	27	45	12	5	25	K	0,2	
SMP01-125x5-K40-SN12-12		○	125	40	56	12	5	32	K	0,3	XSEQ1203
SMP01-160x5-K40-SN12-16		○	160	40	67	12	5	44	K	0,6	
SMP01-100x7-K27-SN12-10		○	100	27	45	12	7	25	K	0,3	
SMP01-125x7-K40-SN12-12		○	125	40	56	12	7	32	K	0,4	
SMP01-160x7-K40-SN12-16		○	160	40	67	12	7	44	K	0,8	XSEQ1204
SMP01-200x7-K50-SN12-18		○	200	50	71	12	7	62	K	1,2	
SMP01-250x7-K50-SN12-24		○	250	50	71	12	7	87	K	1,9	
SMP01-100x6-K27-SN12-10		○	100	27	45	12	6	25	K	0,3	
SMP01-125x6-K40-SN12-12		○	125	40	56	12	6	32	K	0,4	
SMP01-160x6-K32-SN12-16		○	160	32		12	6	44	K		
SMP01-160x6-K40-SN12-16		○	160	40	67	12	6	44	K	0,7	XSEQ12T3
SMP01-200x6-K50-SN12-18		○	200	50	71	12	6	62	K	1,1	
SMP01-250x6-K50-SN12-24		○	250	50	71	12	6	87	K	1,7	
SMP01-315x6-K50-SN12-32		○	315	50	72	11,15	6	119,6	K	2,9	
SMP01-100x8-K27-SN12-10		○	100	27	45	12	8	25	K	0,3	
SMP01-125x8-K40-SN12-12		○	125	40	56	12	8	32	K	0,5	
SMP01-160x8-K40-SN12-16		○	160	40	67	12	8	44	K	0,9	XSEQ12T4
SMP01-200x8-K50-SN12-18		○	200	50	71	12	8	62	K	1,4	
SMP01-250x8-K50-SN12-24		○	250	50	71	12	8	87	K	2,2	

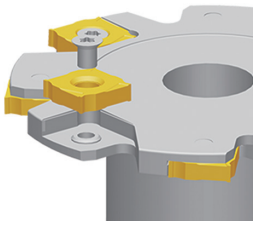
● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Parti di ricambio

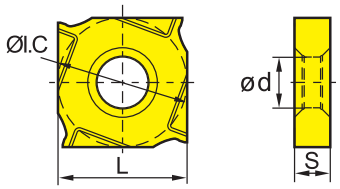
	Inserto	XSEQ1202	XSEQ1203	XSEQ1204	XSEQ12T3	XSEQ12T3	XSEQ12T4
	ØD	63-160	63-160	63-250	63-250	63-360	63-250
	Vite (inserti)	I91M4×3,2X (3,4 Nm)	I91M4×3,2X (3,4 Nm)	I91M4×6,1X (3,4 Nm)	I91M4×5,1X (3,4 Nm)	I91M4×5,1X (3,4 Nm)	I91M4×7,1X (3,4 Nm)
	Chiave (inserti)	WT08IP	WT08IP	WT08IP	WT08IP	WT08IP	WT08IP



XSEQ		L	I.C	S	d
12	02	12,7	12,7	2,3	5
12	03	12,7	12,7	3	5
12	T3	12,7	12,7	3,5	5
12	04	12,7	12,7	4	5
12	T4	12,7	12,7	4,5	5

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli



XS** Inserti fresatura	HC[1] (CVD)									HC[1] (PVD)												HT	HC[2]	HW	
ISO	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
P	◉	◉	◉	◉	◉	◉		◉	◉				◉	◉		◉	◉	◉	◉		●	●	●		
M		◉	◉	◉	◉	◉							◉	◉	◉	◉	◉	◉	◉	◉	●	●	●		
K							◉	◉	◉												●				
N											◉													◉	◉
S				◉		◉						●	◉		◉	◉		◉		◉					
H										○							◉								
XSEQ1202																			●						
XSEQ12T3		●																	●						○
XSEQ12T4								○	○										●						
XSEQ1203	○			●															●						
XSEQ1204																			●						

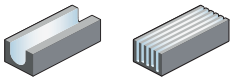
● In magazzino ○ Su richiesta

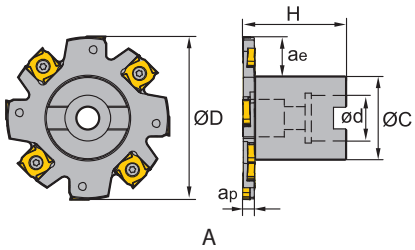
HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

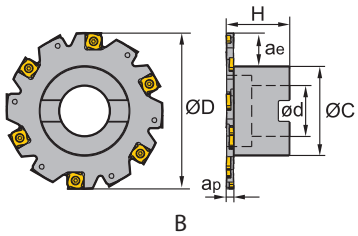
Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

Frese a disco

SMP01 Kr: 90°







Articolo	✻	Stock	Dimensioni [mm]						Denti	Attacco	kg	Inserto
			ØD	ød	Øc	H	a_p	$a_{e\,max}$				
SMP01-063x4-A22-SN12-06		○	63	22	32	40	4	14	6	A	0,2	XSEQ1202
SMP01-080x4-A22-SN12-08		○	80	22	40	40	4	18	8	A	0,4	
SMP01-100x4-A22-SN12-10		○	100	22		50	4	23	10	A		
SMP01-100x4-A27-SN12-10		○	100	27	48	50	4	23	10	A	0,6	
SMP01-063x5-A22-SN12-06		○	63	22	32	40	5	14	6	A	0,2	XSEQ1203
SMP01-080x5-A22-SN12-08		○	80	22	40	40	5	18	8	A	0,4	
SMP01-100x5-A27-SN12-10		○	100	27	48	50	5	23	10	A	0,7	
SMP01-063x7-A22-SN12-06		○	63	22	32	40	7	14	6	A	0,2	XSEQ1204
SMP01-080x7-A22-SN12-08		○	80	22	40	40	7	18	8	A	0,5	
SMP01-100x7-A27-SN12-10		○	100	27	48	50	7	23	10	A	0,7	
SMP01-125x7-B40-SN12-12		○	125	40	72	50	7	23	12	B	1,1	
SMP01-160x7-B40-SN12-16		○	160	40	70	60	7	41	16	B	1,4	
SMP01-063x6-A22-SN12-06		○	63	22	32	40	6	14	6	A	0,2	XSEQ12T3
SMP01-080x6-A22-SN12-08		○	80	22	40	40	6	18	8	A	0,5	
SMP01-100x6-A27-SN12-10		○	100	27	48	50	6	23	10	A	0,7	
SMP01-125x6-B40-SN12-12		○	125	40	72	50	6	23	12	B	1	
SMP01-160x6-B40-SN12-16		○	160	40	70	60	6	41	16	B	1,3	
SMP01-063x8-A22-SN12-06		○	63	22	32	40	8	14	6	A	0,2	XSEQ12T4
SMP01-080x8-A22-SN12-08		○	80	22	40	40	8	18	8	A	0,5	
SMP01-100x8-A27-SN12-10		○	100	27	48	50	8	23	10	A	0,8	
SMP01-125x8-B40-SN12-12		○	125	40	72	50	8	23	12	B	1,1	
SMP01-160x8-B40-SN12-16		○	160	40	70	60	8	41	16	B	1,5	

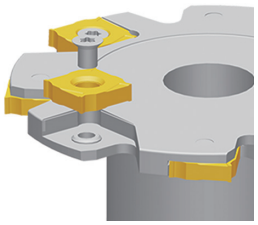
● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Parti di ricambio

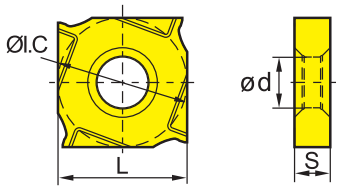
	Inserto	XSEQ1202	XSEQ1203	XSEQ1204	XSEQ12T3	XSEQ12T4
	ØD	63-160	63-160	63-250	63-250	63-250
	Vite (inserti)	I91M4×3,2X (3,4 Nm)	I91M4×3,2X (3,4 Nm)	I91M4×6,1X (3,4 Nm)	I91M4×5,1X (3,4 Nm)	I91M4×7,1X (3,4 Nm)
	Chiave (inserti)	WT08IP	WT08IP	WT08IP	WT08IP	WT08IP



XSEQ		L	I.C	S	d
12	02	12,7	12,7	2,3	5
12	03	12,7	12,7	3	5
12	T3	12,7	12,7	3,5	5
12	04	12,7	12,7	4	5
12	T4	12,7	12,7	4,5	5

Buone condizioni di lavorazione
Condizioni di lavorazione normali
Condizioni di lavorazione sfavorevoli

Inserti - Fresatura



XS** Inserti fresatura		HC[1] (CVD)									HC[1] (PVD)												HT		HC[2]		HW		
	ISO	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151		YNG151C		YD101	YD201	
P																													
M																													
K																													
N																													
S																													
H																													
	XSEQ1202																			●									
	XSEQ1203	○			●															●									
	XSEQ1204																			●									
	XSEQ12T3		●																	●								○	
	XSEQ12T4								○	○										●									

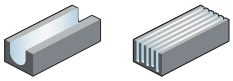
● In magazzino ○ Su richiesta

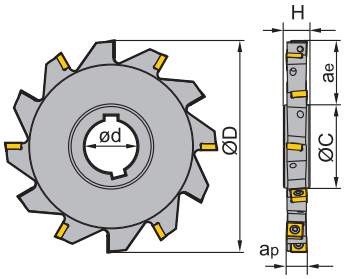
HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

Frese a disco

SMP03 Kr: 90°





K

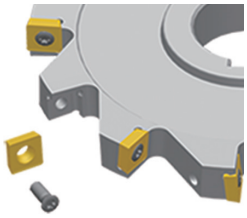
Articolo	✻	Stock	Dimensioni [mm] ØD	ød	Øc	H	a_p	$a_{e\,max}$	Denti	Attacco	kg	Inserto
SMP03-080x8-K27-MP06-10		○	80	27	44	12	8	17,6	10	K	0,2	MPHT0603
SMP03-100x8-K32-MP06-14		○	100	32	49	12	8	25,1	14	K	0,3	
SMP03-100x10-K32-MP06-14		○	100	32	49	14	10	25,1	14	K	0,4	
SMP03-125x10-K40-MP06-16		○	125	40	57	14	10	33,6	16	K	0,6	
SMP03-125x12-K40-MP08-12		○	125	40	58,3	16	12	32,6	12	K	0,7	MPHT0803
SMP03-160x12-K40-MP08-14		○	160	40	64,3	16	12	31,5	14	K	1,3	
SMP03-160x16-K40-MP12-12		○	160	40	64,6	20	16	47,6	12	K	1,6	MPHT1204
SMP03-160x18-K40-MP12-12		○	160	40	65,3	24	18	47,3	12	K	1,9	
SMP03-160x20-K40-MP12-12		○	160	40	65,3	26	20	47,3	12	K	2,1	
SMP03-200x16-K50-MP12-14		○	200	50	74,6	20	16	62,6	14	K	2,5	
SMP03-200x18-K50-MP12-14		○	200	50	75,3	24	18	62,3	14	K	2,9	
SMP03-200x20-K50-MP12-14		○	200	50	75,3	26	20	62,3	14	K	3,3	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**MPHT0603**	**MPHT0803**	**MPHT1204**
	ØD	**80-125**	**125 -160**	**160-200**
	Vite (inserti)	I60M2,5×6,5 (1,0 Nm)	I60M3×7 (1,8 Nm)	I60M5×13 (6,7 Nm)
	Chiave (inserti)	WT07IP	WT09IP	
	Chiave (inserti)			WT20IS



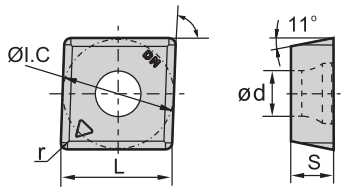
Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

A Tornitura
B Fresatura
C Foratura
D Informazioni tecniche
E Indice

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

MPHT	L	I.C	S	d
06 03	6,35	6,35	3,18	2,8
08 03	8,3	8,3	3,18	3,4
12 04	12,7	12,7	4,76	5,56



MP** Inserti - Fresatura		HC[1] (CVD)									HC[1] (PVD)											HT		HC[2]		HW	
	P	❁	❁	❁	❁	❁	❁		❁	❁				❁	❁		❁	❁	❁	❁	●	●		●			
	M		❁	❁	❁	❁	❁							❁	❁	❁	❁	❁	❁	❁	❁	●		●			
	K							❁	❁	❁											●						
	N											❁														❁	❁	
	S				❁		❁						●	❁		❁	❁		❁		❁							
	H										○							❁										
ISO	r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151		YNG151C		YD101	YD201
MPHT060304-DM	0,4	●				○														●							
MPHT080305-DM	0,5	●				○														●							
MPHT120408-DM	0,8	●				○		●											○	●							
MPHT060304-LH	0,4																	○									

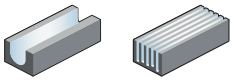
● In magazzino ○ Su richiesta

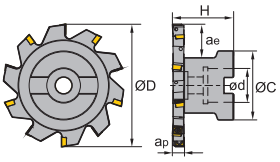
HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

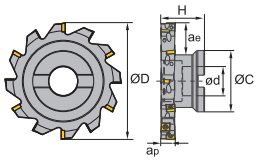
Frese a disco

SMP03 Kr: 90°

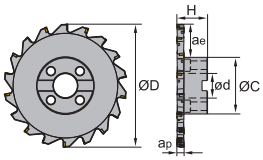




A



B



C

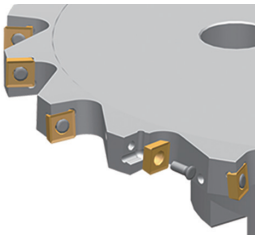
Articolo	✻	Stock	Dimensioni [mm] ØD	ød	Øc	H	a_p	$a_{e\,max}$	Denti	Attacco	kg	Inserto
SMP03-080x8-A22-MP06-10		○	80	22	45	40	8	21	10	A	0,4	MPHT0603
SMP03-100x8-B27-MP06-14		○	100	27	55	40	8	24,5	14	B	0,6	
SMP03-100x10-B27-MP06-14		●	100	27	55	40	10	24,5	14	B	0,7	
SMP03-125x10-B32-MP06-16		○	125	32	65	45	10	33,3	16	B	1,1	
SMP03-125x12-B32-MP08-12		○	125	32	65	45	12	33	12	B	1,4	MPHT0803
SMP03-160x12-B40-MP08-14		○	160	40	80	50	12	44	14	B	1,9	
SMP03-200x12-C40-MP08-18		○	200	40	92	50	12	52	18	C	3,2	
SMP03-125x16-B32-MP12-10		○	125	32	65	50	16	33	10	B	2,3	MPHT1204
SMP03-160x16-B40-MP12-12		○	160	40	80	60	16	45	12	B	2,3	
SMP03-160x18-B40-MP12-12		○	160	40	80	60	18	45	12	B	2,4	
SMP03-200x16-C40-MP12-14		○	200	40	92	50	16	52	14	C	3,6	
SMP03-200x18-C40-MP12-14		○	200	40	92	50	18	52	14	C	3,9	
SMP03-200x20-C40-MP12-14		○	200	40	92	50	20	52	14	C	4,2	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**MPHT0603**	**MPHT0803**	**MPHT1204**
	ØD	**80-125**	**125 -200**	**125 -200**
	Vite (inserti)	I60M2,5×6,5 (1,0 Nm)	I60M3×7 (1,8 Nm)	I60M5×13 (6,7 Nm)
	Chiave (inserti)	WT07IP	WT09IP	
	Chiave (inserti)			WT20IS

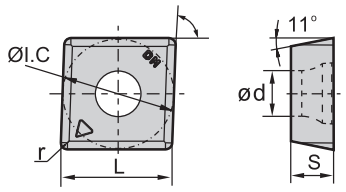


Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

MPHT	L	I.C	S	d
06 03	6,35	6,35	3,18	2,8
08 03	8,3	8,3	3,18	3,4
12 04	12,7	12,7	4,76	5,56



MP** Inserti - Fresatura		HC[1] (CVD)									HC[1] (PVD)											HT		HC[2]		HW	
		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151		YNG151C		YD101	YD201
P		◉	◉	◉	◉	◉	◉		◉	◉				◉	◉		◉	◉	◉	◉		●	●		●			
M			◉	◉	◉	◉	◉							◉	◉	◉	◉	◉	◉	◉	◉	●	●		●			
K								◉	◉	◉												●					
N											◉															◉	◉	
S					◉		◉						●	◉		◉	◉		◉		◉							
H											○							◉										
ISO	r																											
MPHT060304-DM	0,4	●				○														●								
MPHT080305-DM	0,5	●				○														●								
MPHT120408-DM	0,8	●				○		●											○	●								
MPHT060304-LH	0,4																	○										

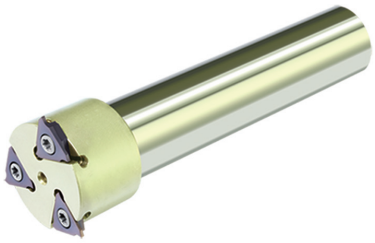
● In magazzino ○ Su richiesta

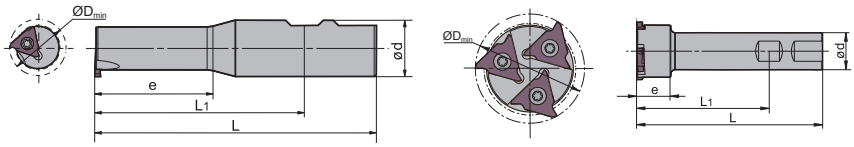
HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Frese a disco

SMP05 Kr: 90°





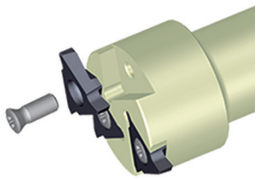
Articolo	✻	Stock	Dimensioni [mm] e	ØDmin	ød	L_1	L	Denti	Attacco	Inserto
SMP05-025x3.0-XP25-QC16-01		●	40	25	25	89	125	1	A	QC16L
SMP05-039x3.0-XP25-QC16-03		●	23	39	25	89	125	3	B	
SMP05-044x4.8-XP25-QC22-03		●	23	44	25	89	125	3	B	QC22L

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**QC16L**	**QC16L**	**QC22L**
	ØD	**25**	**39**	**44**
	Vite (inserti)	I60M3,5×10 (2,7 Nm)	I60M3,5×10 (2,7 Nm)	I60M5×13 (6,7 Nm)
	Chiave (inserti)	WT15IP	WT15IP	WT20IP



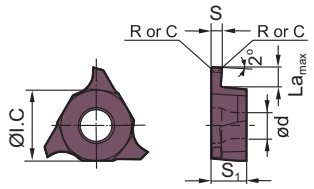
Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

QC16	I.C	d
16	9,525	4,4
22	12,7	5,5

QC ** Inserti - Tornitura/Fresatura



	HC¹ (CVD)									HC¹ (PVD)											HT	HC²	HW	
P	◐	◐	◐	◐	◐	◐		◐	◐				◐	◐		◐	◐	◐	◐	●	●	●		
M		◐	◐	◐	◐	◐							◐	◐	◐	◐	◐	◐	◐	◐	●	●		
K							◐	◐	◐											●				
N										◐													◐	◐
S				◐		◐					●	◐		◐	◐			◐						
H										○						◐								

	ISO	S±0.025	La_{max}	R/C	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	QC16L075-R01	0,75	2	0.1																○									
	QC16L095-R01	0,95	2	0.1																○									
	QC16L100-R01	1	2	0.1																○									
	QC16L110-R01	1,1	2	0.1													○			●									
	QC16L120-R01	1,2	2	0.1																○									
	QC16L125-R02	1,25	2	0.2																●									
	QC16L130-R02	1,3	2	0.2																○									
	QC16L145-R02	1,45	2	0.2																●									
	QC16L150-R02	1,5	2	0.2																○									
	QC16L160-R02	1,6	2	0.2																●									
	QC16L165-R02	1,65	2	0.2																○									
	QC16L170-R02	1,7	2	0.2																○									
	QC16L175-R02	1,75	2	0.2																○									
	QC16L185-R02	1,85	2,5	0.2																○									
	QC16L200-R02	2	2,5	0.2																●									
	QC16L210-R02	2,1	2,5	0.2																○									
	QC16L210-R05	2,1	2,5	0.5																○									
	QC16L220-R02	2,2	2,5	0.2																○									
	QC16L250-R02	2,5	2,5	0.2																●									
	QC16L300-R02	3	3	0.2																●									

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

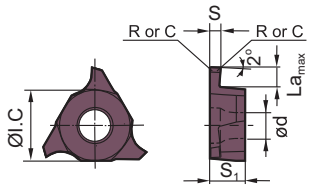
Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

QC16	I.C	d
16	9,525	4,4
22	12,7	5,5

QC ** Inserti - Tornitura/Fresatura



	HC¹ (CVD)									HC¹ (PVD)													HT	HC²	HW	
P	◉	◉	◉	◉	◉	◉		◉	◉				◉	◉		◉	◉	◉	◉		●		●			
M		◉	◉	◉	◉	◉							◉	◉	◉	◉	◉	◉	◉	◉	●		●			
K							◉	◉	◉												●					
N											◉														◉	◉
S				◉		◉						●	◉		◉	◉		◉		◉						
H										○							◉									

ISO	S±0.025	La_{max}	R/C	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
QC22L100-R02	1	2	0.2																○									
QC22L125-R02	1,25	2	0.2																○									
QC22L145-R02	1,45	2	0.2																○									
QC22L150-R02	1,5	3,5	0.2																○									
QC22L175-R02	1,75	3,5	0.2																○									
QC22L185-R02	1,85	3,5	0.2																○									
QC22L200-R02	2	3,5	0.2																○									
QC22L230-R02	2,3	3,5	0.2																○									
QC22L250-R03	2,5	4	0.3																○									
QC22L265-R03	2,65	4	0.3																●									
QC22L280-R03	2,8	4	0.3																○									
QC22L300-R03	3	4	0.3																○									
QC22L320-R03	3,2	4	0.3																○									
QC22L330-R03	3,3	4	0.3																○									
QC22L350-R03	3,5	5	0.3																○									
QC22L400-R04	4	5	0.4																●									
QC22L430-R04	4,3	5	0.4													○			○									
QC22L450-R04	4,5	5	0.4																○								○	
QC22L480-R04	4,8	5	0.4																○									

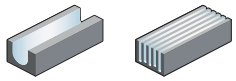
● In magazzino ○ Su richiesta

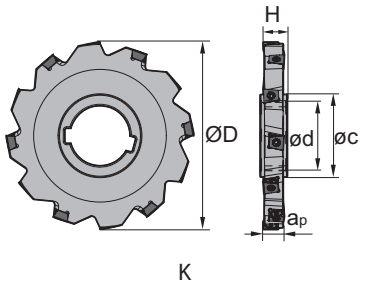
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Frese a disco

SMP09 Kr: 90°





Articolo	✻	Stock	Dimensioni [mm] ØD	ød	H	a_p	$a_{p\,max}$	Denti	Attacco	kg	Inserto
SMP09-080x10-K27-LN08-08		○	80	27	14	10	17	8	K	0,2	
SMP09-100x10-K32-LN08-10		○	100	32	14	10	25	10	K	0,37	
SMP09-100x12-K32-LN08-10		○	100	32	16	12	25	10	K	0,4	
SMP09-125x10-K40-LN08-12		○	125	40	14	10	34	12	K	0,5	
SMP09-125x12-K40-LN08-12		○	125	40	16	12	34	12	K	0,6	LNGX0804*
SMP09-160x10-K40-LN08-14		○	160	40	14	10	47	14	K	1	
SMP09-160x12-K40-LN08-14		○	160	40	16	12	47	14	K	1,1	
SMP09-200x10-K50-LN08-16		○	200	50	14	10	62	16	K	1,6	
SMP09-200x12-K50-LN08-16		○	200	50	16	12	62	16	K	1,8	
SMP09-100x14-K32-LN10-10		○	100	32	18	14	25	10	K	0,4	
SMP09-125x14-K40-LN10-12		○	125	40	18	14	34	12	K	0,9	
SMP09-125x16-K40-LN10-12		○	125	40	20	16	34	12	K	1	
SMP09-125x18-K40-LN10-12		○	125	40	24	18	34	12	K	1,2	
SMP09-160x14-K40-LN10-14		○	160	40	18	14	47	14	K	1,6	
SMP09-160x16-K40-LN10-14		○	160	40	20	16	47	14	K	1,8	LNGX1005**
SMP09-160x18-K40-LN10-14		○	160	40	24	18	47	14	K	2,1	
SMP09-200x14-K50-LN10-16		○	200	50	18	14	62	16	K	2,5	
SMP09-200x16-K50-LN10-16		○	200	50	20	16	62	16	K	2,9	
SMP09-200x18-K50-LN10-16		○	200	50	24	18	62	16	K	3,4	
SMP09-250x18-K50-LN10-18		○	250	50	24	18	83	18	K	5,5	
SMP09-125x20-K40-LN14-10		○	125	40	26	20	34	10	K	1,2	
SMP09-160x20-K40-LN14-12		○	160	40	26	20	47	12	K	2,1	
SMP09-160x25-K40-LN14-12		○	160	40	30	25	47	12	K	2,8	
SMP09-200x20-K50-LN14-14		○	200	50	26	20	62	14	K	3,5	LNGX1407**
SMP09-200x25-K50-LN14-14		○	200	50	30	25	62	14	K	4,5	
SMP09-250x20-K50-LN14-16		○	250	50	26	20	83	16	K	5,8	
SMP09-250x25-K50-LN14-16		○	250	50	30	25	83	16	K	7,5	

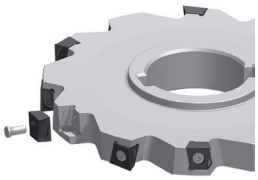
● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Parti di ricambio

	Inserto	LNGX0804*	LNGX1005**	LNGX1407**
	ØD	**80-250**	**100-250**	**125-315**
	Vite	I60M3×7 (1,8 Nm)		I60M4×12 (3,4 Nm)
	Vite		I60M3,5×08TT (2,7 Nm)	
	Chiave (vite)	WT09IP	WT10IS	
	Chiave (vite)			WT15IS

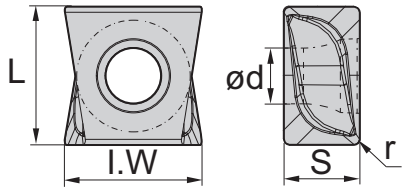


Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

LNGX	L	I.C	S	d
08 04	7,75	8,5	4	3,5
10 05	10	9,9	5,5	4,1
14 07	14	13,4	7,5	4,4



LN** Inserti - Fresatura		HC[1] (CVD)									HC[1] (PVD)											HT		HC[2]		HW		
	P	❁	❁	❁	❁	❁	❁		❁	❁				❁	❁		❁	❁	❁	❁		●	●		●			
	M		❁	❁	❁	❁	❁							❁	❁	❁	❁	❁	❁	❁	❁	●	●		●			
	K							❁	❁	❁												●						
	N										❁															❁	❁	
	S				❁		❁						●	❁		❁	❁		❁		❁							
	H										○							❁										
ISO		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151		YNG151C		YD101	YD201	
	LNGX080404-GM	0,4			○														○		○								
	LNGX080408-GM	0,8			○														○		○								
	LNGX080410-GM	1																	○										
	LNGX080412-GM	1,2			○														○		○								
	LNGX080416-GM	1,6			○														○		○								
	LNGX080420-GM	2			○														○		○								
	LNGX080424-GM	2,4			○														○		○								
	LNGX100502-GM	0,2																			○								
	LNGX100504-GM	0,4			○														○		○								
	LNGX100508-GM	0,8																	●										
	LNGX100510-GM	1			○														○		○								
	LNGX100512-GM	1,2																	○										
	LNGX100516-GM	1,6																	●										
	LNGX100520-GM	2			○														○		○								
	LNGX100524-GM	2,4																	○										
	LNGX100530-GM	3			○														○		○								
	LNGX100540-GM	4			○														○		○								
	LNGX140704-GM	0,4			●														●		●								
	LNGX140708-GM	0,8			●														●										
	LNGX140710-GM	1			○																○								
	LNGX140712-GM	1,2																	○										
	LNGX140716-GM	1,6																	○										
	LNGX140720-GM	2			○														○		○								
	LNGX140724-GM	2,4																	○										
	LNGX140730-GM	3			○														○		○								
	LNGX140732-GM	3,2																	○										
	LNGX140740-GM	4			○														○		○								

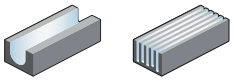
● In magazzino ○ Su richiesta

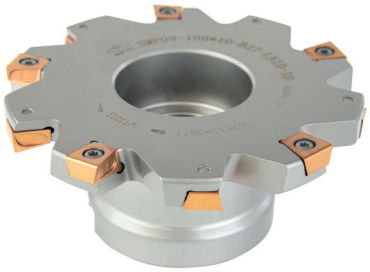
HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

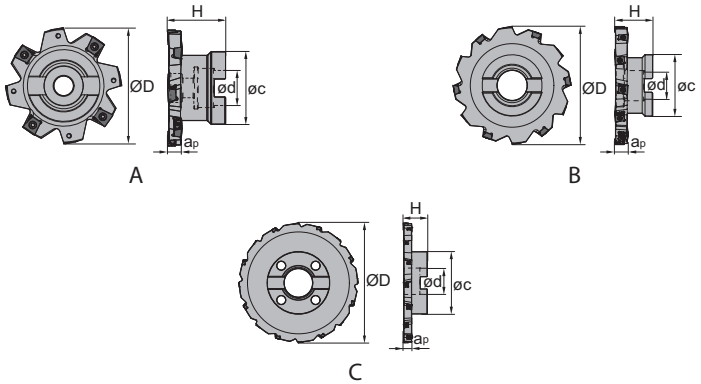
Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

Frese a disco

SMP09 Kr: 90°







Articolo	✻	Stock	Dimensioni [mm] ØD	ød	H	a_p	$a_{p\,max}$	Denti	Attacco	kg	Inserto
SMP09-080x10-A22-LN08-08		○	80	22	40	10	20	8	A	0,4	LNGX0804*
SMP09-100x10-B27-LN08-10		○	100	27	45	10	24	10	B	0,6	
SMP09-100x12-B27-LN08-10		○	100	27	45	12	24	10	B	0,6	
SMP09-125x10-B32-LN08-12		○	125	32	45	10	33	12	B	1	
SMP09-125x12-B32-LN08-12		○	125	32	45	12	33	12	B	1	
SMP09-160x10-B40-LN08-14		○	160	40	50	10	42	14	B	2	
SMP09-160x12-B40-LN08-14		○	160	40	50	12	42	14	B	2,1	
SMP09-200x10-C40-LN08-16		○	200	22	50	10	53	16	C	2,9	
SMP09-200x12-C40-LN08-16		○	200	40	50	12	53	16	C	2,9	
SMP09-100x14-B27-LN10-10		○	100	27	50	14	24	10	B	0,7	LNGX1005**
SMP09-125x14-B32-LN10-12		○	125	32	50	14	33	12	B	1,2	
SMP09-125x16-B32-LN10-12		○	125	32	50	16	33	12	B	1,4	
SMP09-125x18-B32-LN10-12		○	125	32	50	18	33	12	B	1,5	
SMP09-160x14-B40-LN10-14		○	160	40	50	14	42	14	B	2,4	
SMP09-160x16-B40-LN10-14		○	160	40	50	16	42	14	B	2,6	
SMP09-160x18-B40-LN10-14		○	160	40	50	18	42	14	B	2,9	
SMP09-200x14-C40-LN10-16		○	200	40	50	14	53	16	C	3,6	
SMP09-200x16-C40-LN10-16		○	200	40	50	16	53	16	C	4	
SMP09-200x18-C40-LN10-16		○	200	40	50	18	53	16	C	4,3	
SMP09-250x18-C60-LN10-18		○	250	60	50	18	58	18	C	7,2	
SMP09-125x20-B32-LN14-10		○	125	32	50	20	33	10	B	1,6	LNGX1407**
SMP09-160x20-B40-LN14-12		○	160	40	50	20	42	12	B	2,7	
SMP09-160x25-B40-LN14-12		○	160	40	50	25	42	12	B	3,2	
SMP09-200x20-C40-LN14-14		○	200	40	50	20	53	14	C	4,6	
SMP09-200x25-C40-LN14-14		○	200	40	50	25	53	14	C	5,2	
SMP09-250x20-C60-LN14-16		○	250	60	50	20	58	16	C	7,4	
SMP09-250x25-C60-LN14-16		○	250	60	50	25	58	16	C	8,6	
SMP09-315x25-C60-LN14-20		○	315	60	50	25	90	20	C	13,2	

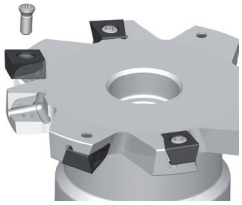
● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Parti di ricambio

	Inserto	LNGX0804*	LNGX1005**	LNGX1407**
	ØD	80-250	100-250	125-315
	Vite	I60M3×7 (1,8 Nm)		I60M4×12 (3,4 Nm)
	Vite		I60M3,5×08TT (2,7 Nm)	
	Chiave (vite)	WT09IP	WT10IS	
	Chiave (vite)			WT15IS

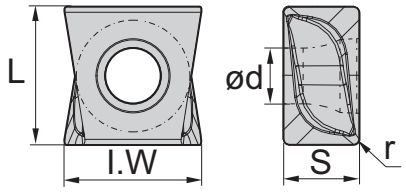


Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

LNGX	L	I.C	S	d
08 04	7,75	8,5	4	3,5
10 05	10	9,9	5,5	4,1
14 07	14	13,4	7,5	4,4



LN** Inserti - Fresatura		HC¹ (CVD)									HC¹ (PVD)												HT	HC²	HW	
	P	●	●	●	●	●	●		●	●				●	●		●	●	●	●		●	●	●		
	M		●	●	●	●	●							●	●	●	●	●	●	●	●	●	●	●		
	K							●	●	●												●				
	N											●													●	●
	S				●		●						●	●		●	●		●		●					
	H										○							●								
ISO	r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
LNGX080404-GM	0,4				○														○		○					
LNGX080408-GM	0,8				○														○		○					
LNGX080410-GM	1																		○							
LNGX080412-GM	1,2				○														○		○					
LNGX080416-GM	1,6				○														○		○					
LNGX080420-GM	2				○														○		○					
LNGX080424-GM	2,4				○														○		○					
LNGX100502-GM	0,2																				○					
LNGX100504-GM	0,4				○														○		○					
LNGX100508-GM	0,8																		●							
LNGX100510-GM	1				○														○		○					
LNGX100512-GM	1,2																		○							
LNGX100516-GM	1,6																		●							
LNGX100520-GM	2				○														○		○					
LNGX100524-GM	2,4																		○							
LNGX100530-GM	3				○														○		○					
LNGX100540-GM	4				○														○		○					
LNGX140704-GM	0,4				●														●		●					
LNGX140708-GM	0,8				●														●							
LNGX140710-GM	1				○																○					
LNGX140712-GM	1,2																		○							
LNGX140716-GM	1,6																		○							
LNGX140720-GM	2				○														○		○					
LNGX140724-GM	2,4																		○							
LNGX140730-GM	3				○														○		○					
LNGX140732-GM	3,2																		○							
LNGX140740-GM	4				○														○		○					

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

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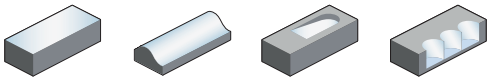
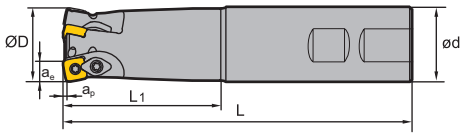
Note

Frese ad alto avanzamento

XMR01 Kr: 15°





Inserto tipo S, stelo Weldon

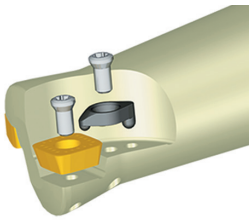
Articolo	✻	Stock	Dimensioni [mm] ØD	ød	a_p	ae	L_1	L	Denti	kg	Inserto
XMR01-020-XP20-SD06-02C	✻	●	20	20	0,8	5,8	50	130	2	0,26	SDMT06T2
XMR01-020-XP20-SD06-03C	✻	○	20	20	0,8	5,8	50	130	3	0,26	
XMR01-020-XP20-SD06-04C	✻	○	20	20	0,8	5,8	50	130	4	0,24	
XMR01-025-XP25-SD06-03C	✻	○	25	25	0,8	5,8	60	140	3	0,46	
XMR01-025-XP25-SD06-04C	✻	●	25	25	0,8	5,8	60	140	4	0,45	
XMR01-025-XP25-SD06-05C	✻	○	25	25	0,8	5,8	60	140	5	0,44	
XMR01-032-XP32-SD06-05C	✻	●	32	32	0,8	5,8	70	150	5	0,79	
XMR01-032-XP32-SD06-06C	✻	○	32	32	0,8	5,8	70	150	6	0,8	
XMR01-025-XP25-SD09-02C	✻	○	25	25	1,4	8,8	60	140	2	0,46	SDMT09T3
XMR01-032-XP32-SD09-03C	✻	○	32	32	1,4	8,8	70	150	3	0,8	
XMR01-035-XP32-SD09-03		○	35	32	1,4	8,8	70	150	3	0,8	
XMR01-040-XP40-SD12-03C	✻	○	40	40	1,8	11,7	70	150	3	1,2	SDMT1204
XMR01-040-XP40-SD15-02		○	40	40	2,2	14	70	200	2	1,6	SDMT1505

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	SDMT06T2	SDMT09T3	SDMT1204	SDMT1505
	ØD	20-63	25-63	32-100	40-160
	Staffa		WD-204	WD-204	WD-208
	Vite (staffa)		I60M4×8,4 (3,4 Nm)		I60M5×13 (6,7 Nm)
	Vite (inserti)	I60M2,2×5,5 (0,8 Nm)		I60M4×8,4 (3,4 Nm)	I60M5×13 (6,7 Nm)
	Vite (inserti)		I60M3,5×08TT (2,7 Nm)		
	Chiave (staffa)		WT15IP		WT20IP
	Chiave (inserti)	WT07IP	WT10IP	WT15IP	WT20IP



Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti per fresatura

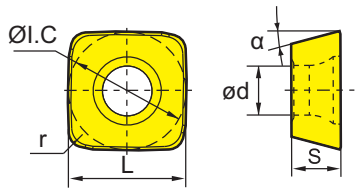
Frese ad alto avanzamento

SDMT	L	I.C	S	d
06 T2	6,35	6,35	2,58	2,5
09 T3	9,525	9,525	3,97	4
12 04	12,7	12,7	4,76	4,4
15 05	15,875	15,875	5,56	5,5

Buone condizioni di lavorazione
Condizioni di lavorazione normali
Condizioni di lavorazione sfavorevoli

Inserti - Fresatura

SD** Inserti - Fresatura



	HC¹ (CVD)									HC¹ (PVD)											HT	HC²	HW	
P	◐	◐	◉	◐	◐	◉		◐	◐				◐	◉		◐	◐	◐	◉		●	●		
M		◐	◉	◐	◐	◉							◐	◉	◐	◐	◐	◐	◉	◉	○	○		
K							◐	◉	◉												●			
N											◐												◐	◉
S				◉		◉						●	◐		◐	◐		◐		◉				
H										○							◐							

	ISO	r	α	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	SDMT06T208-DM	0,8	15						○									○		●	●		○					
	SDMT09T312-DM	1,2	15	●					●		○					○				●	●	●						
	SDMT120412-DM	1,2	15	●					●		●						○											
	SDMT150520-DM	2	15													○												
	SDMT06T208-NM	0,8	15														○			●			●					
	SDMT09T312-NM	1,2	15				●										○	●		●	●		●					
	SDMT120412-NM	1,2	15				●										○	●			●		●					
	SDMT06T208-PM	0,8	15	●			●				●							○	●	●			○					
	SDMT09T312-PM	1,2	15				●				○					○			●	●								
	SDMT120412-PM	1,2	15				●												●									
	SDMT150520-PM	2	15				○												○									

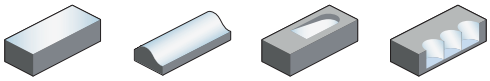
● In magazzino ○ Su richiesta

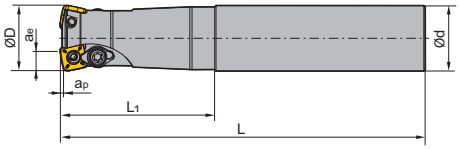
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Frese ad alto avanzamento

XMR01 Kr: 15°





Stelo cilindrico

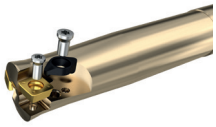
Articolo	✻	Stock R	Stock L	Dimensioni [mm] ØD	ød	a_p	ae	L_1	L	Denti	kg	Inserto
XMR01-025-G25-SD09-02C	✻	●		25	25	1,4	8,8	60	140	2	0,472	SDMT09T3
XMR01-032-G32-SD09-03C	✻	●	○	32	32	1,4	8,8	12070	150	3	0,818	
XMR01-035-G32-SD09-03C	✻	○		35	32	1,4	8,8	70	150	3	0,847	
XMR01-032-G32-SD12-02C	✻	●		32	32	1,8	11,7	70	150	2	0,87	SDMT1204
XMR01-040-G40-SD12-03C	✻	●		40	40	1,8	11,7	70	150	3	1,261	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**SDMT09T3**	**SDMT1204**
	ØD	**25-63**	**32-100**
	Staffa	WD-204	WD-204
	Vite (staffa)	I60M4×8,4 (3,4 Nm)	I60M4×8,4 (3,4 Nm)
	Vite (inserti)		I60M4×8,4 (3,4 Nm)
	Vite (inserti)	I60M3,5×08TT (2,7 Nm)	
	Chiave (staffa)	WT15IP	WT15IP
	Chiave (inserti)	WT10IP	WT15IP



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Inserti per fresatura

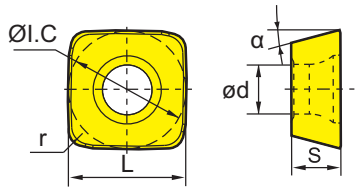
Frese ad alto avanzamento

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SDMT	L	I.C	S	d
09 T3	9,525	9,525	3,97	4
12 04	12,7	12,7	4,76	4,4

SD** Inserti - Fresatura



	HC¹ (CVD)									HC¹ (PVD)											HT		HC²		HW		
	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151		YNG151C		YD101	YD201	
P	◉	◉	◉	◉	◉	◉		◉	◉				◉	◉		◉	◉	◉	◉		●	●		●				
M		◉	◉	◉	◉	◉							◉	◉	◉	◉	◉	◉	◉	◉	●	●		●				
K							◉	◉	◉												●							
N											◉															◉	◉	
S				◉		◉						●	◉		◉	◉		◉		◉								
H										○							◉											

	ISO	r	α	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	SDMT09T312-DM	1,2	15	●					●		○					○				●	●	●						
	SDMT120412-DM	1,2	15	●					●		●						○											
	SDMT09T312-NM	1,2	15				●										○	●		●	●		●					
	SDMT120412-NM	1,2	15				●										○	●			●		●					
	SDMT09T312-PM	1,2	15				●				○					○			●	●								
	SDMT120412-PM	1,2	15				●												●									

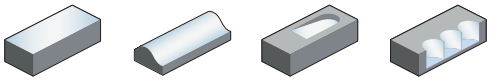
● In magazzino ○ Su richiesta

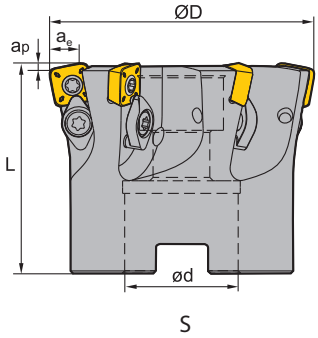
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Frese ad alto avanzamento

XMR01 Kr: 15°





Articolo	✻	Stock	Dimensioni [mm] ØD	ød	a_p	ae	L	Denti	Attacco	kg	Inserto
XMR01-040-A16-SD06-06C	✻	●	40	16	0,8	5,8	40	6	A	0,2	SDMT06T2
XMR01-040-A16-SD06-07C	✻	○	40	16	0,8	5,8	40	7	A	0,178	
XMR01-050-A22-SD06-07C	✻	○	50	22	0,8	5,8	40	7	A	0,36	
XMR01-050-A22-SD06-08C	✻	○	50	22	0,8	5,8	40	8	A	0,36	
XMR01-063-A22-SD06-10C	✻	○	63	22	0,8	5,8	40	10	A	0,53	
XMR01-063-A27-SD06-10C	✻	○	63	27	0,8	5,8	50	10	A	0,57	
XMR01-040-A16-SD09-04		○	40	16	1,4	8,8	40	4	A	0,182	SDMT09T3
XMR01-040-A16-SD09-04C	✻	○	40	16	1,4	8,8	40	4	A	0,182	
XMR01-040-A16-SD09-05		○	40	16	1,4	8,8	40	5	A	0,181	
XMR01-040-A16-SD09-05C	✻	○	40	16	1,4	8,8	40	5	A	0,18	
XMR01-050-A22-SD09-04C	✻	●	50	22	1,4	8,8	40	4	A	0,3	
XMR01-050-A22-SD09-05C	✻	○	50	22	1,4	8,8	40	5	A	0,3	
XMR01-050-A22-SD09-06C	✻	●	50	22	1,4	8,8	40	6	A	0,29	
XMR01-052-A22-SD09-06C	✻	○	52	22	1,4	8,8	40	6	A	0,27	
XMR01-063-A22-SD09-05C	✻	●	63	22	1,4	8,8	40	5	A	0,5	
XMR01-063-A22-SD09-06C	✻	●	63	22	1,4	8,8	40	6	A	0,5	
XMR01-063-A27-SD09-06C	✻	○	63	27	1,4	8,8	50	6	A	0,6	
XMR01-063-A22-SD09-07C	✻	●	63	22	1,4	8,8	40	7	A	0,44	
XMR01-063-A27-SD09-07C	✻	○	63	27	1,4	8,8	50	7	A	0,59	
XMR01-066-A22-SD09-07C	✻	○	66	22	1,4	8,8	50	7	A	0,48	
XMR01-050-A22-SD12-03C	✻	○	50	22	1,8	11,7	40	3	A	0,27	SDMT1204
XMR01-050-A22-SD12-04C	✻	●	50	22	1,8	11,7	40	4	A	0,26	
XMR01-052-A22-SD12-04C	✻	○	52	22	1,8	11,7	40	4	A	0,27	
XMR01-052-A22-SD12-05C	✻	○	52	22	1,8	11,7	40	5	A	0,27	
XMR01-060-A22-SD12-05C	✻	○	60	22	1,8	11,7	40	4	A		
XMR01-063-A22-SD12-05C	✻	●	63	22	1,8	11,7	50	5	A	0,5	
XMR01-063-A27-SD12-05C	✻	●	63	27	1,8	11,7	50	5	A	0,6	
XMR01-063-A22-SD12-06C	✻	●	63	22	1,8	11,7	50	6	A	0,55	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti per fresatura

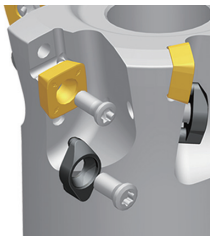
Articolo	✻	Stock	Dimensioni [mm] ØD	ød	a_p	ae	L	Denti	Attacco	kg	Inserto
XMR01-063-A27-SD12-06C	✻	●	63	27	1,4	11,7	50	6	A	0,51	SDMT1204
XMR01-066-A27-SD12-05C	✻	○	66	27	1,8	11,7	50	5	A	0,56	
XMR01-073-A27-SD12-05C	✻	○	73	27	1,8	11,7	50	5	A		
XMR01-078-A27-SD12-07C	✻	○	78	27	1,8	11,7	50	5	A		
XMR01-080-A27-SD12-05C	✻	●	80	27	1,8	11,7	50	5	A	0,9	
XMR01-080-A27-SD12-06C	✻	●	80	27	1,8	11,7	50	6	A	0,9	
XMR01-080-A27-SD12-07C	✻	●	80	27	1,8	11,7	50	7	A	0,93	
XMR01-080-A27-SD12-08C	✻	●	80	27	1,8	11,7	50	8	A	0,92	
XMR01-084-A32-SD12-07C	✻	○	84	32	1,8	11,7	50	7	A	0,94	
XMR01-085-A27-SD12-07C		○	85	27	1,8	11,7	50	7	A	0,93	
XMR01-085-A27-SD12-08C	✻	○	85	27	1,8	11,7	50	8	A	0,99	
XMR01-100-B32-SD12-06		●	100	32	1,8	11,7	50	6	B	1,8	
XMR01-100-B32-SD12-06C	✻	●	100	32	1,8	11,7	50	6	B	1,8	
XMR01-100-B32-SD12-07C	✻	●	100	32	1,8	11,7	50	7	B	1,56	
XMR01-100-B32-SD12-08C	✻	○	100	32	1,8	11,7	50	8	B	1,57	
XMR01-125-B40-SD12-08C	✻	●	125	40	1,8	11,7	63	8	B	3,17	
XMR01-125-B40-SD12-09		○	125	40	1,8	11,7	63	9	B	3,07	
XMR01-125-B40-SD12-09C	✻	●	125	40	1,8	11,7	63	9	B	3,1	
XMR01-160-B40-SD12-10C	✻	○	160	40	1,8	11,7	63	10	B	4,78	
XMR01-063-A22-SD15-04C	✻	○	63	22	2,2	14	40	4	A	0,49	SDMT1505
XMR01-080-A27-SD15-05C	✻	○	80	27	2,2	14	50	5	A	0,79	
XMR01-100-A32-SD15-07C	✻	○	100	32	2,2	14	50	7	A		
XMR01-100-B32-SD15-07		○	100	32	2,2	14	50	7	B	1,2	
XMR01-100-B32-SD15-07C	✻	○	100	32	2,2	14	50	7	B	1,18	
XMR01-125-B40-SD15-09		○	125	40	2,2	14	63	9	B	2,9	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	SDMT06T2	SDMT09T3	SDMT1204	SDMT1505
	ØD	20-63	25-100	32-160	40-160
	Staffa		WD-204	WD-204	WD-208
	Vite (staffa)		I60M4×8,4 (3,4 Nm)	I60M4×8,4 (3,4 Nm)	I60M5×13 (6,7 Nm)
	Vite (inserti)	I60M2,2×5,5 (0,8 Nm)		I60M4×8,4 (3,4 Nm)	I60M5×13 (6,7 Nm)
	Vite (inserti)		I60M3,5×08TT (2,7 Nm)		
	Chiave (staffa)		WT15IP	WT15IP	WT20IP
	Chiave (inserti)	WT07IP	WT10IP	WT15IP	WT20IP



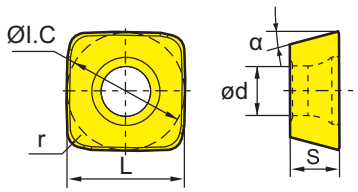
Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

SDMT	L	I.C	S	d
06 T2	6,35	6,35	2,58	2,5
09 T3	9,525	9,525	3,97	4
12 04	12,7	12,7	4,76	4,4
15 05	15,875	15,875	5,56	5,5

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SD** Inserti - Fresatura



	HC¹ (CVD)								HC¹ (PVD)											HT	HC²	HW	
P	◉	◉	❁	◉	◉	❁		◉	◉			◉	❁		◉	◉	◉	❁		●	●		
M		◉	❁	◉	◉	❁						◉	❁	◉	◉	◉	◉	❁	◉	○	○		
K							❁	❁	❁										●				
N										❁												❁	❁
S				❁		❁					●	◉		◉	◉		◉		❁				
H									○							◉							

	ISO	r	α	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	SDMT06T208-DM	0,8	15						○									○		●	●		○					
	SDMT09T312-DM	1,2	15	●					●		○					○				●	●	●						
	SDMT120412-DM	1,2	15	●					●		●						○			●	●							
	SDMT150520-DM	2	15													○												
	SDMT06T208-NM	0,8	15														○			●			●					
	SDMT09T312-NM	1,2	15				●										○	●		●	●		●					
	SDMT120412-NM	1,2	15				●										○	●		○	●		●					
	SDMT06T208-PM	0,8	15	●			●				●							○	●	●			○					
	SDMT09T312-PM	1,2	15				●				○					○			●	●								
	SDMT120412-PM	1,2	15				●												●	●								
	SDMT150520-PM	2	15				○												○									

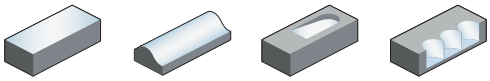
● In magazzino ○ Su richiesta

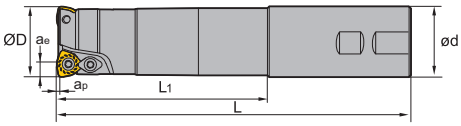
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Frese ad alto avanzamento

XMR01 Kr: 11°-22°





Inserto tipo W, stelo Weldon

Articolo	✻	Stock	Dimensioni [mm] ØD	ød	a_p	ae	L_1	L	Denti	kg	Inserto
XMR01-020-XP20-WP05-02C-M	✻	○	20	20	1,5	3,8	50	130	2	0,2	WPGT0503
XMR01-020-XP20-WP05-02C-L	✻	○	20	32	1,5	3,8	100	180	2	0,37	
XMR01-020-XP20-WP05-02C-XL	✻	○	20	32	1,5	3,8	130	250	2	0,53	
XMR01-025-XP25-WP06-02C-M	✻	○	25	25	1,5	4,35	60	140	2	0,4	WPGT0604
XMR01-025-XP25-WP06-02C-L	✻	○	25	25	1,5	4,35	120	200	2	0,64	
XMR01-025-XP25-WP06-02C-XL	✻	○	25	25	1,5	4,35	180	300	2	0,92	
XMR01-032-XP32-WP06-03C-M	✻	○	32	32	1,5	4,35	70	150	3	0,8	
XMR01-032-XP32-WP06-03C-L	✻	○	32	32	1,5	4,35	120	200	3	1,03	
XMR01-032-XP32-WP06-03C-XL	✻	○	32	32	1,5	4,35	180	300	3	1,55	
XMR01-040-XP32-WP06-03C-M	✻	○	40	32	1,5	4,35	50	150	3	0,9	

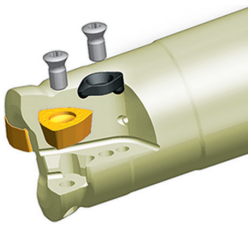
● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Angolo di inclinazione variabile (l'angolo di inclinazione dipende dalla dimensione dell'inserto)
angolo di attacco: WPGT05: 16°; WPGT06: 22°; WPGT08: 11°; WPGT09: 21°

Parti di ricambio

	Inserto	WPGT0503	WPGT0604
	ØD	20	25-40
	Vite (inserti)		I60M4×8,4 (3,4 Nm)
	Vite (inserti)	I60M3,5×6,5TT (2,7 Nm)	
	Chiave (inserti)	WT10IP	WT15IP

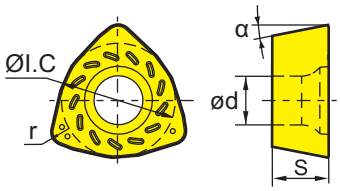


Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

WPGT	I.C	S	d
05 03	7,94	3,5	4
06 04	9,525	4,2	4,4



WP** Inserti positivi	HC¹ (CVD)								HC¹ (PVD)												HT	HC²	HW	
P																								
M																								
K																								
N																								
S																								
H																								
ISO	r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
WPGT050315ZSR-PM	1,5	○															●	●			●					
WPGT060415ZSR-PM	1,5	●														●	●	●			●					
WPGT050315ZSR	1,5	●					●								●											
WPGT060415ZSR	1,5	●					●								●		●									

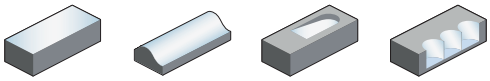
● In magazzino ○ Su richiesta

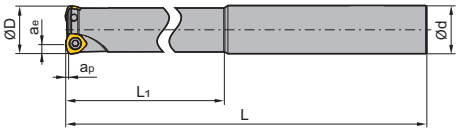
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Frese ad alto avanzamento

XMR01 Kr: 11°-22°





Stelo cilindrico

Articolo	✻	Stock	Dimensioni [mm] ØD	ød	a_p	ae	L_1	L	Denti	kg	Inserto
XMR01-020-G20-WP05-02C-M	✻	○	20	20	1,5	3,8	50	130	2	0,314	WPGT0503
XMR01-020-G20-WP05-02C-L	✻	●	20	20	1,5	3,8	100	180	2	0,408	
XMR01-020-G20-WP05-02C-XL	✻	○	20	20	1,5	3,8	130	250	2	0,576	
XMR01-025-G25-WP06-02C-M	✻	○	25	25	1,5	4,35	60	140	2	0,548	WPGT0604
XMR01-025-G25-WP06-02C-L	✻	○	25	25	1,5	4,35	120	200	2	0,749	
XMR01-025-G25-WP06-02C-XL	✻	○	25	25	1,5	4,35	180	300	2	1,037	
XMR01-032-G32-WP06-03C-M	✻	●	32	32	1,5	4,35	70	150	3	0,82	
XMR01-032-G32-WP06-03C-L	✻	●	32	32	1,5	4,35	120	200	3	1,152	
XMR01-032-G32-WP06-03C-XL	✻	○	32	32	1,5	4,35	180	300	3	1,549	
XMR01-040-G32-WP06-03C-M	✻	○	40	32	1,5	4,35	50	150	3	1,013	
XMR01-040-G32-WP06-03C-L	✻	○	40	32	1,5	4,35	50	250	3	1,492	
XMR01-040-G32-WP06-03C-XL	✻	○	40	32	1,5	4,35	50	300	3	1,834	

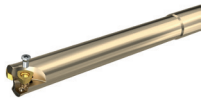
● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Angolo di inclinazione variabile (l'angolo di inclinazione dipende dalla dimensione dell'inserto)
angolo di attacco: WPGT05: 16°; WPGT06: 22°; WPGT08: 11°; WPGT09: 21°

Parti di ricambio

	Inserto	WPGT0503	WPGT0604
	ØD	20	25-40
	Vite (inserti)		I60M4×8,4 (3,4 Nm)
	Vite (inserti)	I60M3,5×6,5TT (2,7 Nm)	
	Chiave (inserti)	WT10IP	WT15IP

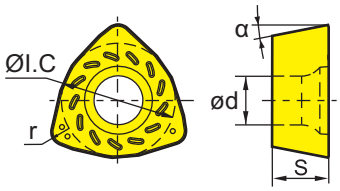


Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

WPGT	I.C	S	d
05 03	7,94	3,5	4
06 04	9,525	4,2	4,4



WP** Inserti positivi	HC¹ (CVD)									HC¹ (PVD)												HT	HC²	HW	
P																									
M																									
K																									
N																									
S																									
H																									
ISO	r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
WPGT050315ZSR-PM	1,5	○															●	●			●					
WPGT060415ZSR-PM	1,5	●														●	●	●			●					
WPGT050315ZSR	1,5	●					●								●											
WPGT060415ZSR	1,5	●					●								●		●									

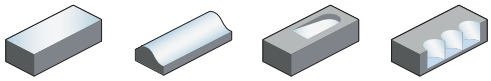
● In magazzino ○ Su richiesta

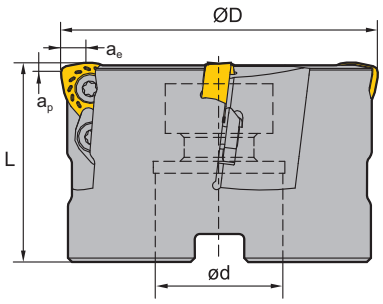
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Frese ad alto avanzamento

XMR01 Kr: 11°-22°





Inserto tipo W, fresa a manicotto

Articolo	✻	Stock	Dimensioni [mm] ØD	ød	a_p	ae	L	Denti	Attacco	kg	Inserto
XMR01-050-A22-WP06-04		●	50	22	1,5	4,35	50	4	A	0,4	WPGT0604
XMR01-050-A22-WP06-04C	✻	●	50	22	1,5	4,35	50	4	A	0,4	
XMR01-050-A22-WP08-03		○	50	22	1,5	5,66	50	3	A	0,4	WPGT0806
XMR01-063-A22-WP08-04C	✻	●	63	22	1,5	5,66	50	4	A	0,7	
XMR01-063-A27-WP08-04C	✻	○	63	27	1,5	5,66	50	4	A	0,7	
XMR01-080-A27-WP08-05C	✻	●	80	27	1,5	5,66	63	5	A	1,5	
XMR01-100-B32-WP08-06		●	100	32	1,5	5,66	63	6	B	2,2	
XMR01-125-B40-WP08-07		●	125	40	1,5	5,66	63	7	B	3,5	
XMR01-160-B40-WP08-08		○	160	40	1,5	5,66	63	8	B	6	
XMR01-063-A22-WP09-03C	✻	○	63	22	3	6,8	50	3	A	0,7	WPGT0907
XMR01-080-A27-WP09-06C	✻	○	80	27	3	6,8	63	6		1,205	
XMR01-080-A27-WP09-04C	✻	○	80	27	3	6,8	63	4	A	1,4	
XMR01-100-B32-WP09-05		○	100	32	3	6,8	63	5	B	2,1	
XMR01-125-B40-WP09-06		○	125	40	3	6,8	63	6	B	3,7	
XMR01-160-B40-WP09-07		○	160	40	3	6,8	63	7	B	6,3	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Angolo di inclinazione variabile (l'angolo di inclinazione dipende dalla dimensione dell'inserto)
angolo di attacco: WPGT05: 16°; WPGT06: 22°; WPGT08: 11°; WPGT09: 21°

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

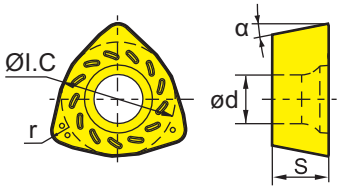
Parti di ricambio

	Inserto	WPGT0604	WPGT0806	WPGT0907
	ØD	**50**	**50-160**	**3-160**
	Staffa		WD-208	WD-208
	Vite (staffa)		I60M5×13 (6,7 Nm)	I60M5×13 (6,7 Nm)
	Vite (inserti)	I60M4×8,4 (3,4 Nm)	I60M5×13 (6,7 Nm)	I60M5×13 (6,7 Nm)
	Chiave (staffa)		WT20IT	WT20IT
	Chiave (inserti)	WT15IS		
	Chiave (inserti)		WT20IT	WT20IT

WPGT	I.C	S	d
06 04	9,525	4,2	4,4
08 06	12,85	6,35	5,5
09 07	15	7	5,5

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

Inserti - Fresatura



WP** Inserti positivi		HC¹ (CVD)								HC¹ (PVD)											HT	HC²	HW	
	P	◉	◉	◉	◉	◉	◉		◉	◉			◉	◉		◉	◉	◉	◉		●	●		
	M		◉	◉	◉	◉	◉						◉	◉	◉	◉	◉	◉	◉	◉	●	●		
	K							◉	◉	◉										●				
	N										◉												◉	◉
	S				◉		◉					●	◉		◉	◉		◉		◉				
	H									○							◉							
ISO		r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	WPGT060415ZSR-PM	1,5	●														●	●	●			●					
	WPGT080615ZSR-PM	1,5	●														●	●	●			●					
	WPGT090725ZSR-PM	2,5																●									
	WPGT060415ZSR	1,5	●					●								●		●									
	WPGT080615ZSR	1,5	●					●								●		●	●	○							
	WPGT090725ZSR	2,5						●								○		●									

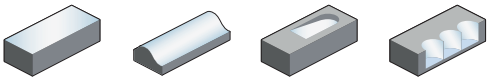
● In magazzino ○ Su richiesta

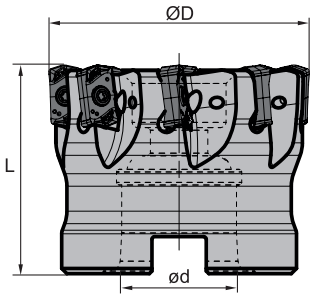
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Frese ad alto avanzamento

XMR12 Kr: 18°





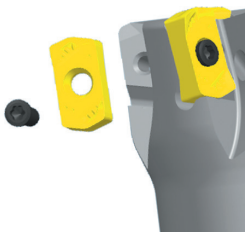
Articolo	✻	Stock	Dimensioni [mm] ØD	ød	L	Denti	Attacco	kg	Inserto
XMR12-040-A16-EN12-06C	✻	●	40	16	40	6	A	0,204	ENMX1206**
XMR12-050-A22-EN12-08C	✻	●	50	22	50	8	A	0,336	
XMR12-063-A22-EN12-10C	✻	●	63	22	50	10	A	0,48	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**ENMX1206****
	ØD	**32-80**
	Vite	I60M2,5×7,4 (1,0 Nm)
	Chiave	WT07IP

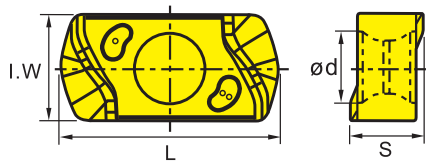


Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

ENMX	L	S	d
12 06	12	3	2,88

Inserti - Fresatura



EN** Inserti - Fresatura	HC¹ (CVD)									HC¹ (PVD)											HT	HC²	HW	
P	◉	◉	◉	◉	◉	◉		◉	◉				◉	◉		◉	◉	◉	◉		●	●		
M		◉	◉	◉	◉	◉							◉	◉	◉	◉	◉	◉	◉	◉	●	●		
K							◉	◉	◉											●				
N											◉												◉	◉
S				◉		◉						●	◉		◉	◉		◉		◉				
H										○							◉							

	ISO	r	l.W	a_p max	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	ENMX120608-GM	0,8	6	3																	●								
	ENMX1206R30-GM	3	6	2,8																	●								
	ENMX1206XR-GM	0,6	6	0,6																	●								

● In magazzino ○ Su richiesta

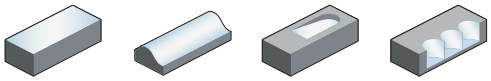
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

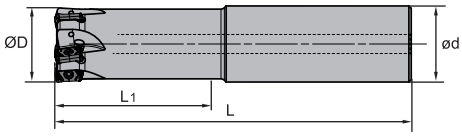
Per **ENMX120608** e **ENMX1206R30** il diametro nominale della fresa [ØD] -0,4 mm / [L1] +0,11 mm.

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Frese ad alto avanzamento

XMR12 Kr: 18°





Articolo	✻	Stock	Dimensioni [mm] ØD	ød	L_1	L	Denti	kg	Inserto
XMR12-017-G16-EN12-02C	✻	●	17	16	30	100	2	0,13	ENMX1206**
XMR12-018-G16-EN12-02C	✻	●	18	16	30	100	2	0,13	
XMR12-022-G20-EN12-03C	✻	●	22	20	50	130	3	0,25	
XMR12-028-G25-EN12-04C	✻	○	28	25	60	140	4	0,44	
XMR12-035-G32-EN12-05C	✻	●	35	32	35	150	5	0,86	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

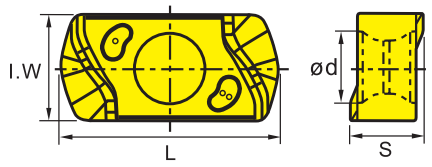
	Inserto	ENMX1206**
	ØD	12-45
	Vite	I60M2,5×7,4 (1,0 Nm)
	Chiave	WT07IP

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

ENMX	L	S	d
12 06	12	3	2,88



EN** Inserti - Fresatura	HC¹ (CVD)									HC¹ (PVD)											HT	HC²	HW	
P	◉	◉	❁	◉	◉	❁		◉	◉				◉	❁		◉	◉	◉	❁		●	●			
M		◉	❁	◉	◉	❁							◉	❁	◉	◉	◉	◉	❁	◉	●	●			
K							❁	❁	❁											●					
N											❁													❁	❁
S				❁		❁						●	❁		❁	❁		❁		❁					
H										○							❁								

	ISO	r	l.W	a_p max	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	ENMX120608-GM	0,8	6	3																	●								
	ENMX1206R30-GM	3	6	2,8																	●								
	ENMX1206XR-GM	0,6	6	0,6																	●								

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

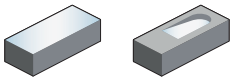
Per **ENMX120608** e **ENMX1206R30** il diametro nominale della fresa [ØD] -0,4 mm / [L1] +0,11 mm.

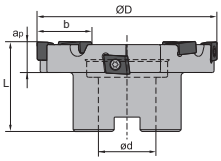
Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Note

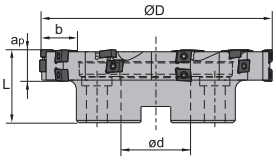
Frese a forare

XMP01 Kr: 90°

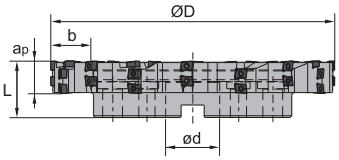




B



C



D

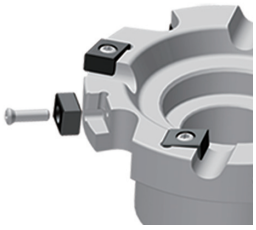
Articolo	✻	Stock	Dimensioni [mm] ØD	ød	b	a_p	L	Denti	Attacco	kg	Inserto
XMP01-080*18-B27-CNE1210-08		●	80	27	18	15	50	8	B	0,67	CNE12
XMP01-100*18-B32-CNE1210-08		●	100	32	18	20	50	8	B	0,99	
XMP01-125*27-B40-CNE1210-15		●	125	40	27	22,5	63	15	B	2,46	
XMP01-160*27-C40-CNE1210-18		●	160	40	27	25	63	18	C	3,7	
XMP01-200*27-C60-CNE1210-21		●	200	60	27	31,5	63	21	C	5,46	
XMP01-250*36-C60-CNE1210-32		●	250	40	36	56,5	63	32	C	9,79	
XMP01-315*36-D60-CNE1210-42		●	315	60	36	47,5	63	42	D	17,65	
XMP01-400*36-D60-CNE1210-52		●	400	60	36	36	63	52	D	27,36	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**CNE12**
	ØD	**80-400**
	Vite (inserti)	I60M4×12 (3,4 Nm)
	Chiave (inserti)	WT15IP

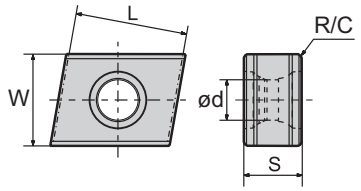


Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

CNE	L	S	d
12	12,8	6,35	4,4



CN** Inserti - Fresatura	HC[1] (CVD)									HC[1] (PVD)											HT		HC[2]		HW		
	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151		YNG151C		YD101	YD201	
P	✲	✲	❁	✲	✲	❁		✲	✲				✲	❁		✲	✲	✲	❁		●	●		●				
M		✲	❁	✲	✲	❁							✲	❁	✲	✲	✲	✲	❁	❁	●	●		●				
K							✲	❁	❁												●							
N											✲															✲	❁	
S				❁		❁						●	✲		✲	✲		✲		❁								
H										○							✲											

	ISO	R/C	W	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	CNE121006A	0,4	10				●																					
	CNE121006B	0,6	10				○			●																		

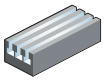
● In magazzino ○ Su richiesta

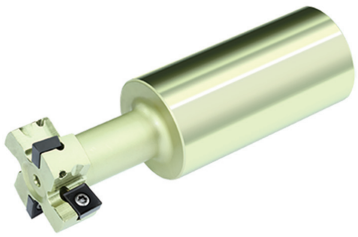
HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

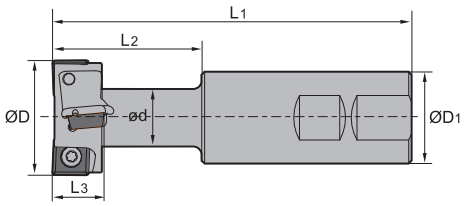
Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Frese per scanalature a T

TMP01 Kr: 90°







Stelo Weldon

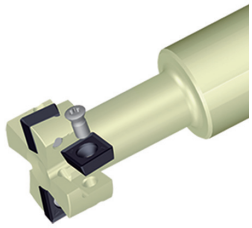
Articolo	✻	Stock	Dimensioni [mm] ØD	ØD1	ød	L1	L2	L3	Denti	Numero inserti	per scanalature a T	Inserto
TMP01-021-XP25-MP06-01		●	21	25	10	100	32	9	1	2	12	MPHT0603
TMP01-025-XP25-MP06-01		●	25	25	12	100	35	11	1	2	14	
TMP01-032-XP32-MP08-02		●	32	32	15	110	45	14	2	4	18	MPHT0803
TMP01-040-XP32-MP12-02C	✻	●	40	32	19	125	55	18	2	4	22	MPHT1204
TMP01-050-XP40-MP12-02C	✻	●	50	40	25	140	65	22	2	4	28	
TMP01-060-XP50-MP12-02		●	60	50	32	160	80	28	2	6	36	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**MPHT0603**	**MPHT0803**	**MPHT1204**
	ØD	**21-25**	**32**	**40-60**
	Vite (inserti)	I60M2,5×5,5 (1,0 Nm)	I60M3×7 (1,8 Nm)	I60M5×10 (6,7 Nm)
	Chiave (inserti)	WT07IP	WT09IP	
	Chiave (inserti)			WT20IT



Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

Inserti per fresatura

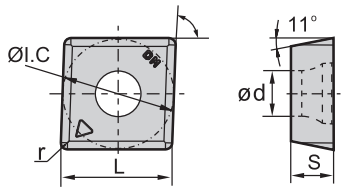
Frese per scanalature a T

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

MPHT	L	I.C	S	d
06 03	6,35	6,35	3,18	2,8
08 03	8,3	8,3	3,18	3,4
12 04	12,7	12,7	4,76	5,56

MP** Inserti - Fresatura



	HC[1] (CVD)									HC[1] (PVD)											HT	HC[2]	HW	
P	◐	◐	❁	◐	◐	❁		◐	◐				◐	❁		◐	◐	◐	❁		●	●			
M		◐	❁	◐	◐	❁							◐	❁	◐	◐	◐	◐	❁		●	●			
K							◐	❁	◐												●				
N											◐													◐	❁
S				❁		❁						●	◐		◐	◐		❁		❁					
H										○							◐								
ISO	r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
MPHT060304-DM	0,4	●				○														●						
MPHT080305-DM	0,5	●				○														●						
MPHT120408-DM	0,8	●				○		●											○	●						
MPHT060304-LH	0,4																	○								

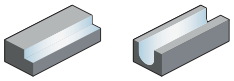
● In magazzino ○ Su richiesta

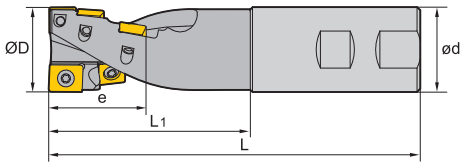
HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Frese elicoidali

HMP01 Kr: 90°





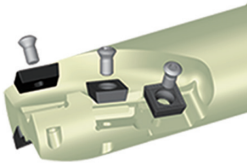
Stelo Weldon

Articolo	✻	Stock	Dimensioni [mm]					File di denti	Denti		Tipo attacco	Inserto
			ØD	e	ød	L_1	L		APKT	SPMT		
HMP01-040x55-XP40-SP12-02		○	40	55	40	85	175	2	1	5	Weldon	APKT1504 & SPMT1204
HMP01-050x55-XP40-SP12-04		○	50	55	40	95	175	4	2	10	Weldon	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**APKT1504 & SPMT1204**	**APKT1504 & SPMT1204**	
	ØD	**40**	**50**	
	Vite (inserti)	I60M5×10 (6,7 Nm)	I60M5×13 (6,7 Nm)	
	Chiave (inserti)	WT20T	WT20T	

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti per fresatura

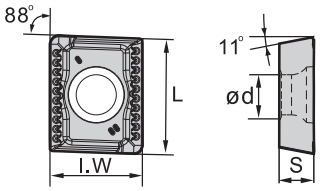
Frese elicoidali

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

APKT	L	S	d
15 04	16,33	4,76	5,4

AP** Inserti - Fresatura



	HC¹ (CVD)									HC¹ (PVD)										HT	HC²	HW	
P	◐	◐	◐	◐	◐	◐		◐	◐			◐	◐		◐	◐	◐	◐	●	●	●		
M		◐	◐	◐	◐	◐						◐	◐	◐	◐	◐	◐	◐	○	○	○		
K							◐	◐	◐										●				
N										◐												◐	◐
S				◐		◐					○	◐		◐	◐		◐		◐				
H										○						◐							

ISO	r	I.W	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
APKT150412-PM	1,2	12,7				●															●						

● In magazzino ○ Su richiesta

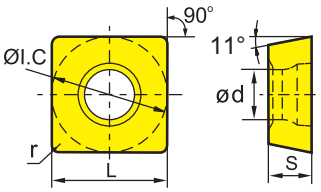
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SPMT	L	I.C	S	d
12 04	12,7	12,7	4,76	5,5

SP** Inserti fresatura



	HC¹ (CVD)									HC¹ (PVD)										HT	HC²	HW	
P	◐	◐	◐	◐	◐	◐		◐	◐			◐	◐		◐	◐	◐	◐	●	●	●		
M		◐	◐	◐	◐	◐						◐	◐	◐	◐	◐	◐	◐	○	○	○		
K							◐	◐	◐										●				
N										◐												◐	◐
S				◐		◐					○	◐		◐	◐		◐		◐				
H										○						◐							

ISO	r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
SPMT120408-PM	0,8				●															●						

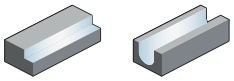
● In magazzino ○ Su richiesta

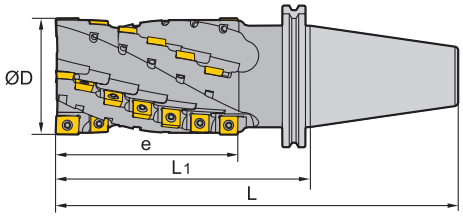
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Frese elicoidali

HMP01 Kr: 90°





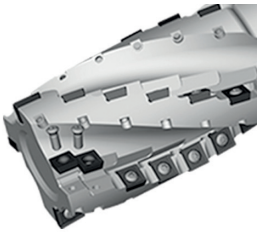
Articolo	✻	Stock	Dimensioni [mm] ØD	e	L_1	L	File di denti	Denti APKT	SPMT	Tipo attacco	Inserto
HMP01-050x84-BT50-SP12-04		○	50	84	145	246,8	4	2	16	BT	APKT1504 & SPMT1204
HMP01-050x84-JT50-SP12-04		○	50	84	145	246,75	4	2	16	JT	
HMP01-063x74-JT50-SP12-04		○	63	74	135	236,75	4	2	14	JT	
HMP01-063x104-BT50-SP12-04		○	63	104	165	266,8	4	2	20	BT	
HMP01-063x104-JT50-SP12-04		○	63	104	165	266,75	4	2	20	JT	
HMP01-063x134-BT50-SP12-04		○	63	134	195	296,8	4	2	26	BT	
HMP01-063x134-JT50-SP12-04		○	63	134	195	296,75	4	2	26	JT	
HMP01-080x104-BT50-SP12-04		○	80	104	165	266,8	4	2	20	BT	
HMP01-080x104-JT50-SP12-04		○	80	104	165	266,75	4	2	20	JT	
HMP01-080x144-BT50-SP12-04		○	80	144	205	306,8	4	2	28	BT	
HMP01-080x144-JT50-SP12-04		○	80	144	205	306,75	4	2	28	JT	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**APKT1504 & SPMT1204**
	ØD	**50-80**
	Vite (inserti)	I60M5×10 (6,7 Nm)
	Chiave (inserti)	WT20IS



Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti per fresatura

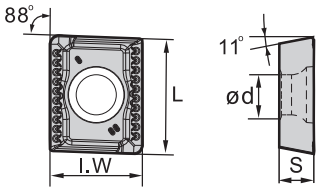
Frese elicoidali

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

APKT	L	S	d
15 04	16,33	4,76	5,4

AP** Inserti - Fresatura



	HC¹ (CVD)									HC¹ (PVD)										HT	HC²	HW	
P	◐	◐	◐	◐	◐	◐		◐	◐			◐	◐		◐	◐	◐	◐	●	●	●		
M		◐	◐	◐	◐	◐						◐	◐	◐	◐	◐	◐	◐	○	○	○		
K							◐	◐	◐										●				
N										◐												◐	◐
S				◐		◐					○	◐		◐	◐		◐		◐				
H										○						◐							

ISO	r	I.W	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
APKT150412-PM	1,2	12,7				●															●						

● In magazzino ○ Su richiesta

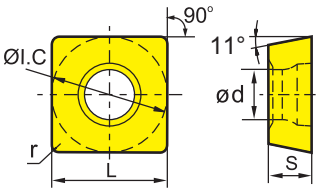
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SPMT	L	I.C	S	d
12 04	12,7	12,7	4,76	5,5

SP** Inserti fresatura



	HC¹ (CVD)									HC¹ (PVD)										HT	HC²	HW	
P	◐	◐	◐	◐	◐	◐		◐	◐			◐	◐		◐	◐	◐	◐	●	●	●		
M		◐	◐	◐	◐	◐						◐	◐	◐	◐	◐	◐	◐	○	○	○		
K							◐	◐	◐										●				
N										◐												◐	◐
S				◐		◐					○	◐		◐	◐		◐		◐				
H										○						◐							

ISO	r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
SPMT120408-PM	0,8				●															●						

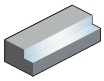
● In magazzino ○ Su richiesta

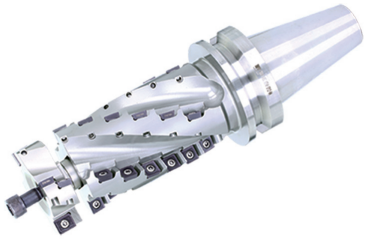
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

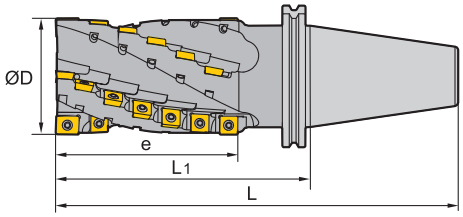
Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Frese elicoidali

HMP01 EC Kr: 90°







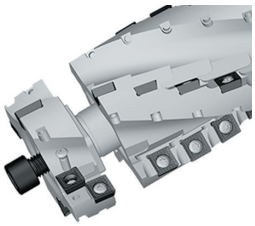
Articolo	✻	Stock	Dimensioni [mm] ØD	e	L_1	L	File di denti	Denti APKT	SPMT	Tipo attacco	Inserto
HMP01-050x84EC-JT50-SP12-04		○	50	84	145	246,75	4	2	16	JT	APKT1504 & SPMT1204
HMP01-063x74EC-JT50-SP12-04		○	63	74	135	236,75	4	2	14	JT	
HMP01-063x104EC-BT50-SP12-04		○	63	104	165	266,8	4	2	20	BT	
HMP01-063x104EC-JT50-SP12-04		○	63	104	165	266,75	4	2	20	JT	
HMP01-063x134EC-BT50-SP12-04		○	63	134	195	296,8	4	2	26	BT	
HMP01-063x134EC-JT50-SP12-04		○	63	134	195	296,75	4	2	26	JT	
HMP01-080x104EC-BT50-SP12-04		○	80	104	165	266,8	4	2	20	BT	
HMP01-080x104EC-JT50-SP12-04		○	80	104	165	266,75	4	2	20	JT	
HMP01-080x144EC-BT50-SP12-04		○	80	144	205	306,8	4	2	28	BT	
HMP01-080x144EC-JT50-SP12-04		○	80	144	205	306,75	4	2	28	JT	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**APKT1504 & SPMT1204**	**APKT1504 & SPMT1204**	**APKT1504 & SPMT1204**
	ØD	**50**	**63**	**80**
	Testa intercambiabile	050EC	063EC	080EC
	Vite (testa)	M10×50 (16,6 Nm)	M10×50 (16,6 Nm)	M12×55 (25,2 Nm)
	Vite (inserti)	I60M5×13 (6,7 Nm)	I60M5×13 (6,7 Nm)	I60M5×13 (6,7 Nm)
	Chiave (testa)	WH80L	WH80L	WH100L
	Chiave (inserti)	WT20IS	WT20IS	WT20IS



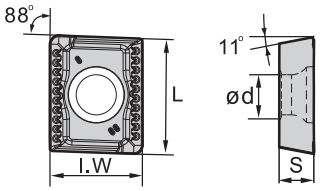
Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

APKT	L	S	d
15 04	16,33	4,76	5,4

AP** Inserti - Fresatura



	HC¹ (CVD)									HC¹ (PVD)										HT	HC²	HW	
P	◐	◐	◐	◐	◐	◐		◐	◐			◐	◐		◐	◐	◐	◐	●	●	●		
M		◐	◐	◐	◐	◐						◐	◐	◐	◐	◐	◐	◐	○	○	○		
K							◐	◐	◐										●				
N										◐												◐	◐
S				◐		◐					○	◐		◐	◐		◐		◐				
H										○						◐							

ISO	r	I.W	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
APKT150412-PM	1,2	12,7				●															●						

● In magazzino ○ Su richiesta

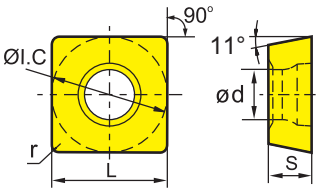
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SPMT	L	I.C	S	d
12 04	12,7	12,7	4,76	5,5

SP** Inserti fresatura



	HC¹ (CVD)									HC¹ (PVD)										HT	HC²	HW	
P	◐	◐	◐	◐	◐	◐		◐	◐			◐	◐		◐	◐	◐	◐	●	●	●		
M		◐	◐	◐	◐	◐						◐	◐	◐	◐	◐	◐	◐	○	○	○		
K							◐	◐	◐										●				
N										◐												◐	◐
S				◐		◐					○	◐		◐	◐		◐		◐				
H										○						◐							

ISO	r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
SPMT120408-PM	0,8				●															●						

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Frese a smusso

CMZ01 Kr: 30°

Stelo cilindrico

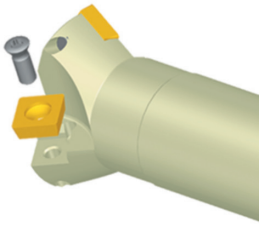
Articolo	✻	Stock	Dimensioni [mm] ØD	ød	L_1	L	Denti	kg	Inserto
CMZ01-012-G20-SP12-01		●	12	20	40	100	1	0,2	SPMT1204
CMZ01-025-G25-SP12-02		●	25	25	40	120	2	0,8	
CMZ01-032-G32-SP12-03		●	32	32	40	180	3	1,1	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**SPMT1204**
	ØD	**12-32**
	Vite (inserti)	I43M5×11 (6,7 Nm)
	Chiave (inserti)	WT20IS



Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

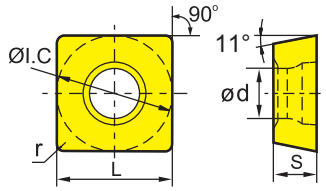
Inserti per fresatura

Frese a smusso

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SPMT	L	I.C	S	d
12 04	12,7	12,7	4,76	5,5



SP** Inserti fresatura		HC[1] (CVD)									HC[1] (PVD)										HT	HC[2]	HW	
	P	◉	◉	❁	◉	◉	❁		◉	◉				◉	❁		◉	◉	◉	❁		●		●			
	M		◉	❁	◉	◉	❁							◉	❁	◉	◉	◉	◉	❁	◉	●		●			
	K							◉	❁	◉												●					
	N											◉													◉	❁	
	S				❁		❁						●	◉		◉	◉		◉		❁						
	H										○							◉									
ISO	r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
SPMT120408-HT-1	0,8														○											
SPMT120408	0,8	○	●	○		●	○											●		○						

● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Frese a smusso

CMZ01 Kr: 30°

Stelo Weldon

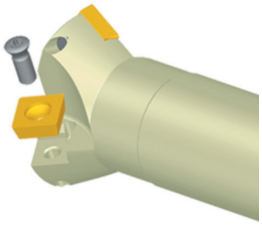
Articolo	✻	Stock	Dimensioni [mm] ØD	ød	L_1	L	Denti	kg	Inserto
CMZ01-012-XP20-SP12-01		●	12	20	40	100	1	0,2	SPMT1204
CMZ01-025-XP25-SP12-02		●	25	25	40	120	2	0,6	
CMZ01-032-XP32-SP12-03		●	32	32	40	180	3	1	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**SPMT1204**
	ØD	**12-32**
	Vite (inserti)	I43M5×11 (6,7 Nm)
	Chiave (inserti)	WT20IS



Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

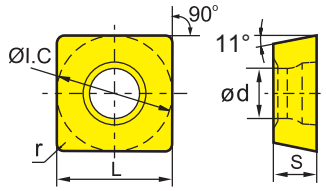
Inserti per fresatura

Frese a smusso

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SPMT	L	I.C	S	d
12 04	12,7	12,7	4,76	5,5



SP** Inserti fresatura		HC[1] (CVD)									HC[1] (PVD)											HT		HC[2]		HW	
		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151		YNG151C		YD101	YD201
P																												
M																												
K																												
N																												
S																												
H																												
ISO	r																											
SPMT120408-HT-1	0,8														○													
SPMT120408	0,8	○	●	○		●	○											●		○								

● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Frese a smusso

CMA01 Kr: 45°

Stelo cilindrico

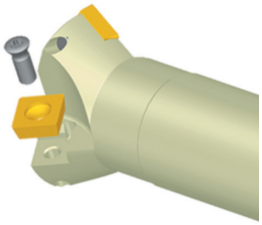
Articolo	✻	Stock	Dimensioni [mm] ØD	ød	L_1	L	Denti	kg	Inserto
CMA01-012-G20-SP12-01		●	12	20	40	100	1	0,2	SPMT1204
CMA01-025-G25-SP12-02		●	25	25	40	120	2	0,8	
CMA01-032-G32-SP12-03		●	32	32	40	180	3	1,1	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**SPMT1204**
	ØD	**12-32**
	Vite (inserti)	I43M5×11 (6,7 Nm)
	Chiave (inserti)	WT20IS



Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

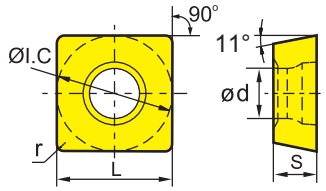
Inserti per fresatura

Frese a smusso

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SPMT	L	I.C	S	d
12 04	12,7	12,7	4,76	5,5



SP** Inserti fresatura		HC[1] (CVD)									HC[1] (PVD)										HT	HC[2]	HW	
	P	◐	◐	❁	◐	◐	❁		◐	◐				◐	❁		◐	◐	◐	❁		●	●			
	M		◐	❁	◐	◐	❁							◐	❁	◐	◐	◐	◐	❁	◐	●	◐			
	K							◐	❁	◐												●				
	N											◐													◐	❁	
	S				❁		❁						●	◐		◐	◐		◐		❁						
	H										○							◐									
ISO	r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
SPMT120408-HT-1	0,8														○											
SPMT120408	0,8	○	●	○		●	○											●		○						

● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Frese a smusso

CMA01 Kr: 45°

Stelo Weldon

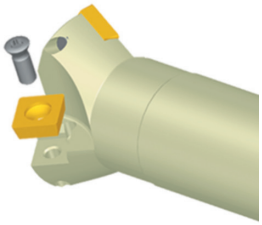
Articolo	✻	Stock	Dimensioni [mm]				Denti	kg	Inserto
			ØD	ød	L_1	L			
CMA01-012-XP20-SP12-01		●	12	20	40	100	1	0,2	SPMT1204
CMA01-025-XP25-SP12-02		●	25	25	40	120	2	0,6	
CMA01-032-XP32-SP12-03		●	32	32	40	180	3	1	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**SPMT1204**
	ØD	**12-32**
	Vite (inserti)	I43M5×11 (6,7 Nm)
	Chiave (inserti)	WT20IS



Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

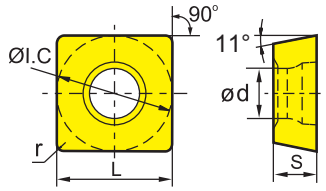
Inserti per fresatura

Frese a smusso

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SPMT	L	I.C	S	d
12 04	12,7	12,7	4,76	5,5



SP** Inserti fresatura		HC[1] (CVD)									HC[1] (PVD)										HT		HC[2]		HW	
	P	⊛	⊛	⊛	⊛	⊛	⊛		⊛	⊛				⊛	⊛		⊛	⊛	⊛	⊛		●	●				
	M		⊛	⊛	⊛	⊛	⊛							⊛	⊛	⊛	⊛	⊛	⊛	⊛	⊛	●	●				
	K							⊛	⊛	⊛												●					
	N										⊛														⊛	⊛	
	S				⊛		⊛						●	⊛		⊛	⊛		⊛		⊛						
	H										○							⊛									
ISO	r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151		YNG151C		YD101	YD201
SPMT120408-HT-1	0,8														○													
SPMT120408	0,8	○	●	○		●	○											●		○								

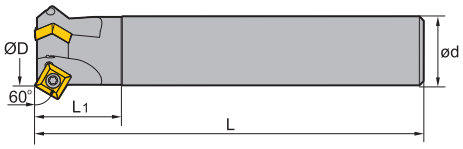
● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Frese a smusso

CMD01 Kr: 60°



Stelo cilindrico

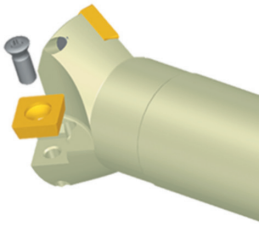
Articolo	✻	Stock	Dimensioni [mm] ØD	ød	L_1	L	Denti	kg	Inserto
CMD01-012-G20-SP12-01		●	12	20	40	100	1	0,2	SPMT1204
CMD01-025-G25-SP12-02		●	25	25	40	120	2	0,8	
CMD01-036-G32-SP12-03		●	36	32	40	180	3	1	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**SPMT1204**
	ØD	**12-36**
	Vite (inserti)	I43M5×11 (6,7 Nm)
	Chiave (inserti)	WT20IS



Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

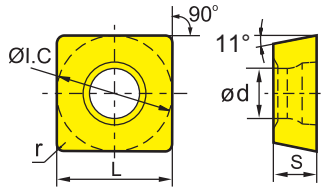
Inserti per fresatura

Frese a smusso

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SPMT	L	I.C	S	d
12 04	12,7	12,7	4,76	5,5



SP** Inserti fresatura		HC[1] (CVD)									HC[1] (PVD)										HT		HC[2]		HW		
	P	⊛	⊛	❁	⊛	⊛	❁		⊛	⊛				⊛	❁		⊛	⊛	⊛	❁		●		●				
	M		⊛	❁	⊛	⊛	❁							⊛	❁	⊛	⊛	⊛	⊛	❁	⊛	●	●	●				
	K							⊛	❁	❁												●						
	N											⊛														⊛	❁	
	S				❁		❁						●	⊛		⊛	⊛		⊛		❁							
	H										○							⊛										
ISO	r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201		
	SPMT120408-HT-1	0,8													○													
	SPMT120408	0,8	○	●	○		●	○										●		○								

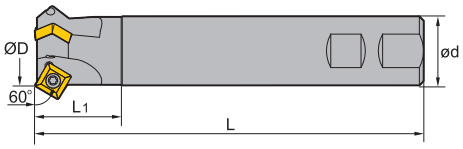
● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Frese a smusso

CMD01 Kr: 60°



Stelo Weldon

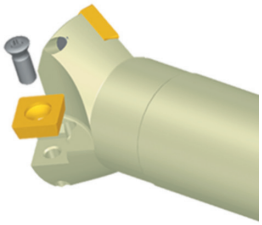
Articolo	✻	Stock	Dimensioni [mm] ØD	ød	L_1	L	Denti	kg	Inserto
CMD01-012-XP20-SP12-01		●	12	20	40	100	1	0,2	SPMT1204
CMD01-025-XP25-SP12-02		●	25	25	40	120	2	0,6	
CMD01-036-XP32-SP12-03		●	36	32	40	180	3	1	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**SPMT1204**
	ØD	**12-36**
	Vite (inserti)	I43M5×11 (6,7 Nm)
	Chiave (inserti)	WT20IS



Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

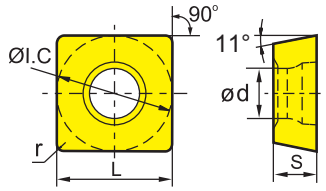
Inserti per fresatura

Frese a smusso

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SPMT	L	I.C	S	d
12 04	12,7	12,7	4,76	5,5



SP** Inserti fresatura		HC[1] (CVD)									HC[1] (PVD)											HT		HC[2]		HW	
	P	⊛	⊛	❁	⊛	⊛	❁		⊛	⊛				⊛	❁		⊛	⊛	⊛	❁		●		●				
	M		⊛	❁	⊛	⊛	❁							⊛	❁	⊛	⊛	⊛	⊛	❁	⊛	●		●				
	K							⊛	❁	❁												●						
	N											⊛														⊛	❁	
	S				❁		❁						●	⊛		⊛	⊛		⊛		❁							
	H										○							⊛										
ISO	r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201		
	SPMT120408-HT-1	0,8													○													
	SPMT120408	0,8	○	●	○		●	○										●		○								

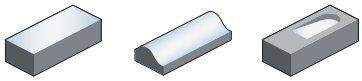
● In magazzino ○ Su richiesta

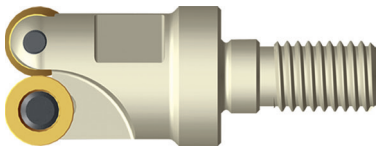
HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

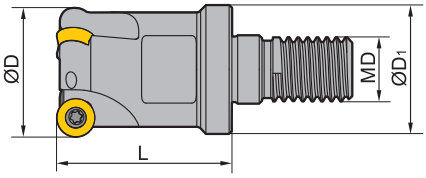
Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Serie QCH

QCH - RD







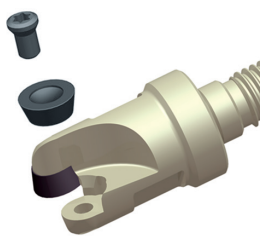
Articolo	✻	Stock	Dimensioni [mm] ØD	ØD1	L	MD	Denti	kg	Inserto
QCH-16-RD07-M8-02	✻	●	16	15	25	8	2	0,027	RDKW0702
QCH-20-RD07-M10-03	✻	○	20	18	30	10	3	0,058	
QCH-20-RD10-M10-02	✻	○	20	19	30	10	2	0,054	RDKW10T3
QCH-25-RD10-M12-02	✻	○	25	24	35	12	2	0,097	
QCH-32-RD10-M16-03	✻	○	32	30	45	16	3	0,183	
QCH-32-RD10-M16-04	✻	●	32	30	45	16	4	0,22	
QCH-32-RD16-M16-02	✻	○	32	30	45	16	2	0,156	RDKW1605
QCH-40-RD16-M16-03	✻	●	40	17	45	16	3	0,23	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	RDKW0702	RDKW10T3	RDKW1605
	ØD	16-25	20-32	30-42
	Vite (staffa)			I60M5×13 (6,7 Nm)
	Vite (inserti)	I60M2,5×5,0 (1,0 Nm)	I60M4×8 (3,4 Nm)	I60M5×13 (6,7 Nm)
	Chiave (inserti)	WT08IP	WT15IP	
	Chiave (inserti)			WT20IT



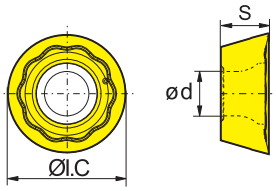
Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti per fresatura Serie QCH

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

RDKT	I.C	S	d
10 T3	10	3,97	3,85



RD** Inserti - Fresatura		HC[1] (CVD)									HC[1] (PVD)											HT	HC[2]	HW	
	P	◐	◐	◐	◐	◐	◐		◐	◐				◐	◐		◐	◐	◐	◐		●	●		
	M		◐	◐	◐	◐	◐							◐	◐	◐	◐	◐	◐	◐	●	●	●		
	K							◐	◐	◐											●				
	N										◐													◐	◐
	S				◐		◐						●	◐		◐	◐		◐		◐				
	H										○							◐							
ISO		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	RDKT10T3MO-MM															○					○					
	RDKT10T3MO-NM															○					○					

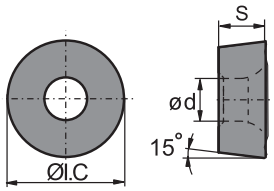
● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

RDKW	I.C	S	d
07 02	7	2,38	2,7
10 T3	10	3,97	4,4
16 05	16	5,56	5,5



RD** Inserti - Fresatura		HC[1] (CVD)									HC[1] (PVD)											HT	HC[2]	HW	
	P	◐	◐	◐	◐	◐	◐		◐	◐				◐	◐		◐	◐	◐	◐		●	●		
	M		◐	◐	◐	◐	◐							◐	◐	◐	◐	◐	◐	◐	●	●	●		
	K							◐	◐	◐											●				
	N										◐													◐	◐
	S				◐		◐						●	◐		◐	◐		◐		◐				
	H										○							◐							
ISO		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	RDKW10T3MO	●											○	○						○						
	RDKW1605MO						○							○	○					○						
	RDKW0702MO-1						●							○			●	○								
	RDKW0702MO-2												●													

● In magazzino ○ Su richiesta

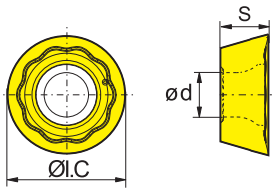
HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

RDMT	I.C	S	d
10 T3	10	3,97	4,1

Inserti - Fresatura



RD** Inserti - Fresatura		HC¹ (CVD)								HC¹ (PVD)											HT	HC²	HW	
		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	P	◉	◉	◉	◉	◉	◉		◉	◉				◉	◉		◉	◉	◉	◉		●	●	●		
	M		◉	◉	◉	◉	◉							◉	◉	◉	◉	◉	◉	◉	◉	●	●	●		
	K							◉	◉	◉												●				
	N											◉													◉	◉
	S				◉		◉						●	◉		◉	◉		◉		◉					
	H										○							◉								
ISO																										
	RDMT10T3MO-M								●									●			●					
	RDMT10T3MO-MM																	●			●					

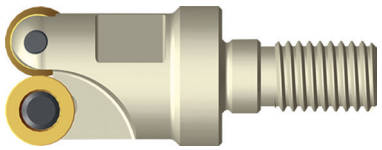
● In magazzino ○ Su richiesta

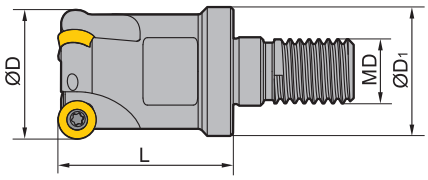
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Serie QCH

QCH - RD





Articolo	✻	Stock	Dimensioni [mm]				Denti	Inserto
			ØD	$ØD_1$	L	MD		
QCH-15-RDKW0702-M8-02	✻	●	15	12,5	23	8	2	RDKW0702
QCH-15-RDKW0702-M8-03	✻	●	15	12,5	23	8	3	
QCH-20-RDKW0702-M10-04	✻	●	20	18	30	10	4	
QCH-25-RDKW0702-M12-05	✻	●	25	21	35	12	5	
QCH-20-RDKW1003-M10-02	✻	●	20	18	30	10	2	RDKW1003
QCH-25-RDKW1003-M12-02	✻	●	25	21	35	12	2	
QCH-25-RDKW1003-M12-03	✻	●	25	21	35	12	3	
QCH-30-RDKW1003-M16-04	✻	●	30	29	43	16	4	
QCH-35-RDKW1003-M16-04	✻	●	35	29	43	16	4	
QCH-42-RDKW1003-M16-05	✻	●	42	29	43	16	5	
QCH-24-RDKW12T3-M12-02	✻	●	24	21	35	12	2	RDKW12T3
QCH-35-RDKW12T3-M16-03	✻	●	35	29	43	16	3	
QCH-42-RDKW12T3-M16-04	✻	●	42	29	43	16	4	
QCH-32-RDKW1604-M16-02	✻	●	32	29	43	16	2	RDKW1604

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Parti di ricambio

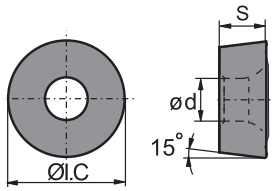
	Inserto	RDKW0702	RDKW1003	RDKW12T3	RDKW1604
	ØD	15-25	20-42	24-42	32
	Staffa				WX16N
	Vite (staffa)				I60M4,5×10 (5,0 Nm)
	Vite (staffa)			LOM3.5×7.1	
	Vite (inserti)	I60M2,5×5,0 (1,0 Nm)		I60M3,5×7,7 (2,7 Nm)	I60M4,5×10 (5,0 Nm)
	Vite (inserti)		I60M3,5×6,5TT (2,7 Nm)		
	Chiave (inserti)		WT10IP		
	Chiave (inserti)	WT07P		WT15P	
	Chiave (inserti)				WT20T

RDKW	I.C	S	d
07 02	7	2,38	2,7
10 03	10	3,18	3,9
12 T3	12	3,97	3,9
16 04	16	4,76	5,2

Buone condizioni di lavorazione
Condizioni di lavorazione normali
Condizioni di lavorazione sfavorevoli

Inserti - Fresatura

RD** Inserti - Fresatura



	HC¹ (CVD)								HC¹ (PVD)											HT	HC²	HW	
P	◐	◐	◑	◐	◐	◑		◐	◐			◐	◑		◐	◐	◐	◑		●	●		
M		◑	◑	◐	◐	◑						◐	◑	◐	◐	◐	◐	◑	◑	●	●		
K							◑	◑	◑										●				
N										◑												◑	◑
S				◑		◑					●	◐		◐	◐		◐		◑				
H									○							◑							

ISO	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
RDKW0702MO-1						●							○			●	○								
RDKW0702MO-2												●													
RDKW1003MO-1						○							○			●	●	●							
RDKW1003MO-2												○													
RDKW1003MO-3				●				●								●									
RDKW12T3MO-1						●							○			○	●	●							
RDKW12T3MO-2												●				○									
RDKW12T3MO-3				●				●								●									
RDKW1604MO-1						○							○			●	●	●	○						
RDKW1604MO-2												○													
RDKW1604MO-3	○			○				●								●									

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

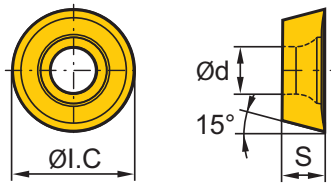
Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti per fresatura Serie QCH

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

RDHT	L	I.C	S	d
07 02		7	2,38	2,7
10 03		10	3,18	3,9
12 T3		12	3,97	3,9
16 04		16	4,76	5,2

Inserti - Fresatura



RD** Inserti - Fresatura		HC[1] (CVD)									HC[1] (PVD)												HT		HC[2]		HW		
	ISO	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151		YNG151C		YD101	YD201	
P		⊛	⊛	❁	⊛	⊛	❁		⊛	⊛				⊛	❁		⊛	⊛	⊛	❁		●	●		●				
M			⊛	❁	⊛	⊛	❁							⊛	❁	⊛	⊛	⊛	⊛	❁	❁	●	●		●				
K								⊛	❁	❁												●							
N												⊛															⊛	❁	
S					❁		❁						●	⊛		⊛	⊛		⊛		❁								
H											○							⊛											
	RDHT0702MO-LH																										○		
	RDHT1003MO-LH																										●		
	RDHT12T3MO-LH																										●		
	RDHT1604MO-LH																										●		

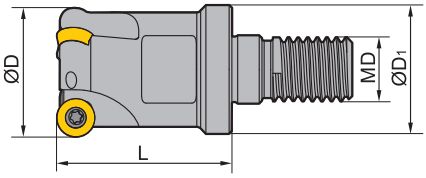
● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Serie QCH

QCH-RD-FMR11



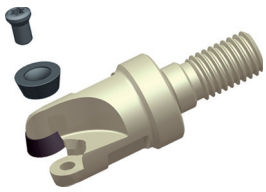
Articolo	✻	Stock	Dimensioni [mm] ØD	ØD1	L	MD	Denti	kg	Inserto
QCH-20-RD10-M10-02-FMR11	✻	○	20	18	30	10	2	0,058	RD**10T3
QCH-25-RD10-M12-03-FMR11	✻	●	25	21	35	12	3	0,089	
QCH-32-RD10-M16-03-FMR11	✻	●	32	30	45	16	3	0,211	
QCH-42-RD10-M16-05-FMR11	✻	●	42	40	45	16	5	0,297	
QCH-25-RD12-M12-02-FMR11	✻	●	25	21	35	12	2	0,1	RD**1204
QCH-32-RD12-M16-03-FMR11	✻	●	32	30	45	16	3	0,205	
QCH-42-RD12-M16-05-FMR11	✻	●	42	40	45	16	5	0,279	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	RD**10T3	RD**1204
	ØD	20-78	20-78
	Vite (inserti)	I60M3,5×8 (2,7 Nm)	I60M3,5×8 (2,7 Nm)
	Chiave (inserti)	WT15IP	WT15IP

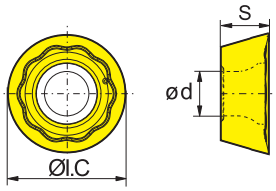


Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

RDMT	I.C	S	d
10 T3	10	3,97	4,1
12 04	12	4,76	4,4



RD** Inserti - Fresatura		HC[1] (CVD)									HC[1] (PVD)											HT		HC[2]		HW	
	P	◉	◉	◉	◉	◉	◉		◉	◉				◉	◉			◉	◉	◉	◉		●	●				
	M		◉	◉	◉	◉	◉							◉	◉	◉	◉	◉	◉	◉	◉		●	●				
	K							◉	◉	◉													●					
	N											◉															◉	◉
	S				◉		◉						◉	◉		◉	◉		◉		◉							
	H										○								◉									
ISO		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201		
	RDMT10T3MO-M								●									●			●							
	RDMT1204MO-M								●							○		●			●							
	RDMT10T3MO-MM																	●			●							
	RDMT1204MO-MM															○		●			●							

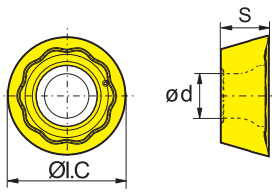
● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

RDMW	I.C	S	d
10 T3	10	3,97	4,1
12 04	12	4,76	4,4



RD** Inserti - Fresatura		HC[1] (CVD)									HC[1] (PVD)											HT		HC[2]		HW	
	P	◉	◉	◉	◉	◉	◉		◉	◉				◉	◉			◉	◉	◉	◉		●	●				
	M		◉	◉	◉	◉	◉							◉	◉	◉	◉	◉	◉	◉	◉		●	●				
	K							◉	◉	◉													●					
	N											◉															◉	◉
	S				◉		◉						◉	◉		◉	◉		◉		◉							
	H										○								◉									
ISO		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201		
	RDMW10T3MO-H								●									●										
	RDMW1204MO-H								●									●										

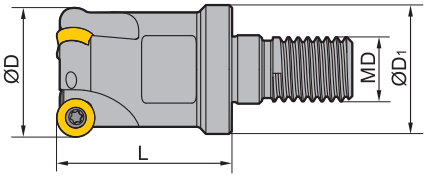
● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Serie QCH

QCH-RP-FMR11



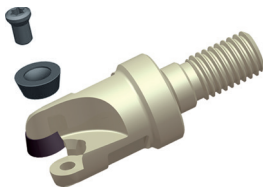
Articolo	✻	Stock	Dimensioni [mm] ØD	ØD1	L	MD	Denti	kg	Inserto
QCH-20-RP10-M10-02-FMR11	✻	○	20	18	30	10	2	0,058	RP**10T3
QCH-25-RP10-M12-03-FMR11	✻	○	25	21	35	12	3	0,16	
QCH-32-RP10-M16-03-FMR11	✻	○	32	30	45	16	3	0,21	
QCH-42-RP10-M16-05-FMR11	✻	○	42	40	45	16	5	0,29	
QCH-25-RP12-M12-02-FMR11	✻	○	25	21	35	12	2	0,097	RP**1204
QCH-32-RP12-M16-03-FMR11	✻	○	32	30	45	16	3	0,21	
QCH-42-RP12-M16-05-FMR11	✻	○	42	40	45	16	5	0,27	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	RP**10T3	RP**1204
	ØD	20-78	20-78
	Vite (inserti)	I60M3,5×8 (2,7 Nm)	I60M3,5×8 (2,7 Nm)
	Chiave (inserti)	WT15IP	WT15IP



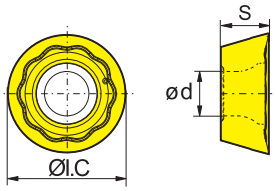
Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti per fresatura Serie QCH

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

RPMT	I.C	S	d
10 T3	10	3,97	4,1
12 04	12	4,76	4,4



RP** Inserti - Fresatura		HC[1] (CVD)									HC[1] (PVD)											HT		HC[2]		HW	
		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151		YNG151C		YD101	YD201
	P	◉	◉	◉	◉	◉	◉		◉	◉				◉	◉		◉	◉	◉	◉		●	●		●			
	M		◉	◉	◉	◉	◉							◉	◉	◉	◉	◉	◉	◉	◉	●	●		●			
	K							◉	◉	◉												●					
	N											◉															◉	◉
	S				◉		◉						●	◉		◉	◉		◉		◉							
	H										○							◉										
	RPMT10T3MO-M								●									●			●							
	RPMT1204MO-M								●									●			●							
	RPMT10T3MO-MM																	●			○							
	RPMT1204MO-MM																	●			○							

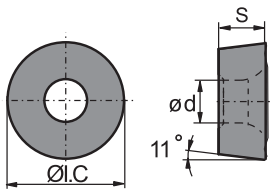
● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

RPMW	I.C	S	d
10 T3	10	3,97	4,1
12 04	12	4,76	4,4



RP** Inserti - Fresatura		HC[1] (CVD)									HC[1] (PVD)											HT		HC[2]		HW	
		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151		YNG151C		YD101	YD201
	P	◉	◉	◉	◉	◉	◉		◉	◉				◉	◉		◉	◉	◉	◉		●	●		●			
	M		◉	◉	◉	◉	◉							◉	◉	◉	◉	◉	◉	◉	◉	●	●		●			
	K							◉	◉	◉												●					
	N											◉															◉	◉
	S				◉		◉						●	◉		◉	◉		◉		◉							
	H										○							◉										
	RPMW10T3MO-H								●									●										
	RPMW1204MO-H								●									●										

● In magazzino ○ Su richiesta

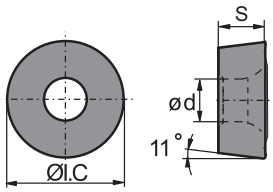
HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti - Fresatura

- ● Buone condizioni di lavorazione
- ✲ Condizioni di lavorazione normali
- ✲ Condizioni di lavorazione sfavorevoli

RPKT	I.C	S	d
10 T3	10	3,97	4,1
12 04	12	4,76	4,4



RP** Inserti - Fresatura		HC¹ (CVD)									HC¹ (PVD)												HT	HC²	HW	
	ISO	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
P		✲	✲	✲	✲	✲	✲		✲	✲				✲	✲		✲	✲	✲	✲		●	●	●			
M			✲	✲	✲	✲	✲							✲	✲	✲	✲	✲	✲	✲	✲	●	●	●			
K								✲	✲	✲												●				
N												✲													✲	✲
S					✲		✲						●	✲		✲	✲		✲		✲						
H											○							✲								
	RPKT10T3MO-MM																				○					
	RPKT1204MO-MM																				○					

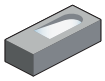
● In magazzino ○ Su richiesta

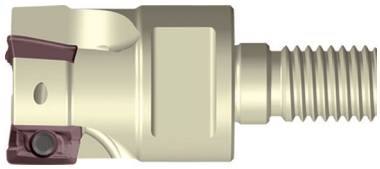
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

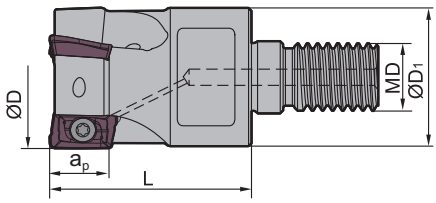
Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Serie QCH

QCH - APKT Kr: 90°







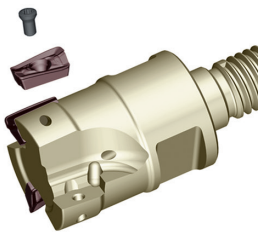
Articolo	✻	Stock	Dimensioni [mm] ØD	ØD1	ap	L	MD	Denti	kg	Inserto
QCH-16-APKT07-M8-03	✻	●	16	16	6,4	25	8	3	0,03	APKT0702
QCH-16-APKT11-M8-02	✻	●	16	12,5	10,5	25	8	2	0,028	APKT11T3
QCH-18-APKT11-M8-02	✻	●	18	15	10,5	30	8	2	0,085	
QCH-20-APKT11-M10-03	✻	●	20	18	10,5	30	10	3	0,059	
QCH-25-APKT11-M12-04	✻	●	25	21	10,5	35	12	4	0,104	
QCH-32-APKT11-M16-05	✻	●	32	29	10,5	43	16	5	0,26	
QCH-40-APKT11-M16-06	✻	●	40	29	10,5	43	16	6		
QCH-25-APKT16-M12-02	✻	○	25	21	15,5	38	12	2	0,09	APKT1604
QCH-32-APKT16-M16-02	✻	●	32	29	15,5	46	16	2	0,23	
QCH-32-APKT16-M16-03	✻	●	32	29	15,5	46	16	3	0,23	
QCH-40-APKT16-M16-03	✻	●	40	29	15,5	46	16	3	0,28	
QCH-40-APKT16-M16-04	✻	○	40	29	15,5	46	16	4	0,28	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	APKT0702	APKT11T3	APKT1604
	ØD	15-25	16-40	25-40
	Vite (inserti)	I60M1,8x4 (0,5 Nm)		I60M4×8,4 (3,4 Nm)
	Vite (inserti)		I60M2,5×6,5T (1,0 Nm)	
	Chiave (inserti)	WT05IP	WT08IP	WT15IP



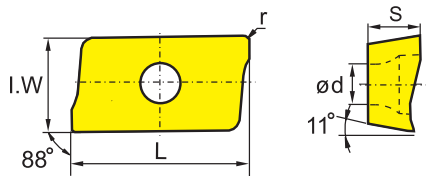
Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

APKT	L	S	d
07 02	4,26	2,38	2
11 T3	12,24	3,6	2,8
16 04	17,877	5,76	4,4

AP** Inserti - Fresatura



	HC¹ (CVD)								HC¹ (PVD)											HT	HC²	HW	
P	◐	◐	◐	◐	◐	◐		◐	◐				◐	◐		◐	◐	◐	◐	●	●	●			
M		◐	◐	◐	◐	◐							◐	◐	◐	◐	◐	◐	◐	◐	●	○	○			
K							◐	◐	◐												●					
N										◐														◐	◐	
S				◐		◐						○	◐		◐	◐		◐		◐						
H									○								◐									

	ISO	r	I.W	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	APKT11T304-ALH	0,4	6,5											●													●	●
	APKT11T308-ALH	0,8	6,5											●													●	●
	APKT160404-ALH	0,4	9,33																								●	
	APKT160408-ALH	0,8	9,33											●													●	○
	APKT070204-APF	0,4	6,91								●										●							
	APKT11T304-APF	0,4	6,5																		●							
	APKT11T308-APF	0,8	6,5															○		●	●		○					
	APKT160408-APF	0,8	9,33															○		●	●	○	○					
	APKT11T304-APL	0,4	6,5															○			●		○					
	APKT11T308-APL	0,8	6,5															○			●		○					
	APKT160408-APL	0,8	9,33															○			●		○					
	APKT160420-APL	2	9,33															○			●		●					
	APKT070204-APM	0,4	6,91								●										●							
	APKT11T304-APM	0,4	6,5				●			●											●							
	APKT11T308-APM	0,8	6,5				●			●								○		●	●		○					
	APKT11T312-APM	1,2	6,5				●			●											●							
	APKT11T316-APM	1,6	6,5				●													●	●							
	APKT11T320-APM	2	6,5				●			●										●	●							
	APKT160408-APM	0,8	9,33				●			●	●							○		●	●		○					
	APKT160416-APM	1,6	9,33				●			●											●							
	APKT160420-APM	2	9,33				●			●											●							
	APKT160424-APM	2,4	9,33				●			●											●							
	APKT160430-APM	3	9,33			○	●														●							
	APKT11T304-LH	0,4	6,5																								○	○
	APKT11T308-LH	0,8	6,5																								●	○
	APKT160408-LH	0,8	9,33																								○	○
	APKT11T308-NM	0,8	6,5															●					●					
	APKT11T312-NM	1,2	6,5															●					●					
	APKT11T304-PF	0,4	6,5		○										○	○						○						
	APKT11T316-PF	1,6	6,5													○												
	APKT160408-PF	0,8	9,33						○																			
	APKT160430-PF	3	9,33	○																								

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

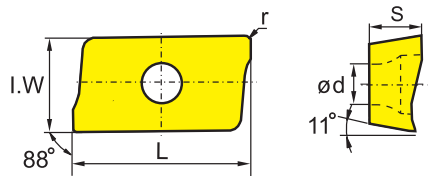
Inserti per fresatura Serie QCH

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

APKT	L	S	d
07 02	4,26	2,38	2
11 T3	12,24	3,6	2,8
16 04	17,877	5,76	4,4

AP** Inserti - Fresatura



	HC¹ (CVD)									HC¹ (PVD)											HT		HC²		HW		
P	❁	❁	❁	❁	❁	❁		❁	❁				❁	❁		❁	❁	❁	❁		●	●		●			
M		❁	❁	❁	❁	❁							❁	❁	❁	❁	❁	❁	❁	❁	●	●		●			
K							❁	❁	❁												●						
N											❁														❁	❁	
S				❁		❁						●	❁			❁	❁		❁		❁						
H										○								❁									

	ISO	r	I.W	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	APKT11T304-PM	0,4	6,5	○	○				○						○	○						○						
	APKT11T308-PM	0,8	6,5	○			○		●	○	○				○	○			○			○						
	APKT11T312-PM	1,2	6,5												○							○						
	APKT11T316-PM	1,6	6,5													○												
	APKT160408-PM	0,8	9,33	○	○	○	●		●	○	○				○	○	○		○			●						
	APKT160416-PM	1,6	9,33	○												○												
	APKT11T304-PR	0,4	6,5																			○						
	APKT11T316-PR	1,6	6,5																			○						
	APKT0702-XR		6,91																	●	●							
	APKT11T3-XR		6,5								●									●	●							

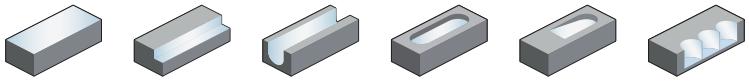
● In magazzino ○ Su richiesta

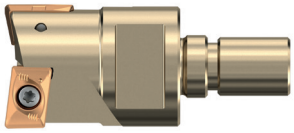
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

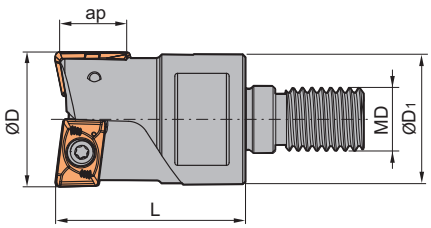
Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Serie QCH

QCH-ADKT Kr: 90°







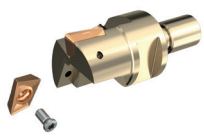
Articolo	✻	Stock	Dimensioni [mm] ØD	ØD1	ap	L	MD	Denti	kg	Inserto
QCH-16-AD08-M08-C	✻	○	16	15	8,5	28	8	1	0,027	ADKT-GM
QCH-17-AD08-M08-C	✻	○	17	15	8,5	28	8	1	0,029	
QCH-20-AD10-M10-C	✻	○	20	19	9,5	30	10	1	0,053	
QCH-21-AD10-M10-C	✻	○	21	19	9,5	30	10	1	0,055	
QCH-26-AD12-M12-C	✻	○	26	12,5	12,5	35	12	1	0,095	
QCH-32-AD15-M16-C	✻	○	32	17	14,5	43	16	1	0,19	
QCH-33-AD15-M16-C	✻	○	33	17	14,5	43	16	1	0,2	
QCH-40-AD12-M16-C	✻	○	40	17	12,5	45	16	3	0,25	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	ADKT-GM	ADKT-GM	ADKT-GM	ADKT-GM	ADKT-GM
	ØD	40	16-17	20-21	25-26	32-33
	Vite (inserti)	I60M4×7 (3,4 Nm)	I60M2,2×5,5 (0,8 Nm)		I60M4×7 (3,4 Nm)	I43M4×8 (3,4 Nm)
	Vite (inserti)			I60M2,5×6,5T (1,0 Nm)		
	Chiave (inserti)	WT09IP	WT07IP	WT08IP	WT09IP	
	Chiave (inserti)					WT15S



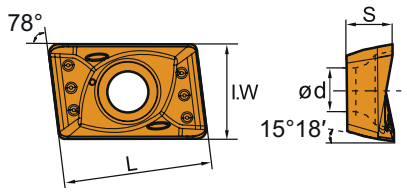
Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti per fresatura Serie QCH

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

ADKT	L	S	d
08 03	7,96	3	2,4
10 03	10	3,2	2,8
12 T3	12,44	3,9	3,5
16 05	16	5	4,4



AD** Inserti - Fresatura		HC¹ (CVD)									HC¹ (PVD)											HT		HC²		HW		
		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151		YNG151C		YD101	YD201	
P		◉	◉	❁	◉	◉	❁		◉	◉				◉	❁		◉	◉	◉	❁		●	●		●				
M			◉	❁	◉	◉	❁							◉	❁	◉	◉	◉	◉	❁	❁	●	●		●				
K								◉	❁	❁												●						
N												◉														◉	❁		
S					❁		❁						●	◉		◉	◉		◉		❁								
H											○							◉											
ISO	I.W																												
ADKT080308L-GM	5,33																		●										
ADKT100308L-GM	6,44																		●										
ADKT12T308L-GM	8																		●										
ADKT160508L-GM	9,62																		●										

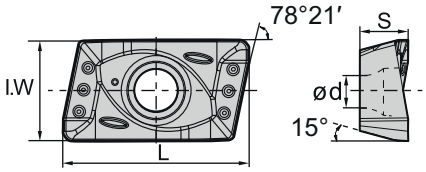
● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

ADKT	L	S	d
09 03	10	2,8	2,4
10 03	11,65	3,5	2,8
12 T3	15	3,9	3,54
15 05	17,05	4,95	4,5



AD** Inserti - Fresatura		HC¹ (CVD)									HC¹ (PVD)											HT		HC²		HW		
		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151		YNG151C		YD101	YD201	
P		◉	◉	❁	◉	◉	❁		◉	◉				◉	❁		◉	◉	◉	❁		●	●		●				
M			◉	❁	◉	◉	❁							◉	❁	◉	◉	◉	◉	❁	❁	●	●		●				
K								◉	❁	❁												●						
N												◉														◉	❁		
S					❁		❁						●	◉		◉	◉		◉		❁								
H											○							◉											
ISO	I.W																												
ADKT090308R-GM	5																		●										
ADKT100308R-GM	6,04																		●										
ADKT12T308R-GM	8,16																		●										
ADKT150508R-GM	8,81																		●										

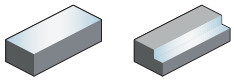
● In magazzino ○ Su richiesta

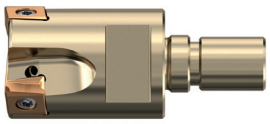
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

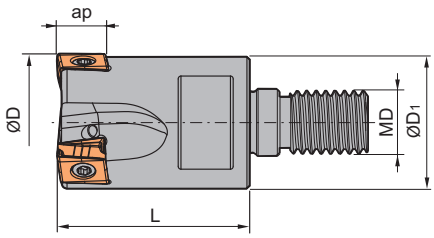
Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Serie QCH

QCH-LNKT Kr: 90°







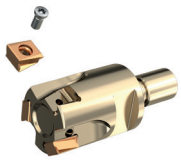
Articolo	✻	Stock	Dimensioni [mm] ØD	ød	L	$a_{p\,max}$	MD	Denti	kg	Inserto
QCH-20-LN08-M10-02		●	20	20	30	8	10	2	0,067	LNKT080404PNR-GM
QCH-20-LN08-M10-03		○	20	20	30	8	10	3	0,052	
QCH-25-LN08-M12-03		○	25	25	35	8	12	3	0,118	
QCH-25-LN08-M12-04		○	25	25	35	8	12	4	0,088	
QCH-32-LN08-M16-04		●	32	32	45	8	16	4	0,248	
QCH-32-LN08-M16-05		●	32	32	45	8	16	5	0,246	
QCH-40-LN08-M16-05		●	40	40	45	8	16	5	0,327	
QCH-40-LN08-M16-06		●	40	40	45	8	16	6	0,321	
QCH-32-LN12-M16-02		●	32	32	45	11,5	16	2	0,238	LNKT1206PNR-GM
QCH-32-LN12-M16-03		●	32	32	45	11,5	16	3	0,234	
QCH-40-LN12-M16-03		●	40	40	45	11,5	16	3	0,299	
QCH-40-LN12-M16-04		●	40	40	45	11,5	16	4	0,298	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**LNKT080404PNR-GM**	**LNKT1206PNR-GM**
	ØD	**16-40**	**25-40**
	Vite (inserti)	I60M3×7 (1,8 Nm)	I60M4×12 (3,4 Nm)
	Chiave (inserti)	WT09IP	WT15IP



Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti per fresatura Serie QCH

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

LNKT	L	S	d
08 04	8,75	4,45	3,4
12 06	12,7	6,75	4,4

LN** Inserti - Fresatura		HC[1] (CVD)									HC[1] (PVD)											HT		HC[2]		HW	
	P																										
	M																										
	K																										
	N																										
	S																										
	H																										
ISO	W	r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
LNKT080404PNR-GL	8,5	0,4								●									●	●		●					
LNKT120608PNR-GL	13	0,8								●									●	●		●					
LNKT080404PNR-GM	8,5	0,4				●				●									●	●		○					
LNKT080408PNR-GM	8,5	0,8	○							○									●	●							
LNKT080412PNR-GM	8,5	1,2	○																								
LNKT080415PNR-GM	8,5	1,5																	○								
LNKT120608PNR-GM	13	0,8				●			○	●									●	●		○					
LNKT120612PNR-GM	13	1,2	○			○				●										○							
LNKT120616PNR-GM	13	1,6	○			○				○										○							
LNKT120624PNR-GM	13	2,4								●										●							
LNKT120632PNR-GM	13	3,2				○				●										●							

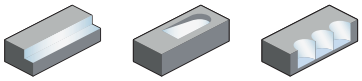
● In magazzino ○ Su richiesta

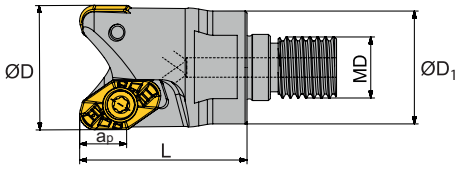
HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Serie QCH

QCH-VP Kr: 90°





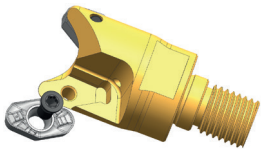
Articolo	✻	Stock	Dimensioni [mm]					Denti	kg	Inserto
			ØD	$ØD_1$	L	$a_{p\,max}$	MD			
QCH-32-VP22-M16-02C	✻	●	32	30	43	10	16	2	0,18	VPGT2205
QCH-32-VP22-M16-02CA	✻	●	32	30	43	10	16	2	0,18	
QCH-42-VP22-M16-03CA	✻	○	42	29,5	60	10	16	3	0,319	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**VPGT2205**
	ØD	**25-40**
	Vite (inserti)	I60M5×11 (6,7 Nm)
	Chiave (inserti)	WT20IT



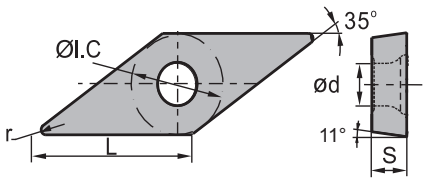
Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti per fresatura Serie QCH

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

VPGT	L	I.C	S	d
22 05	9	12,7	5,56	5,5



VP** Inserti positivi	HC¹ (CVD)									HC¹ (PVD)											HT		HC²		HW		
P	⊛	⊛	❁	⊛	⊛	❁		⊛	⊛				⊛	❁		⊛	⊛	⊛	❁		●	●		●			
M		⊛	❁	⊛	⊛	❁							⊛	❁	⊛	⊛	⊛	⊛	❁	❁	●	●		●			
K							⊛	❁	⊛												●						
N											⊛														⊛	❁	
S				❁		❁						●	⊛		⊛	⊛		⊛		❁							
H										○								⊛									

ISO		r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	VPGT220502-LP	0,2																								○	
	VPGT220505-LP	0,5																								●	
	VPGT220508-LP	0,8																	○							●	
	VPGT220510-LP	1																								●	
	VPGT220515-LP	1,5																								○	
	VPGT220520-LP	2																								●	
	VPGT220525-LP	2,5																	○							●	
	VPGT220530-LP	3																	○							●	
	VPGT220532-LP	3,2																	○							●	
	VPGT220540-LP	4																	○							●	
	VPGT220550-LP	5																								●	
	VPGT220560-LP	6																								○	
	VPGT220564-LP	6,4																								○	

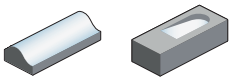
● In magazzino ○ Su richiesta

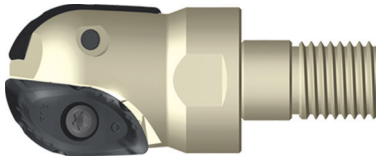
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

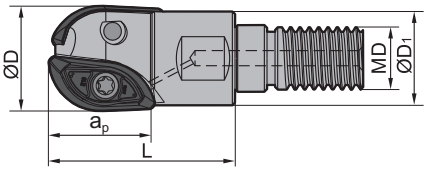
Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Frese a profilo

QCH - XPHT







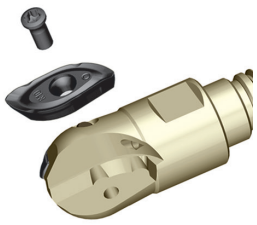
Articolo	✻	Stock	Dimensioni [mm] ØD	ØD1	ap	L	MD	Denti	kg	Inserto
QCH-16-XPHT16-M10	✻	●	16	17	16	28	10	2	0,036	XPHT16
QCH-20-XPHT20-M10	✻	●	20	10,5	20	30	10		0,048	XPHT20
QCH-20-XPHT20-M12	✻	○	20	19	20	30	12	2	0,051	
QCH-25-XPHT25-M12	✻	●	25	24	25	35	12	2	0,071	XPHT25
QCH-30-XPHT30-M16	✻	●	30	29	30	45	16	2	0,14	XPHT30
QCH-32-XPHT32-M16	✻	●	32	30	32	45	16	2	0,162	XPHT32

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	XPHT16	XPHT20	XPHT25	XPHT30	XPHT32
	ØD	16	20	25	30	32
	Vite (inserti)	I60M2,5×6,5 (1,0 Nm)		I60M4×10 (3,4 Nm)	I60M5×13,2 (6,7 Nm)	I60M5×13,2 (6,7 Nm)
	Vite (inserti)		I60M3,5×08TT (2,7 Nm)			
	Chiave (inserti)		WT10IP			
	Chiave (inserti)				WT20IT	WT20IT
	Chiave (inserti)	WT07P				
	Chiave (inserti)			WT15S		



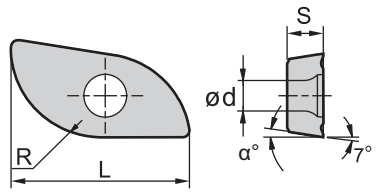
Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti per fresatura Serie QCH

XPHT	L	S	d
16	16	3,18	3,1
20	20	3,97	4
25	25	4,76	4,7
30	30	6,35	5,8
32	32	6,35	5,8

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli



XP** Inserti fresatura	HC¹ (CVD)									HC¹ (PVD)											HT		HC²		HW		
P	◐	◐	◉	◐	◐	◉		◐	◐				◐	◉		◐	◐	◐	◉		●	●		●				
M		◑	◉	◑	◑	◉							◑	◉	◑	◑	◑	◑	◉	◉	◑	◑		◑				
K							◐	◉	◉												●						
N											◐														◐	◉		
S				◉		◉						●	◐		◐	◐		◐		◉								
H										○							◐											

	ISO	R	α	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	XPHT16R0803-GM	8	9																			●						
	XPHT20R10T3-GM	10	9																			●						
	XPHT25R1204-GM	12,5	9																○			●						
	XPHT30R1506-GM	15	11																			●						
	XPHT32R1606-GM	16	9																			●						

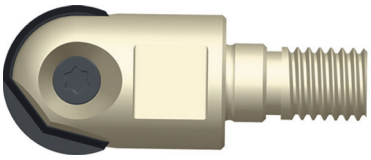
● In magazzino ○ Su richiesta

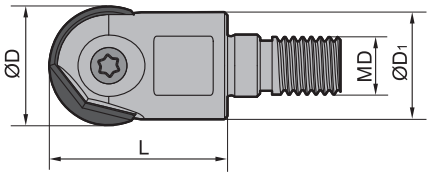
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Serie QCH

QCH - ZOHX





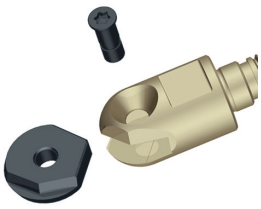
Articolo	✻	Stock	Dimensioni [mm]				kg	Inserto
			ØD	$ØD_1$	L	MD		
QCH-16-ZOHX16-M8		●	16	15	28	8	0,029	ZOHX16
QCH-20-ZOHX20-M10		●	20	19	30	10	0,048	ZOHX20
QCH-25-ZOHX25-M12		●	25	24	35	12	0,087	ZOHX25
QCH-32-ZOHX32-M16		●	32	30	45	16	0,18	ZOHX32

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	**ZOHX16**	**ZOHX20**	**ZOHX25**	**ZOHX32**
	ØD	**16**	**20**	**25**	**32**
	Vite (inserti)	I70M5×12TT (6,7 Nm)	I70M5×16TT (6,7 Nm)	I70M6×20TT (9,1 Nm)	I70M8×25TT (16,2 Nm)
	Chiave (inserti)	WT20IP	WT20IP	WT20IP	
	Chiave (inserti)				WT30IT



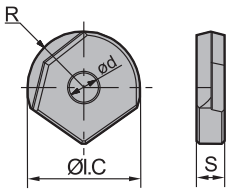
Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti per fresatura Serie QCH

ZOHX	I.C	S	d
16	16	4	5
20	20	5	5
25	25	6	6
32	32	7	8

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli



ZO** Inserti fresatura		HC¹ (CVD)									HC¹ (PVD)												HT		HC²		HW		
	P	⊛	⊛	❁	⊛	⊛	❁		⊛	⊛				⊛	❁		⊛	⊛	⊛	❁		●	●		●				
	M		⊛	❁	⊛	⊛	❁							⊛	❁	⊛	⊛	⊛	⊛	❁	❁	○	○		○				
	K							⊛	❁	⊛												●							
	N											⊛															⊛	❁	
	S				❁		❁						●	⊛		⊛	⊛		⊛		❁								
	H										○							⊛											
ISO	R	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151		YNG151C		YD101	YD201	
	ZOHX1604-GF	8																				●							
	ZOHX2005-GF	10																				●							
	ZOHX2506-GF	12,5																				○							
	ZOHX3207-GF	16																				●							
	ZOHX1604-GM	8																				●							
	ZOHX2005-GM	10																				●							
	ZOHX2506-GM	12,5																				○							
	ZOHX3207-GM	16																				●							
	ZOHX1604-HM	8									○																		
	ZOHX2005-HM	10									○																		
	ZOHX2506-HM	12,5									○																		
	ZOHX3207-HM	16									○																		

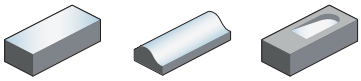
● In magazzino ○ Su richiesta

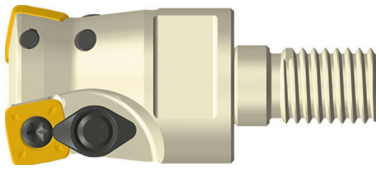
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

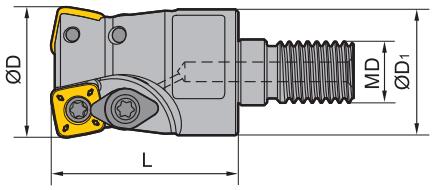
Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Frese ad alto avanzamento

QCH - SDMT Kr: 15°







Articolo	✻	Stock	Dimensioni [mm] ØD	ØD1	L	MD	Denti	kg	Inserto
QCH-16-SDMT06-M08-02	✻	○	16	8,5	17	8	2	0,068	SDMT06T2
QCH-20-SDMT06-M10-03	✻	●	20	19	30	10	3	0,058	
QCH-25-SDMT06-M12-04	✻	●	25	24	35	12	4	0,097	
QCH-32-SDMT06-M16-05	✻	○	32	30	45	16	5	0,183	
QCH-32-SDMT06-M16-06	✻	●	32	29	45	16	6	0,267	
QCH-35-SDMT06-M16-05	✻	○	35	30	45	16	5	0,242	
QCH-25-SDMT09-M12-02	✻	○	25	24	35	12	2	0,088	SDMT09T3
QCH-25-SDMT09-M16-02	✻	○	25	24	35	16	2	0,199	
QCH-30-SDMT09-M16-03	✻	●	30	29	45	16	3	0,176	
QCH-32-SDMT09-M16-03	✻	●	32	30	45	16	3	0,187	
QCH-32-SDMT09-M16-04	✻	○	32	30	45	16	4	0,187	
QCH-35-SDMT09-M16-03	✻	○	35	30	45	16	3	0,216	
QCH-35-SDMT09-M16-04	✻	●	35	30	45	16	4	0,2	
QCH-35-SDMT09-M16-05	✻	●	35	30	45	16	5	0,195	
QCH-40-SDMT09-M16-04	✻	○	40	30	45	16	4	0,29	
QCH-32-SDMT12-M16-02	✻	●	32	30	45	16	2	0,175	SDMT1204
QCH-35-SDMT12-M16-02	✻	○	35	30	45	16	2	0,2	
QCH-35-SDMT12-M16-03	✻	○	35	30	45	16	3	0,2	
QCH-40-SDMT12-M16-03	✻	○	40	30	45	16	3	0,3	

● In magazzino ○ Su richiesta

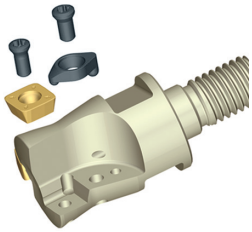
✻ Con raffreddamento interno

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti per fresatura Serie QCH

Parti di ricambio

	Inserto	SDMT06T2	SDMT09T3	SDMT1204
	ØD	15-35	20-40	32-40
	Staffa		WD-204	WD-204
	Vite (staffa)			I60M4×8,4 (3,4 Nm)
	Vite (staffa)		I60M3,5×08TT (2,7 Nm)	
	Vite (inserti)	I60M2,2×5,5 (0,8 Nm)	I60M4×8,4 (3,4 Nm)	I60M4×8,4 (3,4 Nm)
	Chiave (staffa)		WT10IP	WT15IP
	Chiave (inserti)	WT07IP	WT15IP	WT15IP

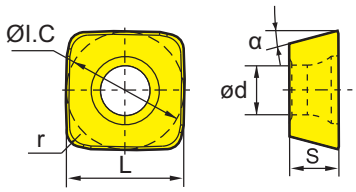


SDMT	L	I.C	S	d
06 T2	6,35	6,35	2,58	2,5
09 T3	9,525	9,525	3,97	4
12 04	12,7	12,7	4,76	4,4

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SD** Inserti - Fresatura



	HC¹ (CVD)									HC¹ (PVD)											HT	HC²	HW	
P	◉	◉	◉	◉	◉	◉		◉	◉				◉	◉		◉	◉	◉	◉		●	●			
M		◉	◉	◉	◉	◉							◉	◉	◉	◉	◉	◉	◉	◉	●	●			
K								◉	◉	◉											●				
N											◉													◉	◉
S				◉		◉						●	◉		◉	◉		◉		◉					
H										○							◉								

	ISO	r	α	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	SDMT06T208-DM	0,8	15						○									○		●	●		○					
	SDMT09T312-DM	1,2	15	●					●		○					○				●	●	●						
	SDMT120412-DM	1,2	15	●					●		●						○			●	●							
	SDMT06T208-NM	0,8	15														○			●			●					
	SDMT09T312-NM	1,2	15				●										○	●		●	●		●					
	SDMT120412-NM	1,2	15				●										○	●		○	●		●					
	SDMT06T208-PM	0,8	15	●			●				●							○	●	●			○					
	SDMT09T312-PM	1,2	15				●				○					○			●	●								
	SDMT120412-PM	1,2	15				●												●	●								

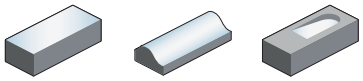
● In magazzino ○ Su richiesta

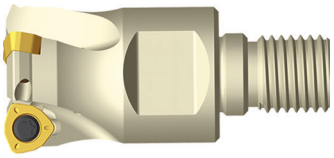
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

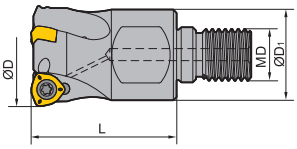
Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

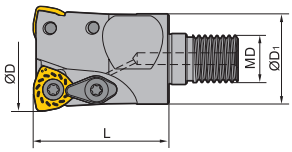
Frese ad alto avanzamento

QCH - WPGT Kr: 11°-22°









Articolo	✻	Stock	Dimensioni [mm] ØD	ØD$_1$	L	MD	Denti	kg	Inserto
QCH-20-WPGT05-M10-02	✻	○	20	18	30	10	2	0,056	WPGT0503
QCH-25-WPGT05-M12-03	✻	●	25	24	35	12		0,113	
QCH-25-WPGT06-M12-02	✻	○	25	21	35	12	2	0,097	WPGT0604
QCH-30-WPGT06-M16-03	✻	●	30	30	45	16		0,2002	
QCH-32-WPGT06-M16-03	✻	●	32	29	43	16	3	0,185	
QCH-40-WPGT06-M16-04	✻	●	40	30	45	16		0,252	
QCH-42-WPGT06-M16-04	✻	○	42	29	43	16	4	0,23	
QCH-32-WPGT08-M16-02	✻	●	32	30	45	16		0,221	WPGT0806
QCH-40-WPGT08-M16-03	✻	●	40	30	45	16		0,268	

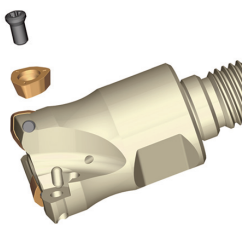
● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Angolo di inclinazione variabile (l'angolo di inclinazione dipende dalla dimensione dell'inserto)
angolo di attacco: WPGT05: 16°; WPGT06: 22°; WPGT08: 11°; WPGT09: 21°

Parti di ricambio

	Inserto	WPGT0503	WPGT0604	WPGT0806
	ØD	16-32	25-42	25-42
	Staffa			WD-208
	Vite (staffa)			I60M5×13 (6,7 Nm)
	Vite (inserti)		I60M4×8,4 (3,4 Nm)	I60M5×13 (6,7 Nm)
	Vite (inserti)	I60M3,5×6,5TT (2,7 Nm)		
	Chiave (staffa)			WT20IT
	Chiave (inserti)			WT20IT
	Chiave (inserti)	WT10P	WT15P	



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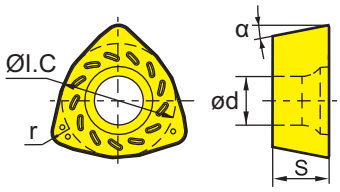
Inserti per fresatura Serie QCH

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

WPGT	I.C	S	d
05 03	7,94	3,5	4
06 04	9,525	4,2	4,4
08 06	12,85	6,35	5,5



WP** Inserti positivi	HC¹ (CVD)									HC¹ (PVD)											HT	HC²	HW		
P	◎	◎	❁	◎	◎	❁		◎	◎				◎	❁		◎	◎	◎	❁		●	●	●		
M		◎	❁	◎	◎	❁							◎	❁	◎	◎	◎	◎	❁		●	●	●		
K							◎	❁	◎												●				
N											◎													◎	❁
S				❁		❁						●	◎		◎	◎		◎		❁					
H										○							◎								
ISO	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201

	ISO	r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	WPGT050315ZSR-PM	1,5	○															●	●			●					
	WPGT060415ZSR-PM	1,5	●														●	●	●			●					
	WPGT080615ZSR-PM	1,5	●														●	●	●			●					
	WPGT050315ZSR	1,5	●					●								●											
	WPGT060415ZSR	1,5	●					●								●		●									
	WPGT080615ZSR	1,5	●					●								●		●	●	○							

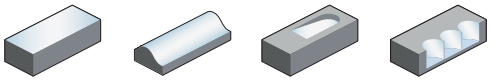
● In magazzino ○ Su richiesta

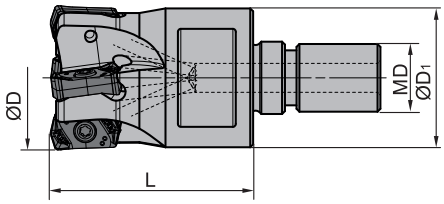
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Serie QCH

QCH-EN Kr: 18





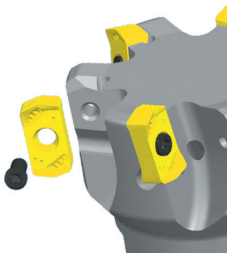
Articolo	✻	Stock	Dimensioni [mm] ØD	ØD1	L	MD	Denti	kg	Inserto
QCH-16-EN12-M8-02-XMR12	✻	●	16	13	28	8	2	0,025	ENMX1206**
QCH-17-EN12-M8-02-XMR12	✻	●	17	15	28	8	2	0,027	
QCH-18-EN12-M8-02-XMR12	✻	●	18	15	28	8	2	0,033	
QCH-20-EN12-M10-03-XMR12	✻	●	20	17	30	10	3	0,046	
QCH-22-EN12-M10-03-XMR12	✻	●	22	19	30	10	3	0,057	
QCH-25-EN12-M12-04-XMR12	✻	●	25	21,6	35	12	4	0,09	
QCH-28-EN12-M12-04-XMR12	✻	●	28	21,6	35	12	4	0,104	
QCH-32-EN12-M16-05-XMR12	✻	●	32	28	43	16	5	0,199	
QCH-33-EN12-M16-05-XMR12	✻	●	33	28	43	16	5	0,02	
QCH-40-EN12-M16-06-XMR12	✻	●	40	29	40	16	6	0,024	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	ENMX1206**
	ØD	16-45
	Vite	I60M2,5×7,4 (1,0 Nm)
	Chiave	WT07IP

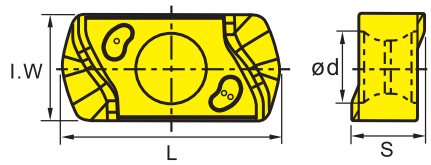


Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

ENMX	L	S	d
12 06	12	3	2,88



EN** Inserti - Fresatura	HC[1] (CVD)									HC[1] (PVD)										HT	HC[2]	HW	
P	◐	◐	◐	◐	◐	◐		◐	◐			◐	◐		◐	◐	◐	◐	●	●	●		
M		◐	◐	◐	◐	◐						◐	◐	◐	◐	◐	◐	◐	○	○	○		
K							◐	◐	◐										●				
N										◐												◐	◐
S				◐		◐					●	◐		◐	◐		◐		◐				
H										○						◐							

ISO	r	I.W	a_p max	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
ENMX120608-GM	0,8	6	3																	●								
ENMX1206R30-GM	3	6	2,8																	●								
ENMX1206XR-GM	0,6	6	0,6																	●								

● In magazzino ○ Su richiesta

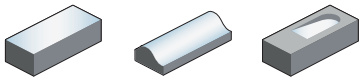
HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

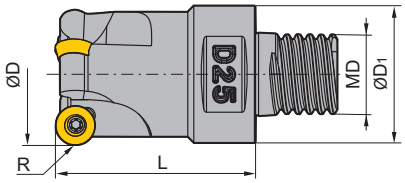
Per **ENMX120608** e **ENMX1206R30** il diametro nominale della fresa [ØD] -0,4 mm / [L1] +0,11 mm.

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Serie QCH

QCH-RD-Q





Articolo	✻	Stock	Dimensioni [mm] ØD	ØD1	L	MD	Denti	kg	Inserto
QCH-20-RD07-Q12-03	✻	●	13	11,9	30	12	3	0,1	RDKW0702
QCH-25-RD07-Q14-03	✻	●	18	13,9	35	14	3	0,141	
QCH-20-RD10-Q12-02	✻	●	10	11,9	30	12	2	0,101	RDKW10T3
QCH-25-RD10-Q14-02	✻	●	15	13,9	35	10	2	0,145	
QCH-32-RD10-Q18-03	✻	●	22	17,9	45	18	3	0,206	
QCH-32-RD16-Q18-02	✻	●	16	17,9	45	18	2	0,19	RDKW1605

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	RDKW0702	RDKW10T3	RDKW1605
	ØD	16-25	20-40	30-42
	Vite (inserti)	I60M2,5×5,0 (1,0 Nm)	I60M4×8 (3,4 Nm)	I60M5×13 (6,7 Nm)
	Chiave (inserti)	WT08IP	WT15IP	
	Chiave (inserti)			WT20IT

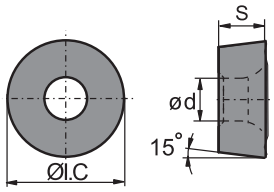
Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti per fresatura Serie QCH

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

RDKW	I.C	S	d
07 02	7	2,38	2,7
10 T3	10	3,97	4,4
16 05	16	5,56	5,5



RD** Inserti - Fresatura		HC¹ (CVD)									HC¹ (PVD)											HT	HC²	HW	
	ISO	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
P		◐	◐	◐	◐	◐	◐		◐	◐				◐	◐		◐	◐	◐	◐		●	●	●		
M			◐	◐	◐	◐	◐							◐	◐	◐	◐	◐	◐	◐	◐	●	●	●		
K								◐	◐	◐												●				
N											◐														◐	◐
S					◐		◐						●	◐		◐	◐		◐		◐					
H											○							◐								
	RDKW10T3MO	●											○	○						○						
	RDKW1605MO						○							○	○					○						
	RDKW0702MO-1						●							○												
	RDKW0702MO-2												●													

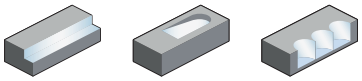
● In magazzino ○ Su richiesta

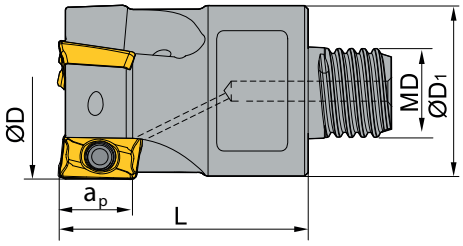
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Serie QCH

QCH-APKT-Q Kr: 90°





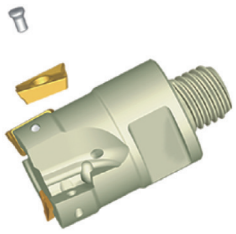
Articolo	✻	Stock	Dimensioni [mm] ØD	ØD1	ap	L	MD	Denti	kg	Inserto
QCH-16-APKT07-Q10-02	✻	○	16	16	6,4	25	10	2	0,036	APKT0702
QCH-16-APKT11-Q10-02	✻	●	16	15,2	10,5	28	10	2	0,028	APKT11T3
QCH-20-APKT11-Q12-02	✻	○	20	19	10,5	30	12	2	0,059	
QCH-25-APKT11-Q14-03	✻	●	25	24	10,5	35	14	3	0,104	
QCH-25-APKT16-Q14-02	✻	●	25	13,9	15,5	35	14	2	0,13	APKT1604
QCH-30-APKT16-Q18-03	✻	●	30	29	15,5	45	18	3	0,171	
QCH-32-APKT16-Q18-03	✻	●	32	17,9	15,5	45	18	3	0,24	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	APKT0702	APKT11T3	APKT1604
	ØD	15-25	16-25	20-40
	Vite (inserti)	I60M1,8x4 (0,5 Nm)		I60M4×8,4 (3,4 Nm)
	Vite (inserti)		I60M2,5×6,5T (1,0 Nm)	
	Chiave (inserti)	WT05IP	WT08IP	WT15IP



Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

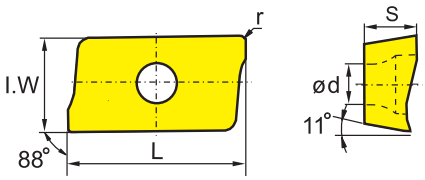
Inserti per fresatura Serie QCH

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

APKT	L	S	d
07 02	4,26	2,38	2
11 T3	12,24	3,6	2,8
16 04	17,877	5,76	4,4

AP** Inserti - Fresatura



	HC[1] (CVD)									HC[1] (PVD)											HT	HC[2]	HW	
P	❁	❁	❁	❁	❁	❁		❁	❁				❁	❁		❁	❁	❁	❁	●	●	●		
M		❁	❁	❁	❁	❁							❁	❁	❁	❁	❁	❁	❁	❁	●	●		
K							❁	❁	❁											●				
N											❁												❁	❁
S				❁		❁						●	❁		❁	❁		❁		❁				
H										○							❁							

	ISO	r	I.W	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	APKT11T304-ALH	0,4	6,5											●													●	●
	APKT11T308-ALH	0,8	6,5											●													●	●
	APKT160404-ALH	0,4	9,33																								●	
	APKT160408-ALH	0,8	9,33											●													●	○
	APKT070204-APF	0,4	6,91								●										●							
	APKT11T304-APF	0,4	6,5																		●							
	APKT11T308-APF	0,8	6,5															○		●	●		○					
	APKT160408-APF	0,8	9,33															○		●	●	○	○					
	APKT11T304-APL	0,4	6,5															○			●		○					
	APKT11T308-APL	0,8	6,5															○			●		○					
	APKT160408-APL	0,8	9,33															○			●		○					
	APKT160420-APL	2	9,33															○			●		●					
	APKT070204-APM	0,4	6,91								●										●							
	APKT11T304-APM	0,4	6,5				●			●											●							
	APKT11T308-APM	0,8	6,5				●			●								○		●	●		○					
	APKT11T312-APM	1,2	6,5				●			●											●							
	APKT11T316-APM	1,6	6,5				●													●	●							
	APKT11T320-APM	2	6,5				●			●										●	●							
	APKT160408-APM	0,8	9,33				●			●	●							○		●	●		○					
	APKT160416-APM	1,6	9,33				●			●											●							
	APKT160420-APM	2	9,33				●			●											●							
	APKT160424-APM	2,4	9,33				●			●											●							
	APKT160430-APM	3	9,33			○	●														●							
	APKT11T304-LH	0,4	6,5																								○	○
	APKT11T308-LH	0,8	6,5																								●	○
	APKT160408-LH	0,8	9,33																								○	○
	APKT11T308-NM	0,8	6,5															●					●					
	APKT11T312-NM	1,2	6,5															●					●					
	APKT11T304-PF	0,4	6,5		○										○	○						○						
	APKT11T316-PF	1,6	6,5													○												
	APKT160408-PF	0,8	9,33						○																			
	APKT160430-PF	3	9,33	○																								

● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

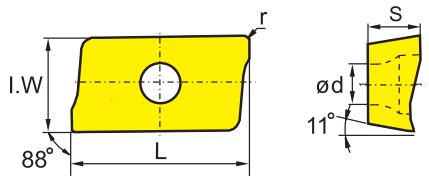
Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

APKT	L	S	d
07 02	4,26	2,38	2
11 T3	12,24	3,6	2,8
16 04	17,877	5,76	4,4

AP** Inserti - Fresatura



	HC¹ (CVD)								HC¹ (PVD)											HT	HC²	HW	
	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
P	◉	◉	◉	◉	◉	◉		◉	◉				◉	◉		◉	◉	◉	◉		●	●	●		
M		◉	◉	◉	◉	◉							◉	◉	◉	◉	◉	◉	◉	◉	●	●	●		
K							◉	◉	◉												●				
N											◉													◉	◉
S				◉		◉						●	◉		◉	◉		◉		◉					
H										○							◉								

	ISO	r	I.W	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	APKT11T304-PM	0,4	6,5	○	○				○						○	○						○						
	APKT11T308-PM	0,8	6,5	○			○		●	○	○				○	○			○			○						
	APKT11T312-PM	1,2	6,5												○							○						
	APKT11T316-PM	1,6	6,5													○												
	APKT160408-PM	0,8	9,33	○	○	○	●		●	○	○				○	○	○		○			●						
	APKT160416-PM	1,6	9,33	○												○												
	APKT11T304-PR	0,4	6,5																			○						
	APKT11T316-PR	1,6	6,5																			○						
	APKT0702-XR		6,91																	●	●							
	APKT11T3-XR		6,5								●									●	●							

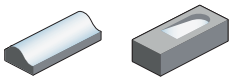
● In magazzino ○ Su richiesta

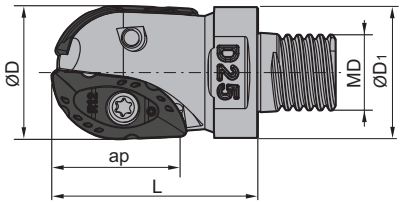
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Serie QCH

QCH-XPHT-Q





Articolo	✻	Stock	Dimensioni [mm] ØD	ØD1	ap	L	MD	Denti	kg	Inserto
QCH-16-XPHT16-Q10	✻	●	16	9,9	16	28	10	2	0,09	XPHT16
QCH-20-XPHT20-Q12	✻	●	20	11,9	20	30	12	2	0,049	XPHT20
QCH-25-XPHT25-Q14	✻	●	25	13,9	25	38	14	2	0,182	XPHT25
QCH-30-XPHT30-Q18	✻	●	30	29	30	45	18	2	0,2	XPHT30
QCH-32-XPHT32-Q18	✻	●	32	17,9	32	45	18	2	0,22	XPHT32

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

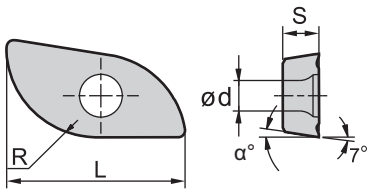
	Inserto	XPHT16	XPHT20	XPHT25	XPHT30	XPHT32
	ØD	16	20	25	30	32
	Vite (inserti)	I60M2,5×6,5 (1,0 Nm)		I60M4×10 (3,4 Nm)	I60M5×13,2 (6,7 Nm)	I60M5×13,2 (6,7 Nm)
	Vite (inserti)		I60M3,5×08TT (2,7 Nm)			
	Chiave (inserti)		WT10IP			
	Chiave (inserti)				WT20IT	WT20IT
	Chiave (inserti)	WT07P				
	Chiave (inserti)			WT15S		

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

XPHT	L	S	d
16	16	3,18	3,1
20	20	3,97	4
25	25	4,76	4,7
30	30	6,35	5,8
32	32	6,35	5,8

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

Inserti - Fresatura



XP** Inserti fresatura	HC[1] (CVD)								HC[1] (PVD)											HT	HC[2]	HW	
P	◉	◉	❁	◉	◉	❁		◉	◉			◉	❁		◉	◉	◉	❁		●	●		
M		◉	❁	◉	◉	❁						◉	❁	◉	◉	◉	◉	❁	❁	●	●		
K								❁	❁	❁									●				
N										◉												◉	❁
S				❁		❁					●	◉			◉	◉		◉					
H									○								❁						

	ISO	R	α	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	XPHT16R0803-GM	8	9																			●						
	XPHT20R10T3-GM	10	9																			●						
	XPHT25R1204-GM	12,5	9																○			●						
	XPHT30R1506-GM	15	11																			●						
	XPHT32R1606-GM	16	9																			●						

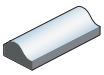
● In magazzino ○ Su richiesta

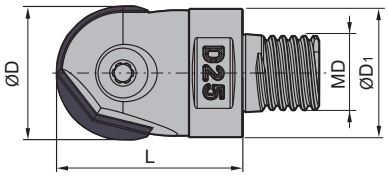
HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Serie QCH

QCH-ZOHX-Q





Articolo	✻	Stock	Dimensioni [mm] ØD	ØD1	L	MD	kg	Inserto
QCH-16-ZOHX16-Q10		●	16	15	28	8	0,085	ZOHX16
QCH-20-ZOHX20-Q12		●	20	11,9	30	12	0,1	ZOHX20
QCH-25-ZOHX25-Q14		●	25	13,9	35	14	0,16	ZOHX25
QCH-30-ZOHX30-Q18		●	30	29	45	18	0,24	ZOHX30
QCH-32-ZOHX32-Q18		●	32	17,9	45	18	0,24	ZOHX32

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

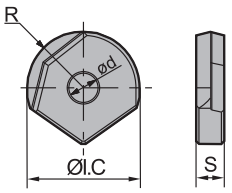
	Inserto	ZOHX16	ZOHX20	ZOHX25	ZOHX30	ZOHX32
	ØD	16	20	25	30	32
	Vite (inserti)	I70M5×12TT (6,7 Nm)	I70M5×16TT (6,7 Nm)	I70M6×20TT (9,1 Nm)	I70M8×25TT (16,2 Nm)	I70M8×25TT (16,2 Nm)
	Chiave (inserti)	WT20IP	WT20IP	WT20IP		
	Chiave (inserti)				WT30IT	WT30IT

Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

ZOHX	I.C	S	d
16	16	4	5
20	20	5	5
25	25	6	6
30	30	7	8
32	32	7	8

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

Inserti - Fresatura



ZO** Inserti fresatura		HC¹ (CVD)								HC¹ (PVD)											HT	HC²	HW	
	P	◉	◉	❁	◉	◉	❁		◉	◉			◉	❁		◉	◉	◉	❁		●	●			
	M		◉	❁	◉	◉	❁						◉	❁	◉	◉	◉	◉	❁	❁	●	●			
	K							❁	❁	❁											●				
	N										❁													❁	❁
	S				❁		❁					●	◉		◉	◉		◉		❁					
	H									○							❁								
ISO	R	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
ZOHX1604-GF	8																					●				
ZOHX2005-GF	10																					●				
ZOHX2506-GF	12,5																					○				
ZOHX3007-GF	15																					●				
ZOHX3207-GF	16																					●				
ZOHX1604-GM	8																					●				
ZOHX2005-GM	10																					●				
ZOHX2506-GM	12,5																					○				
ZOHX3007-GM	15																					●				
ZOHX3207-GM	16																					●				
ZOHX1604-HM	8									○															
ZOHX2005-HM	10									○															
ZOHX2506-HM	12,5									○															
ZOHX3007-HM	15									○															
ZOHX3207-HM	16									○															

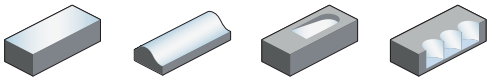
● In magazzino ○ Su richiesta

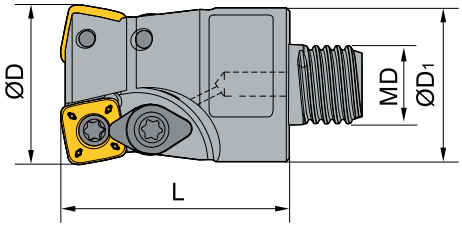
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Serie QCH

QCH-SDMT-Q





Articolo	✻	Stock	Dimensioni [mm] ØD	ØD1	L	MD	Denti	kg	Inserto
QCH-25-SDMT09-Q14-02	✻	○	25	24	35	14	2	0,088	SDMT09T3
QCH-30-SDMT09-Q18-03	✻	●	30	29	45	18	3	0,21	
QCH-32-SDMT12-Q18-02	✻	●	32	30	45	18	2	0,23	SDMT1204
QCH-35-SDMT12-Q18-02	✻	●	35	30	45	18	2	0,245	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

	Inserto	SDMT09T3	SDMT1204
	ØD	25-35	25-40
	Staffa	WD-204	WD-204
	Vite (staffa)		I60M4×8,4 (3,4 Nm)
	Vite (staffa)	I60M3,5×08TT (2,7 Nm)	
	Vite (inserti)	I60M4×8,4 (3,4 Nm)	I60M4×8,4 (3,4 Nm)
	Chiave (staffa)	WT10IP	WT15IP
	Chiave (inserti)	WT15IP	WT15IP

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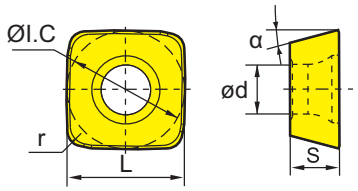
Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SDMT	L	I.C	S	d
09 T3	9,525	9,525	3,97	4
12 04	12,7	12,7	4,76	4,4



SD** Inserti - Fresatura	HC¹ (CVD)								HC¹ (PVD)											HT	HC²	HW	
P	●	●	●	●	●	●		●	●			●	●		●	●	●	●		●	●		
M		●	●	●	●	●						●	●	●	●	●	●	●	●	●	●		
K							●	●	●										●				
N										●												●	●
S				●		●					●	●		●	●		●		●				
H									○							●							

	ISO	r	α	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	SDMT09T312-DM	1,2	15	●					●		○					○				●	●	●						
	SDMT120412-DM	1,2	15	●					●		●						○											
	SDMT09T312-NM	1,2	15				●										○	●		●	●		●					
	SDMT120412-NM	1,2	15				●										○	●			●		●					
	SDMT09T312-PM	1,2	15				●				○					○			●	●								
	SDMT120412-PM	1,2	15				●												●									

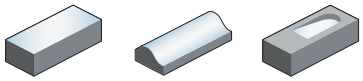
● In magazzino ○ Su richiesta

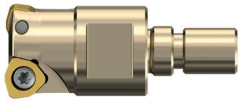
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

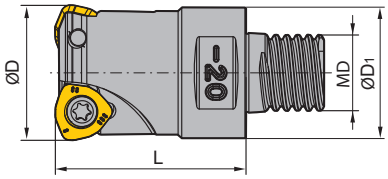
Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Serie QCH

QCH-WPGT-Q Kr: 11°-22°







Articolo	✻	Stock	Dimensioni [mm] ØD	ØD1	L	MD	Denti	kg	Inserto
QCH-20-WPGT05-Q12-02	✻	●	20	11,9	30	12	2	0,1	WPGT0503
QCH-25-WPGT06-Q14-02	✻	●	25	13,9	35	14	2	0,141	WPGT0604
QCH-32-WPGT06-Q18-03	✻	●	32	17,9	45	18	3	0,228	
QCH-35-WPGT08-Q18-02	✻	●	35	17,9	45	18	2	0,245	
QCH-35-WPGT06-Q18-03	✻	●	35	17,9	45	18	3	0,26	

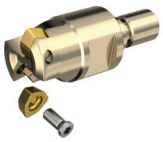
● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Angolo di inclinazione variabile (l'angolo di inclinazione dipende dalla dimensione dell'inserto)
angolo di attacco: WPGT05: 16°; WPGT06: 22°; WPGT08: 11°; WPGT09: 21°

Parti di ricambio

	Inserto	WPGT0503	WPGT0604
	ØD	16-32	20-42
	Staffa		WD-208
	Vite (staffa)		I60M5×13 (6,7 Nm)
	Vite (inserti)		I60M4×8,4 (3,4 Nm)
	Vite (inserti)	I60M3,5×6,5TT (2,7 Nm)	
	Chiave (staffa)		WT20IT
	Chiave (inserti)	WT10IP	WT15IP

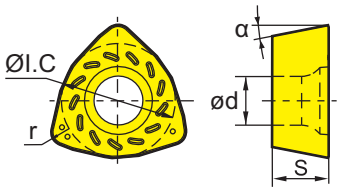


Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

WPGT	I.C	S	d
05 03	7,94	3,5	4
06 04	9,525	4,2	4,4
08 06	12,85	6,35	5,5



WP** Inserti positivi		HC¹ (CVD)									HC¹ (PVD)											HT	HC²	HW	
	P	◎	◎	❁	◎	◎	❁		◎	◎				◎	❁		◎	◎	◎	❁		●	●			
	M		◎	❁	◎	◎	❁							◎	❁	◎	◎	◎	◎	❁	❁	○	○			
	K							❁	❁	❁											●					
	N										❁													❁	❁	
	S				❁		❁						●	◎		◎	◎		◎		❁					
	H										○							◎								
ISO	r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
WPGT050315ZSR-PM	1,5	○															●	●			●					
WPGT060415ZSR-PM	1,5	●														●	●	●			●					
WPGT080615ZSR-PM	1,5	●														●	●	●			●					
WPGT050315ZSR	1,5	●					●								●											
WPGT060415ZSR	1,5	●					●								●		●									
WPGT080615ZSR	1,5	●					●								●		●	●	○							

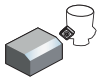
● In magazzino ○ Su richiesta

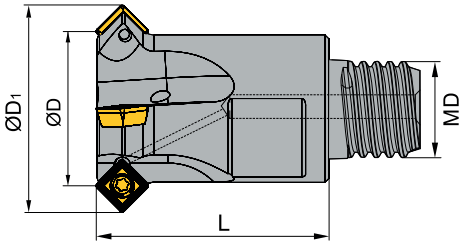
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Serie QCH

QCH-SPGT-Q





Articolo	✻	Stock	Dimensioni [mm] ØD	ØD1	L	MD	Denti	kg	Inserto
QCH-16-SPGT05-Q10-45-03	✻	○	16	22,6	25	10	3	0,032	SPGT0502
QCH-20-SPGT05-Q12-45-04	✻	○	20	26,6	30	12	4	0,644	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Parti di ricambio

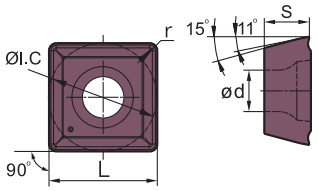
	Inserto	SPGT0502
	ØD	16-20
	Vite (inserti)	I60M2×4,3 (0,5 Nm)
	Chiave (inserti)	WT06IP

Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SPGT	L	S	d
05 02	5	2,38	2,2



SP** Inserti positivi		HC¹ (CVD)									HC¹ (PVD)												HT	HC²	HW	
		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
P		◐	◐	◐	◐	◐	◐		◐	◐				◐	◐		◐	◐	◐	◐		●	●	●		
M			◐	◐	◐	◐	◐							◐	◐	◐	◐	◐	◐	◐	◐	●	●	●		
K								◐	◐	◐												●				
N												◐													◐	◐
S					◐		◐						●	◐		◐	◐		◐		◐					
H											○							◐								
ISO	r																									
SPGT050204-EM	0,4														○		○									
SPGT050204-PM	0,4														○		○									

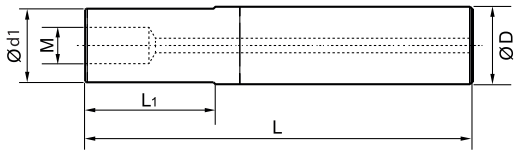
● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

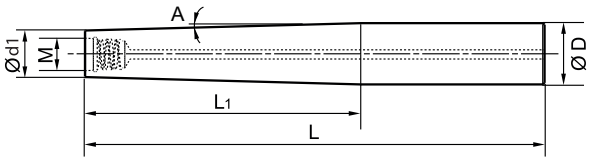
Sistema di attacchi

Stelo in metallo duro integrale, scaricato, filetto tipo Q



Articolo	Dimensioni [mm]				Angolo (M)	Stock
	D	d1	L	L1		
G12-QCH-Q08-80C	12	11,5	80	30	Q8	●
G12-QCH-Q08-100C	12	11,5	100	50	Q8	●
G12-QCH-Q08-120C	12	11,5	120	70	Q8	●
G16-QCH-Q10-90C	16	15,2	90	40	Q10	●
G16-QCH-Q10-120C	16	15,2	120	70	Q10	●
G16-QCH-Q10-150C	16	15,2	150	100	Q10	●
G20-QCH-Q12-100C	20	19	100	40	Q12	●
G20-QCH-Q12-140C	20	19	140	80	Q12	●
G20-QCH-Q12-180C	20	19	180	120	Q12	●
G25-QCH-Q14-120C	25	24	120	50	Q14	●
G25-QCH-Q14-170C	25	24	170	100	Q14	●
G25-QCH-Q14-220C	25	24	220	150	Q14	●
G32-QCH-Q18-140C	32	30	140	70	Q18	●
G32-QCH-Q18-200C	32	30	200	130	Q18	●
G32-QCH-Q18-260C	32	30	260	190	Q18	●
G32-QCH-Q18-320C	32	30	320	250	Q18	●

Stelo in metallo duro integrale, conico, filetto tipo Q



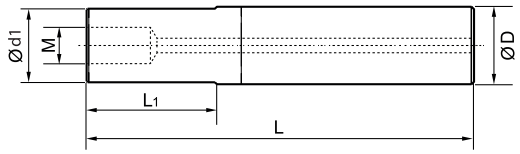
Articolo	Dimensioni [mm]				Filetto (M)	Angolo (A)	Stock
	D	d1	L	L1			
G16-QCH-Q08-140C-ZJ90	16	11,5	140	90	Q8	1,0	●
G20-QCH-Q10-200C-ZJ140	20	15,2	200	140	Q8	0,8	●
G25-QCH-Q12-250C-ZJ180	25	19	250	180	Q8	0,8	●
G32-QCH-Q14-270C-ZJ200	32	30	270	200	Q10	0,8	●

Parti di ricambio

	Filetto	Q8 / Q10	Q12 / Q14	Q18
	Chiave	QCH-10×13	QCH-16×20	QCH-26

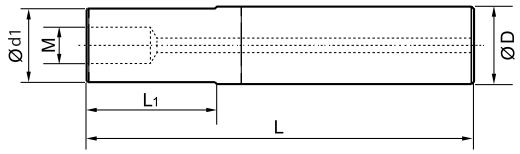
Sistema di attacchi

Codolo in acciaio, scaricato, filetto tipo Q



Articolo	Dimensioni [mm]				Angolo (M)	Stock
	D	d1	L	L1		
G12-QCH-Q08-65S	12	11,5	65	19	Q08	●
G16-QCH-Q10-100S	16	15,2	100	42	Q10	●
G20-QCH-Q12-110S	20	19	110	54	Q12	●

Stelo in metallo duro integrale, scaricato, filettatura metrica

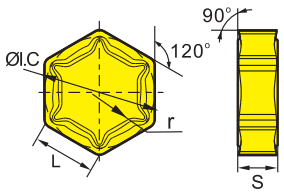


Articolo	Dimensioni [mm]				Angolo (M)	Stock
	D	d1	L	L1		
G16-QCH-M8-90C-125	16	12,5	90	35	M8	○
G16-QCH-M8-110C-125	16	12,5	110	55	M8	○
G16-QCH-M8-130C-125	16	12,5	130	75	M8	○
G16-QCH-M8-90C	16	15	90	35	M8	○
G16-QCH-M8-110C	16	15	110	55	M8	○
G16-QCH-M8-130C	16	15	130	75	M8	○
G16-QCH-M8-170C	16	15	170	115	M8	○
G16-QCH-M8-200C	16	15	200	145	M8	○
G20-QCH-M10-87C	20	18,5	87	30	M10	○
G20-QCH-M10-107C	20	18,5	107	50	M10	○
G20-QCH-M10-127C	20	18,5	127	70	M10	○
G20-QCH-M10-167C	20	18,5	167	110	M10	○
G20-QCH-M10-197C	20	18,5	197	140	M10	○
G25-QCH-M12-128C	25	23	128	65	M12	○
G25-QCH-M12-148C	25	23	148	85	M12	○
G25-QCH-M12-168C	25	23	168	105	M12	○
G25-QCH-M12-198C	25	23	198	135	M12	○
G25-QCH-M12-228C	25	23	228	165	M12	○
G32-QCH-M16-161C	32	29	161	95	M16	○
G32-QCH-M16-211C	32	29	211	145	M16	○
G32-QCH-M16-281C	32	29	281	215	M16	○
G32-QCH-M16-311C	32	29	311	245	M16	○
G32-QCH-M16-361C	32	29	361	295	M16	○

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

HNGX	L	I.C	S
09 05	9,16	15,875	5,56



HN** Inserti - Fresatura		HC¹ (CVD)									HC¹ (PVD)												HT		HC²		HW		
		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151		YNG151C		YD101	YD201	
	P	⊛	⊛	⊛	⊛	⊛	⊛		⊛	⊛				⊛	⊛		⊛	⊛	⊛	⊛		●	●		●				
	M		⊛	⊛	⊛	⊛	⊛							⊛	⊛	⊛	⊛	⊛	⊛	⊛	⊛	●	●		●				
	K							⊛	⊛	⊛												●							
	N											⊛															⊛	⊛	
	S				⊛		⊛						●	⊛		⊛	⊛		⊛		⊛								
	H										●							⊛											
ISO	r																												
HDR **HNGX090530-HDR**	3							○	○																				
MR **HNGX090516-MR**	1,6							●																					
MR **HNGX090520-MR**	2							●																					

● In magazzino ○ Su richiesta

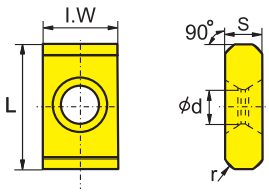
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

LNE3	I.W	L	S
2. 53	4,76	15,875	9,525

LN** Inserti - Fresatura		HC¹ (CVD)								HC¹ (PVD)											HT	HC²	HW	
	**P**	◉	◉	◉	◉	◉	◉		◉	◉				◉	◉		◉	◉	◉	◉		●	●	●			
	M		◉	◉	◉	◉	◉							◉	◉	◉	◉	◉	◉	◉	◉	●	●	●			
	K							◉	◉	◉												●					
	N										◉														◉	◉	
	S				◉		◉					●	◉	◉		◉	◉		◉		◉						
	H									●								◉									
ISO	r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201	
LNE32.534	1,6						○	○	○																		

● In magazzino ○ Su richiesta

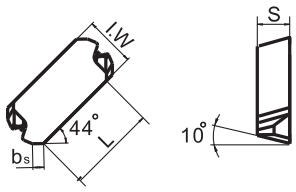
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

LNCX	I.W	L	S
18 06	10	24	6,4



LN** Inserti - Fresatura		HC[1] (CVD)									HC[1] (PVD)											HT		HC[2]		HW		
		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151		YNG151C		YD101	YD201	
	P	⊛	⊛	⊛	⊛	⊛	⊛		⊛	⊛				⊛	⊛		⊛	⊛	⊛	⊛		●	●		●				
	M		⊛	⊛	⊛	⊛	⊛							⊛	⊛	⊛	⊛	⊛	⊛	⊛	⊛	●	●		●				
	K							⊛	⊛	⊛												●							
	N											⊛															⊛	⊛	
	S				⊛		⊛						●	⊛		⊛	⊛		⊛		⊛								
	H										●							⊛											
ISO	bs																												
LNCX1806AZT11L	1,2								○																				
LNCX1806AZT11R	1,2								○																				
LNCX1806AZT22R	1,8								○																				

● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

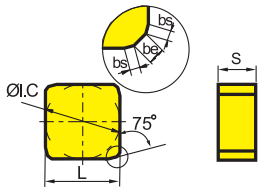
Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SNKN	L	I.C	S
12 04	12,7	12,7	4,76
15 04	15,875	15,875	4,76

SN** Inserti fresatura



	HC¹ (CVD)									HC¹ (PVD)												HT		HC²		HW	
	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151		YNG151C		YD101	YD201
P	◉	◉	❁	◉	◉	❁		◉	◉				◉	❁		◉	◉	◉	❁		●	●		●			
M		◉	❁	◉	◉	❁							◉	❁	◉	◉	◉	◉	❁	❁	●	●		●			
K							❁	❁	❁												●						
N											◉															◉	❁
S				❁		❁						●	◉		◉	◉		◉		❁							
H										●							◉										

	ISO	bs	be
	SNKN1204ENN	1,5	0,9
	SNKN1504ENN	1,5	0,9

	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151		YNG151C		YD101	YD201
SNKN1204ENN		●				●	●																				
SNKN1504ENN		○																									

● In magazzino ○ Su richiesta

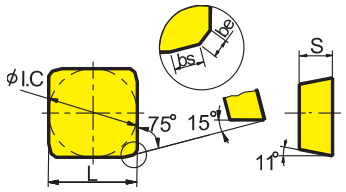
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SPCN	L	I.C	S
12 03	12,7	12,7	1,4
15 04	15,875	15,875	1,4



SP** Inserti fresatura	HC¹ (CVD)									HC¹ (PVD)											HT		HC²		HW		
	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151		YNG151C		YD101	YD201	
P	◐	◐	◐	◐	◐	◐		◐	◐				◐	◐		◐	◐	◐	◐		●	●		●				
M		◐	◐	◐	◐	◐							◐	◐	◐	◐	◐	◐	◐	◐	●	●		●				
K							◐	◐	◐												●						
N											◐															◐	◐	
S				◐		◐						●	◐		◐	◐		◐		◐								
H										○							◐											

	ISO	bs	be	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	SPCN1203EDSKR	3,2	1,0		●																							
	SPCN1504EDSKR	4,8	1,0		●																							

● In magazzino ○ Su richiesta

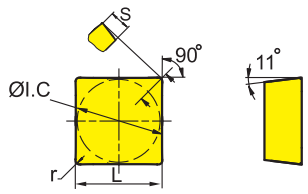
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SPMR	L	I.C	S
12 03	12,7	12,7	3,18



SP** Inserti fresatura		HC¹ (CVD)								HC¹ (PVD)											HT	HC²	HW	
	P	◉	◉	❁	◉	◉	❁		◉	◉			◉	❁		◉	◉	◉	❁		●	●	◉			
	M		◉	❁	◉	◉	❁						◉	❁	◉	◉	◉	◉	❁	❁	●	●	◉			
	K							❁	❁	❁											●					
	N										◉														❁	❁
	S				❁		❁					●	◉	❁		◉	◉		◉		❁					
	H									●								◉								
ISO	r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
SPMR120304	0,4					●																				
SPMR120308	0,8					●	○																			
SPMR120312	1,2						○																			

● In magazzino ○ Su richiesta

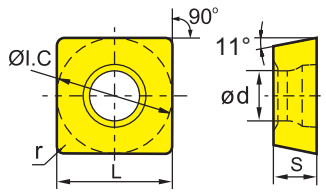
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SPMT	L	I.C	S	d
06 03	6,35	6,35	3,18	2,8
09 T3	9,525	9,525	3,97	4,4
12 04	12,7	12,7	4,76	5,5



SP** Inserti fresatura		HC¹ (CVD)									HC¹ (PVD)											HT		HC²		HW	
	P	⊛	⊛	⊛	⊛	⊛	⊛		⊛	⊛				⊛	⊛		⊛	⊛	⊛	⊛	●	●		●			
	M		⊛	⊛	⊛	⊛	⊛							⊛	⊛	⊛	⊛	⊛	⊛	⊛	⊛	●		●			
	K							⊛	⊛	⊛											●						
	N											⊛														⊛	⊛
	S				⊛		⊛						●	⊛		⊛	⊛		⊛		⊛						
	H										○							⊛									
ISO	r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151		YNG151C		YD101	YD201
HT-1 **SPMT120408-HT-1**	0,8														○												
HT **SPMT09T308-HT**	0,8					●			●					○													
KT **SPMT060304-KT**	0,4		○																								

● In magazzino ○ Su richiesta

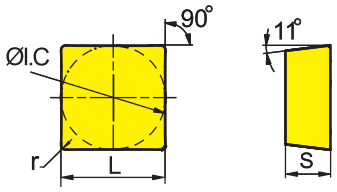
HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

Inserti - Fresatura

- ● Buone condizioni di lavorazione
- ✲ Condizioni di lavorazione normali
- ✲ Condizioni di lavorazione sfavorevoli

SP**	L	I.C	S
12 03	12,7	12,7	3,18
15 04	15,875	15,875	4,76



SP** Inserti fresatura		HC¹ (CVD)								HC¹ (PVD)											HT		HC²		HW	
P		✲	✲	✲	✲	✲	✲		✲	✲			✲	✲		✲	✲	✲	✲		●		●			
M			✲	✲	✲	✲	✲						✲	✲	✲	✲	✲	✲	✲	✲	●		●			
K								✲	✲	✲											●					
N											✲														✲	✲
S					✲		✲					●	✲			✲	✲		✲		✲					
H										●								✲								
ISO	r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151		YNG151C		YD101	YD201
SPGN120304	0,4													○														○
SPGN120308	0,8													○														
SPUN120308	0,8					○	○																					○
SPUN150412	1,2																											○

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 | Scelta gradi B31 | Informazioni tecniche B617 | Dati di taglio B312

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

TPKN	L	I.C	S
16 03	16,5	9,525	3,18

TP** Inserti fresatura		HC[1] (CVD)									HC[1] (PVD)												HT		HC[2]		HW	
		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151		YNG151C		YD101	YD201
P		◉	◉	❁	◉	◉	❁		◉	◉				◉	❁		◉	◉	◉	❁		●	●		●			
M			◉	❁	◉	◉	❁							◉	❁	◉	◉	◉	◉	❁	❁	●	●		●			
K								◉	❁	❁												●						
N												◉															◉	❁
S					❁		❁						●	◉		◉	◉		◉		❁							
H											●							◉										
ISO	bs	be	an																									
TPKN1603PDSKR	1,0	1,2	11		●	○				○				○						●								
TPKN1603PDTKR	1,0	1,2	11																									○
TPKN1603PPER	1,0	1,2	11		●																							

● In magazzino ○ Su richiesta

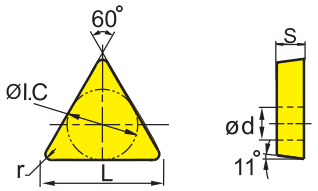
HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HC[2] Cermet rivestito
HW Carburo cementato non rivestito

Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

TP**	L	I.C	S
11 03	11	6,35	3,18
16 03	16,5	9,525	3,18
22 04	22	12,7	4,76

Inserti - Fresatura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli



TP** Inserti fresatura		HC¹ (CVD)								HC¹ (PVD)												HT		HC²		HW	
P																											
M																											
K																											
N																											
S																											
H																											
ISO	r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBD203	YBH053	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YBG205H	YB9320	YBG302	YBS303	YBG252	YNG151		YNG151C		YD101	YD201
TPMR110304	0,4					●																					
TPMR110308	0,8					○																					
TPMR160304	0,4					●																					
TPMR160308	0,8					●	●	●																			
TPMR160312	1,2					○																					
TPMR220412	1,2					○																					
TPUN110304	0,4					○																					
TPUN160304	0,4					●																				○	
TPUN160308	0,8					●	○										○									○	
TPUN160312	1,2					●																					
TPUN220408	0,8					●																					
TPUN220412	1,2						○																				

● In magazzino ○ Su richiesta

HC¹ Carburo cementato rivestito
HT Cermet non rivestito
HC² Cermet rivestito
HW Carburo cementato non rivestito

A Tornitura
B Fresatura
C Foratura
D Informazioni tecniche
E Indice

Codice sistema B32 Scelta gradi B31 Informazioni tecniche B617 Dati di taglio B312

Principi guida per i dati di taglio consigliati – Inserti per fresatura

Indexable milling – group 1 (FMA07/11/12, FMD02, EMP09/13)

1 2 3 4 5

Material group		Composition / structure / heat treatment		Brinell hardness HB	Machining group	Starting values for cutting speed v. [m/min] HC (CVD) YBC302 a_e / D 1/1 | 3/4	YBC302 a_e / D 1/5	YBC401 a_e / D 1/1 | 3/4	YBC401 a_e / D 1/5	YBD152 a_e / D 1/1 | 3/4	YBD152 a_e / D 1/5	YBD252 a_e / D 1/1 | 3/4	YBD252 a_e / D 1/5
P	Unalloyed steel	ca. 0,15 % C	annealed	125	1	260	300	225	260				
		ca. 0,45 % C	annealed	190	2	225	255	195	225				
		ca. 0,45 % C	tempered	250	3	210	240	180	210				
		ca. 0,75 % C	annealed	270	4	185	210	160	185				
		ca. 0,75 % C	tempered	300	5	170	195	150	170				
	Low-alloyed steel		annealed	180	6	225	255	195	225				
			tempered	275	7	185	210	160	185				
			tempered	300	8	170	195	150	170				
			tempered	350	9	145	165	125	145				
	High-alloyed steel and high-alloyed tool steel		annealed	200	10	130	150	115	130				
			hardened ard tempered	325	11	95	105	80	95				
M	Stainless steel	ferritic/martensitic	annealed	200	12								
		martensitic	tempered	240	13								
		austenitic	quench harcened	180	14								
		austenitic-ferritic		230	15								
K	Grey cast iron	perlitic/ferritic		180	16					370	430	320	370
		perlitic (martensitic)		260	17					220	255	190	220
	Cast iron with spheroidal graphite	ferritic		160	18					255	295	220	255
		perlitic		250	19					170	200	145	170
	Malleable cast iron	ferritic		130	20					305	355	265	305
		perlitic		230	21					205	240	175	205
N	Aluminium wrought alloys	cannot be hardened		60	22								
		hardenable	hardened	100	23								
	Cast aluminium alloys	≤ 12 % Si, cannot be hardened		75	24								
		≤ 12 % Si, hardenable	hardened	90	25								
		> 12 % Si, cannot be hardened		130	26								
	Copper and copper alloys (bronze/brass)	machining steel, PB> 1%		110	27								
		CuZn, CuSnZn		90	28								
		CuSn, Pb-free copper, electrolytic copper		100	29								
S	Heat-resistant alloys	Fe-based alloys	annealed	200	30								
			hardened	280	31								
		Ni or Co bass	annealed	250	32								
			hardened	350	33								
			cast	320	34								
	Titanium alloys	pure titanium		R_m 400	35								
		α and β alloys	hardened	R_m 1050	36								
H	Hardened steel		hardened and tempered	55 HRC	37								
			hardened and tempered	60 HRC	38								
	Hard cast iron		cast	400	39								
	Hardened cast iron		hardened and tempered	55 HRC	40								
X	Non-metallic materials	Thermoplasts			41								
		Thermosetting plastics			42								
		Plastic, glass-fibre reinforced GFRP			43								
		Plastic, carbon fibre reinforced CFRP			44								
		Graphite			45								
		Wood			46								

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.
Feed rate recommendations on page B248
For examples of material for cutting tool groups view page D22.

Recommend feed rate

Indexable milling – group1 (FMA07/11/12, FMD02, EMP09/13)

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	Material group	Feed rate per cutting edge [mm]																	
		EMP09			EMP13			EMP13			FMA07			FMA07			FMA11		
		LNKT12			ANGX11			ANGX15			ONHU06			ONHU08			SNEG12		
		Application																	
		F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R
P	Unalloyed steel		0,25	0,50		0,23			0,25		0,19	0,23		0,19	0,23			0,20	0,23
	Low-alloyed steel		0,23	0,47		0,22			0,23		0,17	0,22		0,17	0,22			0,19	0,21
	High-alloyed steel and high-alloyed tool steel		0,22	0,44		0,20			0,22		0,16	0,20		0,16	0,20			0,18	0,20
M	Stainless steel		0,18	0,35														0,14	0,16
K	Grey cast iron		0,28	0,55		0,26			0,28		0,20	0,26		0,20	0,26			0,22	0,25
	Cast iron with spheroidal graphite		0,25	0,50		0,23			0,25		0,19	0,23		0,19	0,23			0,20	0,23
	Malleable cast iron		0,25	0,50		0,23			0,25		0,19	0,23		0,19	0,23			0,20	0,23
N	Aluminium wrought alloys					0,20			0,21										
	Aluminium-Gusslegierungen					0,20			0,21										
	Copper and copper alloys(bronze/brass)					0,18			0,19										
S	Heat-resistant alloys																		
	Titanium alloys																		
H	Hardened steel																		
	Hard cast iron																		
	Hardened cast iron																		
X	Non-metallic materials																		

1. Selezionare la famiglia di prodotti / gruppi di dati di taglio adatta.
2. Selezionare il grado utilizzato.
3. Determinare il rapporto di contatto.
4. Selezionare il materiale utilizzato e ricavare la velocità di taglio.
5. Consultare le raccomandazioni separate sull'avanzamento.
6. Selezionare l'utensile impiegato, il tipo di lavorazione e il materiale utilizzato.

Inserti per frese – Gruppo 1 (FMA11/12/17, FMP12/17, FMD02, EMP09/13)

Gruppo materiali		Composizione/Struttura/Trattamento termico		Durezza HB Brinell	Gruppo di sgrossatura	Velocità di taglio v_c [m/min] HC (CVD) YBC302 a_e / D 1/1 | 3/4	YBC302 1/5	YBC401 1/1 | 3/4	YBC401 1/5	YBD152 1/1 | 3/4	YBD152 1/5	YBD252 1/1 | 3/4	YBD252 1/5
P	Acciaio non legato	ca. 0,15 % C	Temprato	125	1	260	300	225	260				
		ca. 0,45 % C	Temprato	190	2	225	255	195	225				
		ca. 0,45 % C	pre-temprato	250	3	210	240	180	210				
		ca. 0,75 % C	Temprato	270	4	185	210	160	185				
		ca. 0,75 % C	pre-temprato	300	5	170	195	150	170				
	Acciaio al carbonio		Temprato	180	6	225	255	195	225				
			pre-temprato	275	7	185	210	160	185				
			pre-temprato	300	8	170	195	150	170				
			pre-temprato	350	9	145	165	125	145				
	Acciaio alto legato e acciaio alto legato per utensili		Temprato	200	10	130	150	115	130				
			temprato e rinvenuto	325	11	95	105	80	95				
M	Acciaio inossidabile	ferritico/martensitico	Temprato	200	12								
		martensitico	pre-temprato	240	13								
		austenitico	quencing	180	14								
		austenitico-ferritico		230	15								
K	Ghisa grigia	perlitico/ferritico		180	16					370	430	320	370
		perlitico (martensitico)		260	17					220	255	190	220
	Ghisa sferodale	ferritico		160	18					255	295	220	255
		perlitico		250	19					170	200	145	170
	Ghisa malleabile	ferritico		130	20					305	355	265	305
		perlitico		230	21					205	240	175	205
N	Lavorazioni plastiche di leghe di alluminio	non invecchiabile		60	22								
		invecchiabile	indurito	100	23								
	Leghe di alluminio fuso	≤ 12 % Si, non invecchiabile		75	24								
		≤ 12 % Si, invecchiabile	indurito	90	25								
		> 12 % Si, non invecchiabile		130	26								
	Rame e leghe di rame (bronzo/ottone)	Leghe per macchine di tipo multiplo, PB > 1 %		110	27								
		CuZn, CuSnZn		90	28								
		CuSn, rame senza piombo e rame elettrolitico		100	29								
S	Leghe resistenti al calore	Base Fe	Temprato	200	30								
			indurito	280	31								
		Base Ni o Co	Temprato	250	32								
			indurito	350	33								
			fuso	320	34								
	Leghe di titanio	Titanio puro		R_m 400	35								
		Leghe Alpha + Beta	indurito	R_m 1050	36								
H	Acciaio temprato		temprato e rinvenuto	55 HRC	37								
			temprato e rinvenuto	60 HRC	38								
	Ghisa dura		fuso	400	39								
	Ghise temprate		temprato e rinvenuto	55 HRC	40								
X	Materiali non metallici	Termoplastiche			41								
		Termoindurenti			42								
		Vetroresina VTR			43								
		Plastica rinforzata in fibra di carbonio			44								
		Grafite			45								
		Legno			46								

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.
I valori di avanzamento consigliati sono consultabili a pagina B338.
Esempi di materiali per gruppi di taglio sono disponibili a pagina D11.

	Velocità di taglio v_c [m/min]																				
	HC (CVD)		HC (PVD)														HW				
	YBM253		YBG102		YB9320		YBG205		YBG205H		YBG252		YBG302		YBS303		YD101		YD201		
	a_e / D		a_e / D		a_e / D		a_e / D		a_e / D		a_e / D		a_e / D		a_e / D		a_e / D		a_e / D		
	1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5	
	260	300	270	315	245	285	235	275	235	275	230	265	225	260							
	225	255	230	270	210	245	200	235	200	235	200	230	195	225							
	210	240	220	255	200	230	190	220	190	220	185	215	180	210							
	185	210	190	225	175	200	165	195	165	195	165	190	160	185							
	170	195	180	205	160	190	155	180	155	180	150	175	150	170							
	225	255	230	270	210	245	200	235	200	235	200	230	195	225							
	185	210	190	225	175	200	165	195	165	195	165	190	160	185							
	170	195	180	205	160	190	155	180	155	180	150	175	150	170							
	145	165	150	175	135	160	130	155	130	155	130	150	125	145							
	130	150	135	160	125	145	120	140	120	140	115	135	115	130							
	95	105	95	115	90	100	85	100	85	100	85	95	80	95							
	130	150	135	160	125	145	120	140			115	135	115	130	140	185					
	110	130	115	135	105	120	100	120			100	115	95	110	120	155					
	140	160	145	170	130	155	125	150			125	145	120	140	150	195					
	110	130	115	135	105	120	100	120			100	115	95	110	120	155					
			300	345	270	315	260	300	270	315	255	295	250	290							
			180	205	160	190	155	180	160	190	150	175	150	170							
			205	240	185	215	180	210	185	215	175	200	170	195							
			135	160	125	145	120	140	125	145	115	135	115	130							
			245	285	225	260	215	250	225	260	210	240	205	235							
			165	190	150	175	145	165	150	175	140	160	135	160							
																	1505	1735	1450	1670	
																	1225	1420	1180	1370	
																	540	620	515	600	
																	435	505	420	485	
																	220	255	215	250	
																	170	195	160	190	
																	210	245	205	235	
																	385	445	370	430	
									90	150											
									80	120											
									90	120											

HC metallo duro rivestito
HT metallo duro non rivestito, componente principale (TiC) o (TiN), Cermet
HW metallo duro non rivestito, componente principale (WC)
BL nitruro di boro cubico-cristallino con basso contenuto di nitruro di boro
BH nitruro di boro cubico-cristallino con alto contenuto di nitruro di boro
CN ceramica Si_3N_4
CM ceramica mista
HC_1 cermet rivestito
BC CBN rivestito
CC ceramica rivestito
CR ceramica, componente principale ossido di alluminio (Al_2O_3), rinforzata
DP diamante policristallino

Inserti per frese – Gruppo 2 (FMA01/02/03/04, FME02/03/17, FMP01/02, EMP01/02/03/04/05/14)

Gruppo materiali		Composizione/Struttura/Trattamento termico		Durezza HB Brinell	Gruppo di sgrossatura	Velocità di taglio v_c [m/min] HC (CVD) YBC302 a_e / D 1/1 | 3/4	YBC302 1/5	YBC401 1/1 | 3/4	YBC401 1/5	YBD152 1/1 | 3/4	YBD152 1/5	YBD252 1/1 | 3/4	YBD252 1/5
P	Acciaio non legato	ca. 0,15 % C	Temprato	125	1	245	285	210	245				
		ca. 0,45 % C	Temprato	190	2	210	245	180	210				
		ca. 0,45 % C	pre-temprato	250	3	200	230	170	200				
		ca. 0,75 % C	Temprato	270	4	175	200	150	175				
		ca. 0,75 % C	pre-temprato	300	5	160	190	140	160				
	Acciaio al carbonio		Temprato	180	6	210	245	180	210				
			pre-temprato	275	7	175	200	150	175				
			pre-temprato	300	8	160	190	140	160				
			pre-temprato	350	9	135	160	120	135				
	Acciaio alto legato e acciaio alto legato per utensili		Temprato	200	10	125	145	105	125				
			temprato e rinvenuto	325	11	90	100	75	90				
M	Acciaio inossidabile	ferritico/martensitico	Temprato	200	12								
		martensitico	pre-temprato	240	13								
		austenitico	quencing	180	14								
		austenitico-ferritico		230	15								
K	Ghisa grigia	perlitico/ferritico		180	16					315	365	270	315
		perlitico (martensitico)		260	17					185	215	160	190
	Ghisa sferodale	ferritico		160	18					215	250	185	215
		perlitico		250	19					145	170	125	145
	Ghisa malleabile	ferritico		130	20					260	300	225	260
		perlitico		230	21					175	205	150	175
N	Lavorazioni plastiche di leghe di alluminio	non invecchiabile		60	22								
		invecchiabile	indurito	100	23								
	Leghe di alluminio fuso	≤ 12 % Si, non invecchiabile		75	24								
		≤ 12 % Si, invecchiabile	indurito	90	25								
		> 12 % Si, non invecchiabile		130	26								
	Rame e leghe di rame (bronzo/ottone)	Leghe per macchine di tipo multiplo, PB > 1 %		110	27								
		CuZn, CuSnZn		90	28								
		CuSn, rame senza piombo e rame elettrolitico		100	29								
S	Leghe resistenti al calore	Base Fe	Temprato	200	30								
			indurito	280	31								
		Base Ni o Co	Temprato	250	32								
			indurito	350	33								
			fuso	320	34								
	Leghe di titanio	Titanio puro		R_m 400	35								
		Leghe Alpha + Beta	indurito	R_m 1050	36								
H	Acciaio temprato		temprato e rinvenuto	55 HRC	37								
			temprato e rinvenuto	60 HRC	38								
	Ghisa dura		fuso	400	39								
	Ghise temprate		temprato e rinvenuto	55 HRC	40								
X	Materiali non metallici	Termoplastiche			41								
		Termoindurenti			42								
		Vetroresina VTR			43								
		Plastica rinforzata in fibra di carbonio			44								
		Grafite			45								
		Legno			46								

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
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	Velocità di taglio v_c [m/min]																					
	HC (CVD)		HC (PVD)														HW				HT	
	YBM253		YBG101		YBG102		YBG152		YB9320		YBG205(H)		YBG252		YBG302		YD101		YD201		YNG151	
	a_e / D		a_e / D		a_e / D		a_e / D		a_e / D		a_e / D		a_e / D		a_e / D		a_e / D		a_e / D		a_e / D	
	1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5
	245	285			255	295	240	280	230	265	220	255	215	250	210	245					270	315
	210	245			220	255	205	240	200	230	190	220	185	215	180	210					235	270
	200	230			205	240	195	225	185	215	180	205	175	200	170	200					220	255
	175	200			180	210	170	200	165	190	155	180	155	175	150	175					195	220
	160	190			170	195	160	185	150	175	145	170	140	165	140	160					180	210
	210	245			220	255	205	240	200	230	190	220	185	215	180	210					235	270
	175	200			180	210	170	200	165	190	155	180	155	175	150	175					195	220
	160	190			170	195	160	185	150	175	145	170	140	165	140	160					180	210
	135	160			145	165	135	155	130	150	125	145	120	140	120	135					150	180
	125	145			130	150	120	140	115	135	110	130	110	125	105	125					140	160
	90	100			90	105	85	100	85	95	80	90	80	90	75	90					100	110
	125	145			130	150	120	140	115	135	110	130	110	125	105	125					135	160
	105	120			110	125	105	120	100	115	95	110	95	105	90	105					115	135
	130	155			140	160	130	150	125	145	120	140	115	135	115	130					145	170
	105	120			110	125	105	120	100	115	95	110	95	105	90	105					115	135
					285	330	265	305	255	295	245	285	240	280	235	275						
					170	195	160	185	150	175	145	170	140	165	140	160						
					195	225	180	210	175	200	165	195	165	190	160	185						
					130	150	120	140	115	135	110	130	110	125	105	125						
					230	270	220	255	210	240	200	230	195	225	190	225						
					155	180	145	170	140	160	135	155	130	150	130	150						
			1505	1735													1205	1390	1040	1200		
			1225	1420													980	1140	850	980		
			540	620													435	500	375	435		
			435	505													350	405	300	350		
			220	255													180	205	155	180		
			170	195													140	160	120	140		
			210	245													170	200	150	170		
			385	445													310	360	265	310		
					75	85	70	80	65	75	65	75	65	75	60	70						
					50	55	50	55	45	50	45	50	45	50	40	45						
					60	70	55	65	55	65	50	55	50	55	50	55						
					35	40	35	40	30	35	30	35	30	35	30	35						
					45	50	45	50	40	45	40	45	40	45	40	45						
					75	85	70	80	65	75	65	75	65	75	60	70						
					75	85	70	80	65	75	65	75	65	75	60	70						

HC metallo duro rivestito
HT metallo duro non rivestito, componente principale (TiC) o (TiN), Cermet
HW metallo duro non rivestito, componente principale (WC)
BL nitruro di boro cubico-cristallino con basso contenuto di nitruro di boro
BH nitruro di boro cubico-cristallino con alto contenuto di nitruro di boro
CN ceramica Si_3N_4
CM ceramica mista
HC_1 cermet rivestito
BC CBN rivestito
CC ceramica rivestito
CR ceramica, componente principale ossido di alluminio (Al_2O_3), rinforzata
DP diamante policristallino

Inserti per frese – Gruppo 2 (FMA01/02/03/04, FME02/03/17, FMP01/02, EMP01/02/03/04/05/14)

Gruppo materiali		Composizione/Struttura/Trattamento termico		Durezza HB Brinell	Gruppo di sgrossatura	Velocità di taglio v_c [m/min]			
						HC_1			
						YNG151C			
						a_e / D			
						1/1 | 3/4	1/5		
P	Acciaio non legato	ca. 0,15 % C	Temprato	125	1	285	335		
		ca. 0,45 % C	Temprato	190	2	250	285		
		ca. 0,45 % C	pre-temprato	250	3	235	270		
		ca. 0,75 % C	Temprato	270	4	205	235		
		ca. 0,75 % C	pre-temprato	300	5	190	225		
	Acciaio al carbonio		Temprato	180	6	250	285		
			pre-temprato	275	7	205	235		
			pre-temprato	300	8	190	225		
			pre-temprato	350	9	160	190		
	Acciaio alto legato e acciaio alto legato per utensili		Temprato	200	10	150	170		
			temprato e rinvenuto	325	11	105	120		
M	Acciaio inossidabile	ferritico/martensitico	Temprato	200	12	145	170		
		martensitico	pre-temprato	240	13	120	145		
		austenitico	quencing	180	14	155	180		
		austenitico-ferritico		230	15	120	145		
K	Ghisa grigia	perlitico/ferritico		180	16				
		perlitico (martensitico)		260	17				
	Ghisa sferodale	ferritico		160	18				
		perlitico		250	19				
	Ghisa malleabile	ferritico		130	20				
		perlitico		230	21				
N	Lavorazioni plastiche di leghe di alluminio	non invecchiabile		60	22				
		invecchiabile	indurito	100	23				
	Leghe di alluminio fuso	≤ 12 % Si, non invecchiabile		75	24				
		≤ 12 % Si, invecchiabile	indurito	90	25				
		> 12 % Si, non invecchiabile		130	26				
	Rame e leghe di rame (bronzo/ottone)	Leghe per macchine di tipo multiplo, PB > 1 %		110	27				
		CuZn, CuSnZn		90	28				
		CuSn, rame senza piombo e rame elettrolitico		100	29				
S	Leghe resistenti al calore	Base Fe	Temprato	200	30				
			indurito	280	31				
		Base Ni o Co	Temprato	250	32				
			indurito	350	33				
			fuso	320	34				
	Leghe di titanio	Titanio puro		R_m 400	35				
		Leghe Alpha + Beta	indurito	R_m 1050	36				
H	Acciaio temprato		temprato e rinvenuto	55 HRC	37				
			temprato e rinvenuto	60 HRC	38				
	Ghisa dura		fuso	400	39				
	Ghise temprate		temprato e rinvenuto	55 HRC	40				
X	Materiali non metallici	Termoplastiche			41				
		Termoindurenti			42				
		Vetroresina VTR			43				
		Plastica rinforzata in fibra di carbonio			44				
		Grafite			45				
		Legno			46				

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.
I valori di avanzamento consigliati sono consultabili a pagina B338.
Esempi di materiali per gruppi di taglio sono disponibili a pagina D11.

HC	metallo duro rivestito
HT	metallo duro non rivestito, componente principale (TiC) o (TiN), Cermet
HW	metallo duro non rivestito, componente principale (WC)
BL	nitruro di boro cubico-cristallino con basso contenuto di nitruro di boro
BH	nitruro di boro cubico-cristallino con alto contenuto di nitruro di boro
CN	ceramica Si_3N_4
CM	ceramica mista
HC_1	cermet rivestito
BC	CBN rivestito
CC	ceramica rivestito
CR	ceramica, componente principale ossido di alluminio (Al_2O_3), rinforzata
DP	diamante policristallino

Inserti per frese – Gruppo 3 (FMR01/02/03/04/11)

Gruppo materiali		Composizione/Struttura/Trattamento termico		Durezza HB Brinell	Gruppo di sgrossatura	Velocità di taglio v_c [m/min] HC (CVD) YBC302 a_e / D 1/1 | 3/4	YBC302 1/5	YBC302 1/20	YBC401 a_e / D 1/1 | 3/4	YBC401 1/5	YBC401 1/20
P	Acciaio non legato	ca. 0,15 % C	Temprato	125	1	260	300	390	225	260	340
		ca. 0,45 % C	Temprato	190	2	225	255	335	195	225	295
		ca. 0,45 % C	pre-temprato	250	3	210	240	315	180	210	275
		ca. 0,75 % C	Temprato	270	4	185	210	275	160	185	245
		ca. 0,75 % C	pre-temprato	300	5	170	195	255	150	170	225
	Acciaio al carbonio		Temprato	180	6	225	255	335	195	225	295
			pre-temprato	275	7	185	210	275	160	185	245
			pre-temprato	300	8	170	195	255	150	170	225
			pre-temprato	350	9	145	165	215	125	145	190
	Acciaio alto legato e acciaio alto legato per utensili		Temprato	200	10	130	150	195	115	130	170
			temprato e rinvenuto	325	11	95	105	140	80	95	125
M	Acciaio inossidabile	ferritico/martensitico	Temprato	200	12						
		martensitico	pre-temprato	240	13						
		austenitico	quencing	180	14						
		austenitico-ferritico		230	15						
K	Ghisa grigia	perlitico/ferritico		180	16						
		perlitico (martensitico)		260	17						
	Ghisa sferodale	ferritico		160	18						
		perlitico		250	19						
	Ghisa malleabile	ferritico		130	20						
		perlitico		230	21						
N	Lavorazioni plastiche di leghe di alluminio	non invecchiabile		60	22						
		invecchiabile	indurito	100	23						
	Leghe di alluminio fuso	≤ 12 % Si, non invecchiabile		75	24						
		≤ 12 % Si, invecchiabile	indurito	90	25						
		> 12 % Si, non invecchiabile		130	26						
	Rame e leghe di rame (bronzo/ottone)	Leghe per macchine di tipo multiplo,	PB > 1 %	110	27						
		CuZn, CuSnZn		90	28						
		CuSn, rame senza piombo e rame elettrolitico		100	29						
S	Leghe resistenti al calore	Base Fe	Temprato	200	30						
			indurito	280	31						
		Base Ni o Co	Temprato	250	32						
			indurito	350	33						
			fuso	320	34						
	Leghe di titanio	Titanio puro		R_m 400	35						
		Leghe Alpha + Beta	indurito	R_m 1050	36						
H	Acciaio temprato		temprato e rinvenuto	55 HRC	37						
			temprato e rinvenuto	60 HRC	38						
	Ghisa dura		fuso	400	39						
	Ghise temprate		temprato e rinvenuto	55 HRC	40						
X	Materiali non metallici	Termoplastiche			41						
		Termoindurenti			42						
		Vetroresina VTR			43						
		Plastica rinforzata in fibra di carbonio			44						
		Grafite			45						
		Legno			46						

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.
I valori di avanzamento consigliati sono consultabili a pagina B338.
Esempi di materiali per gruppi di taglio sono disponibili a pagina D11.

	Velocità di taglio v_c [m/min]																				
	HC (CVD)									HC (PVD)											
	YBD152			YBD252			YBM253			YBG102			YBG152			YB9320			YBG205		
	a_e / D			a_e / D			a_e / D			a_e / D			a_e / D			a_e / D			a_e / D		
	1/1 | 3/4	1/5	1/20	1/1 | 3/4	1/5	1/20	1/1 | 3/4	1/5	1/20	1/1 | 3/4	1/5	1/20	1/1 | 3/4	1/5	1/20	1/1 | 3/4	1/5	1/20	1/1 | 3/4	1/5	1/20
							260	300	390	270	315	410	255	295	385	245	285	375	235	275	360
							225	255	335	230	270	355	220	255	335	210	245	320	200	235	310
							210	240	315	220	255	335	205	240	315	200	230	300	190	220	290
							185	210	275	190	225	295	180	210	275	175	200	260	165	195	255
							170	195	255	180	205	270	170	195	255	160	190	250	155	180	235
							225	255	335	230	270	355	220	255	335	210	245	320	200	235	310
							185	210	275	190	225	295	180	210	275	175	200	260	165	195	255
							170	195	255	180	205	270	170	195	255	160	190	250	155	180	235
							145	165	215	150	175	230	145	165	215	135	160	210	130	155	205
							130	150	195	135	160	210	130	150	195	125	145	190	120	140	185
							95	105	140	95	115	150	90	105	140	90	100	130	85	100	130
							130	150	195	135	160	205	130	150	195	125	145	190	120	140	180
							110	130	165	115	135	175	110	125	165	105	120	160	100	120	155
							140	160	210	145	170	220	140	160	205	130	155	200	125	150	195
							110	130	165	115	135	175	110	125	165	105	120	160	100	120	155
	345	400	520	300	345	450				300	345	450	285	330	430	270	315	410	260	300	390
	210	245	320	180	205	270				180	205	270	170	195	255	160	190	250	155	180	235
	240	280	365	205	240	315				205	240	315	195	225	295	185	215	280	180	210	275
	160	185	245	135	160	210				135	160	210	130	150	195	125	145	190	120	140	185
	285	330	430	245	285	375				245	285	375	230	270	355	225	260	340	215	250	325
	190	220	290	165	190	250				165	190	250	155	180	235	150	175	230	145	165	215

HC	metallo duro rivestito
HT	metallo duro non rivestito, componente principale (TiC) o (TiN), Cermet
HW	metallo duro non rivestito, componente principale (WC)
BL	nitruro di boro cubico-cristallino con basso contenuto di nitruro di boro
BH	nitruro di boro cubico-cristallino con alto contenuto di nitruro di boro
CN	ceramica Si_3N_4
CM	ceramica mista
HC_1	cermet rivestito
BC	CBN rivestito
CC	ceramica rivestito
CR	ceramica, componente principale ossido di alluminio (Al_2O_3), rinforzata
DP	diamante policristallino

Inserti per frese – Gruppo 3 (FMR01/02/03/04/11)

Gruppo materiali		Composizione/Struttura/Trattamento termico		Durezza HB Brinell	Gruppo di sgrossatura	Velocità di taglio v_c [m/min] HC (PVD) YBG205H a_e / D 1/1 | 3/4	YBG205H 1/5	YBG205H 1/20	YBG212 a_e / D 1/1 | 3/4	YBG212 1/5	YBG212 1/20
P	Acciaio non legato	ca. 0,15 % C	Temprato	125	1	235	275		240	280	365
		ca. 0,45 % C	Temprato	190	2	200	235		205	240	315
		ca. 0,45 % C	pre-temprato	250	3	190	220		195	225	295
		ca. 0,75 % C	Temprato	270	4	165	195		170	200	260
		ca. 0,75 % C	pre-temprato	300	5	155	180		160	185	245
	Acciaio al carbonio		Temprato	180	6	200	235		205	240	315
			pre-temprato	275	7	165	195		170	200	260
			pre-temprato	300	8	155	180		160	185	245
			pre-temprato	350	9	130	155		135	155	205
	Acciaio alto legato e acciaio alto legato per utensili		Temprato	200	10	120	140		120	140	185
			temprato e rinvenuto	325	11	85	100		85	100	130
M	Acciaio inossidabile	ferritico/martensitico	Temprato	200	12				120	140	185
		martensitico	pre-temprato	240	13				105	120	155
		austenitico	quencing	180	14				130	150	195
		austenitico-ferritico		230	15				105	120	155
K	Ghisa grigia	perlitico/ferritico		180	16	270	315		265	305	400
		perlitico (martensitico)		260	17	160	190		160	185	245
	Ghisa sferodale	ferritico		160	18	185	215		180	210	275
		perlitico		250	19	125	145		120	140	185
	Ghisa malleabile	ferritico		130	20	225	260		220	255	335
		perlitico		230	21	150	175		145	170	225
N	Lavorazioni plastiche di leghe di alluminio	non invecchiabile		60	22						
		invecchiabile	indurito	100	23						
	Leghe di alluminio fuso	≤ 12 % Si, non invecchiabile		75	24						
		≤ 12 % Si, invecchiabile	indurito	90	25						
		> 12 % Si, non invecchiabile		130	26						
	Rame e leghe di rame (bronzo/ottone)	Leghe per macchine di tipo multiplo, PB > 1 %		110	27						
		CuZn, CuSnZn		90	28						
		CuSn, rame senza piombo e rame elettrolitico		100	29						
S	Leghe resistenti al calore	Base Fe	Temprato	200	30						
			indurito	280	31						
		Base Ni o Co	Temprato	250	32						
			indurito	350	33						
			fuso	320	34						
	Leghe di titanio	Titanio puro		R_m 400	35						
		Leghe Alpha + Beta	indurito	R_m 1050	36						
H	Acciaio temprato		temprato e rinvenuto	55 HRC	37	90	150				
			temprato e rinvenuto	60 HRC	38	80	120				
	Ghisa dura		fuso	400	39						
	Ghise temprate		temprato e rinvenuto	55 HRC	40	90	120				
X	Materiali non metallici	Termoplastiche			41						
		Termoindurenti			42						
		Vetroresina VTR			43						
		Plastica rinforzata in fibra di carbonio			44						
		Grafite			45						
		Legno			46						

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.
I valori di avanzamento consigliati sono consultabili a pagina B338.
Esempi di materiali per gruppi di taglio sono disponibili a pagina D11.

Velocità di taglio v_c [m/min]													
HC (PVD)									HW				
YBG252			YBG302			YBS303			YD101		YD201		
a_e / D			a_e / D			a_e / D			a_e / D		a_e / D		
1/1 | 3/4	1/5	1/20	1/1 | 3/4	1/5	1/20	1/1 | 3/4	1/5	1/20	1/1 | 3/4	1/5	1/1 | 3/4	1/5	
230	265	345	225	260	340								
200	230	300	195	225	295								
185	215	280	180	210	275								
165	190	250	160	185	245								
150	175	230	150	170	225								
200	230	300	195	225	295								
165	190	250	160	185	245								
150	175	230	150	170	225								
130	150	195	125	145	190								
115	135	180	115	130	170								
85	95	125	80	95	125								
115	135	175	115	130	170	140	185						
100	115	145	95	110	145	120	155						
125	145	185	120	140	185	150	195						
100	115	145	95	110	145	120	155						
255	295	385	250	290	380								
150	175	230	150	170	225								
175	200	260	170	195	255								
115	135	180	115	130	170								
210	240	315	205	235	310								
140	160	210	135	160	210								
									1505	1735	1450	1670	
									1225	1420	1180	1370	
									540	620	515	600	
									435	505	420	485	
									220	255	215	250	
									170	195	160	190	
									210	245	205	235	
									385	445	370	430	

HC	metallo duro rivestito
HT	metallo duro non rivestito, componente principale (TiC) o (TiN), Cermet
HW	metallo duro non rivestito, componente principale (WC)
BL	nitruro di boro cubico-cristallino con basso contenuto di nitruro di boro
BH	nitruro di boro cubico-cristallino con alto contenuto di nitruro di boro
CN	ceramica Si_3N_4
CM	ceramica mista
HC_1	cermet rivestito
BC	CBN rivestito
CC	ceramica rivestito
CR	ceramica, componente principale ossido di alluminio (Al_2O_3), rinforzata
DP	diamante policristallino

Inserti per frese – Gruppo 4 (BMR01/02/03/04, TMP01, CMZ01, CMA01, CMD01)

Gruppo materiali		Composizione/Struttura/Trattamento termico		Durezza HB Brinell	Gruppo di sgrossatura	Velocità di taglio v_c [m/min] HC (CVD) YBC302 a_e / D 1/1 | 3/4	YBC302 1/5	YBC302 1/20	YBC401 a_e / D 1/1 | 3/4	YBC401 1/5	YBC401 1/20
P	Acciaio non legato	ca. 0,15 % C	Temprato	125	1	235	275	360	200	230	300
		ca. 0,45 % C	Temprato	190	2	200	235	310	170	200	260
		ca. 0,45 % C	pre-temprato	250	3	190	220	290	160	185	245
		ca. 0,75 % C	Temprato	270	4	165	195	255	140	165	215
		ca. 0,75 % C	pre-temprato	300	5	155	180	235	130	150	195
	Acciaio al carbonio		Temprato	180	6	200	235	310	170	200	260
			pre-temprato	275	7	165	195	255	140	165	215
			pre-temprato	300	8	155	180	235	130	150	195
			pre-temprato	350	9	130	155	205	110	130	170
	Acciaio alto legato e acciaio alto legato per utensili		Temprato	200	10	120	140	185	100	115	150
			temprato e rinvenuto	325	11	85	100	130	70	85	115
M	Acciaio inossidabile	ferritico/martensitico	Temprato	200	12						
		martensitico	pre-temprato	240	13						
		austenitico	quencing	180	14						
		austenitico-ferritico		230	15						
K	Ghisa grigia	perlitico/ferritico		180	16						
		perlitico (martensitico)		260	17						
	Ghisa sferodale	ferritico		160	18						
		perlitico		250	19						
	Ghisa malleabile	ferritico		130	20						
		perlitico		230	21						
N	Lavorazioni plastiche di leghe di alluminio	non invecchiabile		60	22						
		invecchiabile	indurito	100	23						
	Leghe di alluminio fuso	≤ 12 % Si, non invecchiabile		75	24						
		≤ 12 % Si, invecchiabile	indurito	90	25						
		> 12 % Si, non invecchiabile		130	26						
	Rame e leghe di rame (bronzo/ottone)	Leghe per macchine di tipo multiplo, PB > 1 %		110	27						
		CuZn, CuSnZn		90	28						
		CuSn, rame senza piombo e rame elettrolitico		100	29						
S	Leghe resistenti al calore	Base Fe	Temprato	200	30						
			indurito	280	31						
		Base Ni o Co	Temprato	250	32						
			indurito	350	33						
			fuso	320	34						
	Leghe di titanio	Titanio puro		R_m 400	35						
		Leghe Alpha + Beta	indurito	R_m 1050	36						
H	Acciaio temprato		temprato e rinvenuto	55 HRC	37						
			temprato e rinvenuto	60 HRC	38						
	Ghisa dura		fuso	400	39						
	Ghise temprate		temprato e rinvenuto	55 HRC	40						
X	Materiali non metallici	Termoplastiche			41						
		Termoindurenti			42						
		Vetroresina VTR			43						
		Plastica rinforzata in fibra di carbonio			44						
		Grafite			45						
		Legno			46						

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.
I valori di avanzamento consigliati sono consultabili a pagina B338.
Esempi di materiali per gruppi di taglio sono disponibili a pagina D11.

	Velocità di taglio v_c [m/min]																				
	HC (CVD)									HC (PVD)											
	YBD152			YBD252			YBM253			YBG102			YBG152			YB9320			YBG205		
	a_e / D			a_e / D			a_e / D			a_e / D			a_e / D			a_e / D			a_e / D		
	1/1 | 3/4	1/5	1/20	1/1 | 3/4	1/5	1/20	1/1 | 3/4	1/5	1/20	1/1 | 3/4	1/5	1/20	1/1 | 3/4	1/5	1/20	1/1 | 3/4	1/5	1/20	1/1 | 3/4	1/5	1/20
							235	275	360	245	285	375	230	265	345	220	255	335	210	245	320
							200	235	310	210	245	320	200	230	300	190	220	290	180	210	275
							190	220	290	200	230	300	185	215	280	180	205	270	170	200	260
							165	195	255	175	200	260	165	190	250	155	180	235	150	175	230
							155	180	235	160	190	250	150	175	230	145	170	225	140	160	210
							200	235	310	210	245	320	200	230	300	190	220	290	180	210	275
							165	195	255	175	200	260	165	190	250	155	180	235	150	175	230
							155	180	235	160	190	250	150	175	230	145	170	225	140	160	210
							130	155	205	135	160	210	130	150	195	125	145	190	120	135	180
							120	140	185	125	145	190	115	135	180	110	130	170	105	125	165
							85	100	130	90	100	130	85	95	125	80	90	120	75	90	120
							120	140	180	125	145	190	115	135	175	110	130	170	105	125	160
							100	120	155	105	120	160	100	115	145	95	110	145	90	105	135
							125	150	195	130	155	200	125	145	185	120	140	180	115	130	170
							100	120	155	105	120	160	100	115	145	95	110	145	90	105	135
	300	345	450	260	300	390				270	315	410	255	295	385	245	285	375	235	275	360
	180	210	275	155	180	235				160	190	250	150	175	230	145	170	225	140	160	210
	210	245	320	180	210	275				185	215	280	175	200	260	165	195	255	160	185	245
	140	165	215	120	140	185				125	145	190	115	135	180	110	130	170	105	125	165
	250	290	380	215	250	325				225	260	340	210	240	315	200	230	300	190	225	295
	170	200	260	145	165	215				150	175	230	140	160	210	135	155	205	130	150	195

HC	metallo duro rivestito
HT	metallo duro non rivestito, componente principale (TiC) o (TiN), Cermet
HW	metallo duro non rivestito, componente principale (WC)
BL	nitruro di boro cubico-cristallino con basso contenuto di nitruro di boro
BH	nitruro di boro cubico-cristallino con alto contenuto di nitruro di boro
CN	ceramica Si_3N_4
CM	ceramica mista
HC_1	cermet rivestito
BC	CBN rivestito
CC	ceramica rivestito
CR	ceramica, componente principale ossido di alluminio (Al_2O_3), rinforzata
DP	diamante policristallino

Inserti per frese – Gruppo 4 (BMR01/02/03/04, TMP01, CMZ01, CMA01, CMD01)

Gruppo materiali		Composizione/Struttura/Trattamento termico		Durezza HB Brinell	Gruppo di sgrossatura	Velocità di taglio v_c [m/min] HC (PVD) YBG212 a_e / D 1/1 | 3/4	YBG212 1/5	YBG212 1/20	YBG252 a_e / D 1/1 | 3/4	YBG252 1/5	YBG252 1/20
P	Acciaio non legato	ca. 0,15 % C	Temprato	125	1	215	250	325	205	240	315
		ca. 0,45 % C	Temprato	190	2	185	215	280	175	205	270
		ca. 0,45 % C	pre-temprato	250	3	175	200	260	165	195	255
		ca. 0,75 % C	Temprato	270	4	155	175	230	145	170	225
		ca. 0,75 % C	pre-temprato	300	5	140	165	215	135	160	210
	Acciaio al carbonio		Temprato	180	6	185	215	280	175	205	270
			pre-temprato	275	7	155	175	230	145	170	225
			pre-temprato	300	8	140	165	215	135	160	210
			pre-temprato	350	9	120	140	185	115	135	180
	Acciaio alto legato e acciaio alto legato per utensili		Temprato	200	10	110	125	165	105	120	160
			temprato e rinvenuto	325	11	80	90	120	75	85	115
M	Acciaio inossidabile	ferritico/martensitico	Temprato	200	12	110	125	165	105	120	160
		martensitico	pre-temprato	240	13	95	105	140	90	105	135
		austenitico	quencing	180	14	115	135	175	110	130	170
		austenitico-ferritico		230	15	95	105	140	90	105	135
K	Ghisa grigia	perlitico/ferritico		180	16	240	280	365	230	265	345
		perlitico (martensitico)		260	17	140	165	215	135	160	210
	Ghisa sferodale	ferritico		160	18	165	190	250	155	180	235
		perlitico		250	19	110	125	165	105	120	160
	Ghisa malleabile	ferritico		130	20	195	225	295	185	220	290
		perlitico		230	21	130	150	195	125	145	190
N	Lavorazioni plastiche di leghe di alluminio	non invecchiabile		60	22						
		invecchiabile	indurito	100	23						
	Leghe di alluminio fuso	≤ 12 % Si, non invecchiabile		75	24						
		≤ 12 % Si, invecchiabile	indurito	90	25						
		> 12 % Si, non invecchiabile		130	26						
	Rame e leghe di rame (bronzo/ottone)	Leghe per macchine di tipo multiplo, PB > 1 %		110	27						
		CuZn, CuSnZn		90	28						
		CuSn, rame senza piombo e rame elettrolitico		100	29						
S	Leghe resistenti al calore	Base Fe	Temprato	200	30						
			indurito	280	31						
		Base Ni o Co	Temprato	250	32						
			indurito	350	33						
			fuso	320	34						
	Leghe di titanio	Titanio puro		R_m 400	35						
		Leghe Alpha + Beta	indurito	R_m 1050	36						
H	Acciaio temprato		temprato e rinvenuto	55 HRC	37						
			temprato e rinvenuto	60 HRC	38						
	Ghisa dura		fuso	400	39						
	Ghise temprate		temprato e rinvenuto	55 HRC	40						
X	Materiali non metallici	Termoplastiche			41						
		Termoindurenti			42						
		Vetroresina VTR			43						
		Plastica rinforzata in fibra di carbonio			44						
		Grafite			45						
		Legno			46						

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.
I valori di avanzamento consigliati sono consultabili a pagina B338.
Esempi di materiali per gruppi di taglio sono disponibili a pagina D11.

	Velocità di taglio v_c [m/min]			
	HC (PVD)			
	YBG302			
	a_e / D			
	1/1 | 3/4	1/5	1/20	
	200	230	300	
	170	200	260	
	160	185	245	
	140	165	215	
	130	150	195	
	170	200	260	
	140	165	215	
	130	150	195	
	110	130	170	
	100	115	150	
	70	85	115	
	100	115	150	
	85	100	130	
	110	125	160	
	85	100	130	
	220	255	335	
	130	150	195	
	150	175	230	
	100	115	150	
	180	210	275	
	120	140	185	

Inserti per frese – Gruppo 5 (SMP01/03/05/09)

Gruppo materiali		Composizione/Struttura/Trattamento termico		Durezza HB Brinell	Gruppo di sgrossatura	Velocità di taglio v_c [m/min]			
						HC (CVD)		HC (PVD)	
						YBC302	YBM253	YBG101	YB9320
						a_e / D	a_e / D	a_e / D	a_e / D
						1/4	1/4	1/4	1/4
P	Acciaio non legato	ca. 0,15 % C	Temprato	125	1	165	180	190	175
		ca. 0,45 % C	Temprato	190	2	145	155	165	150
		ca. 0,45 % C	pre-temprato	250	3	135	145	155	140
		ca. 0,75 % C	Temprato	270	4	120	130	135	125
		ca. 0,75 % C	pre-temprato	300	5	110	120	125	115
	Acciaio al carbonio		Temprato	180	6	145	155	165	150
			pre-temprato	275	7	120	130	135	125
			pre-temprato	300	8	110	120	125	115
			pre-temprato	350	9	95	100	105	100
	Acciaio alto legato e acciaio alto legato per utensili		Temprato	200	10	85	90	95	90
			temprato e rinvenuto	325	11	60	65	70	65
M	Acciaio inossidabile	ferritico/martensitico	Temprato	200	12		90	95	90
		martensitico	pre-temprato	240	13		80	80	75
		austenitico	quencing	180	14		100	105	95
		austenitico-ferritico		230	15		80	80	75
K	Ghisa grigia	perlitico/ferritico		180	16			215	190
		perlitico (martensitico)		260	17			125	115
	Ghisa sferodale	ferritico		160	18			145	135
		perlitico		250	19			95	90
	Ghisa malleabile	ferritico		130	20			175	160
		perlitico		230	21			115	105
N	Lavorazioni plastiche di leghe di alluminio	non invecchiabile		60	22				
		invecchiabile	indurito	100	23				
	Leghe di alluminio fuso	≤ 12 % Si, non invecchiabile		75	24				
		≤ 12 % Si, invecchiabile	indurito	90	25				
		> 12 % Si, non invecchiabile		130	26				
	Rame e leghe di rame (bronzo/ottone)	Leghe per macchine di tipo multiplo,	PB > 1 %	110	27				
		CuZn, CuSnZn		90	28				
		CuSn, rame senza piombo e rame elettrolitico		100	29				
S	Leghe resistenti al calore	Base Fe	Temprato	200	30				
			indurito	280	31				
		Base Ni o Co	Temprato	250	32				
			indurito	350	33				
			fuso	320	34				
	Leghe di titanio	Titanio puro		R_m 400	35				
		Leghe Alpha + Beta	indurito	R_m 1050	36				
H	Acciaio temprato		temprato e rinvenuto	55 HRC	37				
			temprato e rinvenuto	60 HRC	38				
	Ghisa dura		fuso	400	39				
	Ghise temprate		temprato e rinvenuto	55 HRC	40				
X	Materiali non metallici	Termoplastiche			41				
		Termoindurenti			42				
		Vetroresina VTR			43				
		Plastica rinforzata in fibra di carbonio			44				
		Grafite			45				
		Legno			46				

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.
I valori di avanzamento consigliati sono consultabili a pagina B338.
Esempi di materiali per gruppi di taglio sono disponibili a pagina D11.

	Velocità di taglio v_c [m/min]		
	HC (PVD)		
	YBG205	YBG302	
	a_e / D	a_e / D	
	1/4	1/4	
	170	160	
	145	140	
	140	130	
	120	115	
	115	105	
	145	140	
	120	115	
	115	105	
	95	90	
	85	80	
	60	60	
	85	80	
	75	70	
	95	85	
	75	70	
	185	175	
	115	105	
	130	120	
	85	80	
	155	145	
	105	100	

Inserti per frese – Gruppo 6 (FMD03, FME04, FMP03, HMP01)

Gruppo materiali		Composizione/Struttura/Trattamento termico		Durezza HB Brinell	Gruppo di sgrossatura	Velocità di taglio v_c [m/min] HC (CVD) YBC302 a_e / D 1/1 | 3/4	YBC302 1/5	YBC401 1/1 | 3/4	YBC401 1/5	YBD152 1/1 | 3/4	YBD152 1/5	YBD252 1/1 | 3/4	YBD252 1/5
P	Acciaio non legato	ca. 0,15 % C	Temprato	125	1	200	230	170	200				
		ca. 0,45 % C	Temprato	190	2	170	200	145	170				
		ca. 0,45 % C	pre-temprato	250	3	160	185	140	160				
		ca. 0,75 % C	Temprato	270	4	140	165	120	140				
		ca. 0,75 % C	pre-temprato	300	5	130	150	115	130				
	Acciaio al carbonio		Temprato	180	6	170	200	145	170				
			pre-temprato	275	7	140	165	120	140				
			pre-temprato	300	8	130	150	115	130				
			pre-temprato	350	9	110	130	95	110				
	Acciaio alto legato e acciaio alto legato per utensili		Temprato	200	10	100	115	85	100				
			temprato e rinvenuto	325	11	70	85	60	70				
M	Acciaio inossidabile	ferritico/martensitico	Temprato	200	12								
		martensitico	pre-temprato	240	13								
		austenitico	quencing	180	14								
		austenitico-ferritico		230	15								
K	Ghisa grigia	perlitico/ferritico		180	16					255	295	220	255
		perlitico (martensitico)		260	17					150	175	130	150
	Ghisa sferodale	ferritico		160	18					175	205	150	175
		perlitico		250	19					115	135	100	115
	Ghisa malleabile	ferritico		130	20					210	245	180	210
		perlitico		230	21					140	165	120	140
N	Lavorazioni plastiche di leghe di alluminio	non invecchiabile		60	22								
		invecchiabile	indurito	100	23								
	Leghe di alluminio fuso	≤ 12 % Si, non invecchiabile		75	24								
		≤ 12 % Si, invecchiabile	indurito	90	25								
		> 12 % Si, non invecchiabile		130	26								
	Rame e leghe di rame (bronzo/ottone)	Leghe per macchine di tipo multiplo, PB > 1 %		110	27								
		CuZn, CuSnZn		90	28								
		CuSn, rame senza piombo e rame elettrolitico		100	29								
S	Leghe resistenti al calore	Base Fe	Temprato	200	30								
			indurito	280	31								
		Base Ni o Co	Temprato	250	32								
			indurito	350	33								
			fuso	320	34								
	Leghe di titanio	Titanio puro		R_m 400	35								
		Leghe Alpha + Beta	indurito	R_m 1050	36								
H	Acciaio temprato		temprato e rinvenuto	55 HRC	37								
			temprato e rinvenuto	60 HRC	38								
	Ghisa dura		fuso	400	39								
	Ghise temprate		temprato e rinvenuto	55 HRC	40								
X	Materiali non metallici	Termoplastiche			41								
		Termoindurenti			42								
		Vetroresina VTR			43								
		Plastica rinforzata in fibra di carbonio			44								
		Grafite			45								
		Legno			46								

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.
I valori di avanzamento consigliati sono consultabili a pagina B338.
Esempi di materiali per gruppi di taglio sono disponibili a pagina D11.

	Velocità di taglio v_c [m/min]															
	HC (CVD)		HC (PVD)													
	YBM253		YBG102		YBG152		YB9320		YBG205		YBG212		YBG252		YBG302	
	a_e / D		a_e / D		a_e / D		a_e / D		a_e / D		a_e / D		a_e / D		a_e / D	
	1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5
	200	230	205	240	195	225	190	220	185	215	185	215	180	210	175	205
	170	200	175	205	170	195	165	190	160	185	160	185	155	180	150	175
	160	185	165	195	160	180	155	180	150	175	150	175	145	170	140	165
	140	165	145	170	140	160	135	155	130	155	130	155	130	150	125	145
	130	150	135	160	130	150	125	145	125	140	125	140	120	140	115	135
	170	200	175	205	170	195	165	190	160	185	160	185	155	180	150	175
	140	165	145	170	140	160	135	155	130	155	130	155	130	150	125	145
	130	150	135	160	130	150	125	145	125	140	125	140	120	140	115	135
	110	130	115	135	110	125	105	125	105	120	105	120	100	120	100	115
	100	115	105	120	100	115	95	110	95	110	95	110	90	105	90	105
	70	85	75	85	70	80	70	80	65	80	65	80	65	75	65	75
	100	115	105	120	100	115	95	110	95	110	95	110	90	105	90	105
	85	100	90	105	85	95	80	95	80	95	80	95	80	90	75	90
	110	125	110	130	105	120	105	120	100	115	100	115	100	115	95	110
	85	100	90	105	85	95	80	95	80	95	80	95	80	90	75	90
			230	265	215	250	210	245	205	240	205	240	200	230	195	225
			135	160	130	150	125	145	125	140	125	140	120	140	115	135
			155	180	150	170	145	165	140	165	140	165	135	160	135	155
			105	120	100	115	95	110	95	110	95	110	90	105	90	105
			185	220	180	205	175	200	170	195	170	195	165	190	160	185
			125	145	120	135	115	135	115	130	115	130	110	130	105	125

HC metallo duro rivestito
HT metallo duro non rivestito, componente principale (TiC) o (TiN), Cermet
HW metallo duro non rivestito, componente principale (WC)
BL nitruro di boro cubico-cristallino con basso contenuto di nitruro di boro
BH nitruro di boro cubico-cristallino con alto contenuto di nitruro di boro
CN ceramica Si_3N_4
CM ceramica mista
HC_1 cermet rivestito
BC CBN rivestito
CC ceramica rivestito
CR ceramica, componente principale ossido di alluminio (Al_2O_3), rinforzata
DP diamante policristallino

Inserti per frese – Gruppo 7 (XMR01, XMR12, XMP01, QCH)

Gruppo materiali		Composizione/Struttura/Trattamento termico		Durezza HB Brinell	Gruppo di sgrossatura	Velocità di taglio v_c [m/min] HC (CVD) YBC302 a_e / D 1/1 | 3/4	YBC302 1/5	YBC302 1/20	YBD152 a_e / D 1/1 | 3/4	YBD152 1/5	YBD152 1/20
P	Acciaio non legato	ca. 0,15 % C	Temprato	125	1	260	300	390			
		ca. 0,45 % C	Temprato	190	2	225	255	335			
		ca. 0,45 % C	pre-temprato	250	3	210	240	315			
		ca. 0,75 % C	Temprato	270	4	185	210	275			
		ca. 0,75 % C	pre-temprato	300	5	170	195	255			
	Acciaio al carbonio		Temprato	180	6	225	255	335			
			pre-temprato	275	7	185	210	275			
			pre-temprato	300	8	170	195	255			
			pre-temprato	350	9	145	165	215			
	Acciaio alto legato e acciaio alto legato per utensili		Temprato	200	10	130	150	195			
			temprato e rinvenuto	325	11	95	105	140			
M	Acciaio inossidabile	ferritico/martensitico	Temprato	200	12						
		martensitico	pre-temprato	240	13						
		austenitico	quencing	180	14						
		austenitico-ferritico		230	15						
K	Ghisa grigia	perlitico/ferritico		180	16				335	390	510
		perlitico (martensitico)		260	17				200	230	300
	Ghisa sferodale	ferritico		160	18				225	260	340
		perlitico		250	19				150	175	230
	Ghisa malleabile	ferritico		130	20				275	320	420
		perlitico		230	21				185	215	280
N	Lavorazioni plastiche di leghe di alluminio	non invecchiabile		60	22						
		invecchiabile	indurito	100	23						
	Leghe di alluminio fuso	≤ 12 % Si, non invecchiabile		75	24						
		≤ 12 % Si, invecchiabile	indurito	90	25						
		> 12 % Si, non invecchiabile		130	26						
	Rame e leghe di rame (bronzo/ottone)	Leghe per macchine di tipo multiplo, PB > 1 %		110	27						
		CuZn, CuSnZn		90	28						
		CuSn, rame senza piombo e rame elettrolitico		100	29						
S	Leghe resistenti al calore	Base Fe	Temprato	200	30						
			indurito	280	31						
		Base Ni o Co	Temprato	250	32						
			indurito	350	33						
			fuso	320	34						
	Leghe di titanio	Titanio puro		R_m 400	35						
		Leghe Alpha + Beta	indurito	R_m 1050	36						
H	Acciaio temprato		temprato e rinvenuto	55 HRC	37						
			temprato e rinvenuto	60 HRC	38						
	Ghisa dura		fuso	400	39						
	Ghise temprate		temprato e rinvenuto	55 HRC	40						
X	Materiali non metallici	Termoplastiche			41						
		Termoindurenti			42						
		Vetroresina VTR			43						
		Plastica rinforzata in fibra di carbonio			44						
		Grafite			45						
		Legno			46						

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.
I valori di avanzamento consigliati sono consultabili a pagina B338.
Esempi di materiali per gruppi di taglio sono disponibili a pagina D11.

	Velocità di taglio v_c [m/min]																				
	HC (CVD)						HC (PVD)														
	YBD252			YBM253			YBG102			YBG152			YB9320			YBG205(H)			YBG212		
	a_e / D			a_e / D			a_e / D			a_e / D			a_e / D			a_e / D			a_e / D		
	1/1 | 3/4	1/5	1/20	1/1 | 3/4	1/5	1/20	1/1 | 3/4	1/5	1/20	1/1 | 3/4	1/5	1/20	1/1 | 3/4	1/5	1/20	1/1 | 3/4	1/5	1/20	1/1 | 3/4	1/5	1/20
				260	300	390	270	315	410	255	295	385	245	285	375	235	275	360	240	280	365
				225	255	335	230	270	355	220	255	335	210	245	320	200	235	310	205	240	315
				210	240	315	220	255	335	205	240	315	200	230	300	190	220	290	195	225	295
				185	210	275	190	225	295	180	210	275	175	200	260	165	195	255	170	200	260
				170	195	255	180	205	270	170	195	255	160	190	250	155	180	235	160	185	245
				225	255	335	230	270	355	220	255	335	210	245	320	200	235	310	205	240	315
				185	210	275	190	225	295	180	210	275	175	200	260	165	195	255	170	200	260
				170	195	255	180	205	270	170	195	255	160	190	250	155	180	235	160	185	245
				145	165	215	150	175	230	145	165	215	135	160	210	130	155	205	135	155	205
				130	150	195	135	160	210	130	150	195	125	145	190	120	140	185	120	140	185
				95	105	140	95	115	150	90	105	140	90	100	130	85	100	130	85	100	130
				130	150	195	135	160	205	130	150	195	125	145	190	120	140	180	120	140	185
				110	130	165	115	135	175	110	125	165	105	120	160	100	120	155	105	120	155
				140	160	210	145	170	220	140	160	205	130	155	200	125	150	195	130	150	195
				110	130	165	115	135	175	110	125	165	105	120	160	100	120	155	105	120	155
	290	335	440				300	345	450	285	330	430	270	315	410	260	300	390	265	305	400
	170	195	255				180	205	270	170	195	255	160	190	250	155	180	235	160	185	245
	195	225	295				205	240	315	195	225	295	185	215	280	180	210	275	180	210	275
	130	150	195				135	160	210	130	150	195	125	145	190	120	140	185	120	140	185
	235	270	355				245	285	375	230	270	355	225	260	340	215	250	325	220	255	335
	160	180	235				165	190	250	155	180	235	150	175	230	145	165	215	145	170	225

HC metallo duro rivestito
HT metallo duro non rivestito, componente principale (TiC) o (TiN), Cermet
HW metallo duro non rivestito, componente principale (WC)
BL nitruro di boro cubico-cristallino con basso contenuto di nitruro di boro
BH nitruro di boro cubico-cristallino con alto contenuto di nitruro di boro
CN ceramica Si_3N_4
CM ceramica mista
HC_1 cermet rivestito
BC CBN rivestito
CC ceramica rivestito
CR ceramica, componente principale ossido di alluminio (Al_2O_3), rinforzata
DP diamante policristallino

Inserti per frese – Gruppo 7 (XMR01, XMR12, XMP01, QCH)

Gruppo materiali		Composizione/Struttura/Trattamento termico		Durezza HB Brinell	Gruppo di sgrossatura	Velocità di taglio v_c [m/min] HC (PVD) YBG252 a_e / D 1/1 | 3/4	YBG252 1/5	YBG252 1/20	YBG302 a_e / D 1/1 | 3/4	YBG302 1/5	YBG302 1/20
P	Acciaio non legato	ca. 0,15 % C	Temprato	125	1	230	265	345	225	260	340
		ca. 0,45 % C	Temprato	190	2	200	230	300	195	225	295
		ca. 0,45 % C	pre-temprato	250	3	185	215	280	180	210	275
		ca. 0,75 % C	Temprato	270	4	165	190	250	160	185	245
		ca. 0,75 % C	pre-temprato	300	5	150	175	230	150	170	225
	Acciaio al carbonio		Temprato	180	6	200	230	300	195	225	295
			pre-temprato	275	7	165	190	250	160	185	245
			pre-temprato	300	8	150	175	230	150	170	225
			pre-temprato	350	9	130	150	195	125	145	190
	Acciaio alto legato e acciaio alto legato per utensili		Temprato	200	10	115	135	180	115	130	170
			temprato e rinvenuto	325	11	85	95	125	80	95	125
M	Acciaio inossidabile	ferritico/martensitico	Temprato	200	12	115	135	175	115	130	170
		martensitico	pre-temprato	240	13	100	115	145	95	110	145
		austenitico	quencing	180	14	125	145	185	120	140	185
		austenitico-ferritico		230	15	100	115	145	95	110	145
K	Ghisa grigia	perlitico/ferritico		180	16	255	295	385	250	290	380
		perlitico (martensitico)		260	17	150	175	230	150	170	225
	Ghisa sferodale	ferritico		160	18	175	200	260	170	195	255
		perlitico		250	19	115	135	180	115	130	170
	Ghisa malleabile	ferritico		130	20	210	240	315	205	235	310
		perlitico		230	21	140	160	210	135	160	210
N	Lavorazioni plastiche di leghe di alluminio	non invecchiabile		60	22						
		invecchiabile	indurito	100	23						
	Leghe di alluminio fuso	≤ 12 % Si, non invecchiabile		75	24						
		≤ 12 % Si, invecchiabile	indurito	90	25						
		> 12 % Si, non invecchiabile		130	26						
	Rame e leghe di rame (bronzo/ottone)	Leghe per macchine di tipo multiplo, PB > 1 %		110	27						
		CuZn, CuSnZn		90	28						
		CuSn, rame senza piombo e rame elettrolitico		100	29						
S	Leghe resistenti al calore	Base Fe	Temprato	200	30						
			indurito	280	31						
		Base Ni o Co	Temprato	250	32						
			indurito	350	33						
			fuso	320	34						
	Leghe di titanio	Titanio puro		R_m 400	35						
		Leghe Alpha + Beta	indurito	R_m 1050	36						
H	Acciaio temprato		temprato e rinvenuto	55 HRC	37						
			temprato e rinvenuto	60 HRC	38						
	Ghisa dura		fuso	400	39						
	Ghise temprate		temprato e rinvenuto	55 HRC	40						
X	Materiali non metallici	Termoplastiche			41						
		Termoindurenti			42						
		Vetroresina VTR			43						
		Plastica rinforzata in fibra di carbonio			44						
		Grafite			45						
		Legno			46						

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.
I valori di avanzamento consigliati sono consultabili a pagina B338.
Esempi di materiali per gruppi di taglio sono disponibili a pagina D11.

HC	metallo duro rivestito
HT	metallo duro non rivestito, componente principale (TiC) o (TiN), Cermet
HW	metallo duro non rivestito, componente principale (WC)
BL	nitruro di boro cubico-cristallino con basso contenuto di nitruro di boro
BH	nitruro di boro cubico-cristallino con alto contenuto di nitruro di boro
CN	ceramica Si_3N_4
CM	ceramica mista
HC_1	cermet rivestito
BC	CBN rivestito
CC	ceramica rivestito
CR	ceramica, componente principale ossido di alluminio (Al_2O_3), rinforzata
DP	diamante policristallino

Inserti per frese – Gruppo 8 (FMP06, FMR06)

Gruppo materiali		Composizione/Struttura/Trattamento termico		Durezza HB Brinell	Gruppo di sgrossatura	Velocità di taglio v_c [m/min]							
						HC (CVD)				HC (PVD)		BH	
						YBM253		YBD252		YB9320		YZB223	
						a_e / D		a_e / D		a_e / D		a_e / D	
						1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5
P	Acciaio non legato	ca. 0,15 % C	Temprato	125	1	260	300	280	360	245	285		
		ca. 0,45 % C	Temprato	190	2	225	255	280	320	210	245		
		ca. 0,45 % C	pre-temprato	250	3	210	240	260	300	200	230		
		ca. 0,75 % C	Temprato	270	4	185	210	220	280	175	200		
		ca. 0,75 % C	pre-temprato	300	5	170	195	220	280	160	190		
	Acciaio al carbonio		Temprato	180	6	225	255	280	320	210	245		
			pre-temprato	275	7	185	210	240	280	175	200		
			pre-temprato	300	8	170	195	240	280	160	190		
			pre-temprato	350	9	145	165	220	240	135	160		
	Acciaio alto legato e acciaio alto legato per utensili		Temprato	200	10	130	150	200	260	125	145		
			temprato e rinvenuto	325	11	95	105	200	220	90	100		
M	Acciaio inossidabile	ferritico/martensitico	Temprato	200	12	130	150			125	145		
		martensitico	pre-temprato	240	13	11	130			105	120		
		austenitico	quencing	180	14	140	160			130	155		
		austenitico-ferritico		230	15	110	130			105	120		
K	Ghisa grigia	perlitico/ferritico		180	16			320	370	270	315	1000	1200
		perlitico (martensitico)		260	17			220	260	160	190	700	900
	Ghisa sferodale	ferritico		160	18			240	280	185	215	–	–
		perlitico		250	19			220	260	125	145	300	400
	Ghisa malleabile	ferritico		130	20			280	305	225	260	–	–
		perlitico		230	21			180	220	150	175	300	400
N	Lavorazioni plastiche di leghe di alluminio	non invecchiabile		60	22								
		invecchiabile	indurito	100	23								
	Leghe di alluminio fuso	≤ 12 % Si, non invecchiabile		75	24								
		≤ 12 % Si, invecchiabile	indurito	90	25								
		> 12 % Si, non invecchiabile		130	26								
	Rame e leghe di rame (bronzo/ottone)	Leghe per macchine di tipo multiplo, PB > 1 %		110	27								
		CuZn, CuSnZn		90	28								
		CuSn, rame senza piombo e rame elettrolitico		100	29								
S	Leghe resistenti al calore	Base Fe	Temprato	200	30								
			indurito	280	31								
		Base Ni o Co	Temprato	250	32								
			indurito	350	33								
			fuso	320	34								
	Leghe di titanio	Titanio puro		R_m 400	35								
		Leghe Alpha + Beta	indurito	R_m 1050	36								
H	Acciaio temprato		temprato e rinvenuto	55 HRC	37								
			temprato e rinvenuto	60 HRC	38								
	Ghisa dura		fuso	400	39								
	Ghise temprate		temprato e rinvenuto	55 HRC	40								
X	Materiali non metallici	Termoplastiche			41								
		Termoindurenti			42								
		Vetroresina VTR			43								
		Plastica rinforzata in fibra di carbonio			44								
		Grafite			45								
		Legno			46								

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.
I valori di avanzamento consigliati sono consultabili a pagina B338.
Esempi di materiali per gruppi di taglio sono disponibili a pagina D11.

	Velocità di taglio v_c [m/min]																					
	CM				CR				CN													
	CA1000		CM1000		CW1400		CW1800		CN1000		CS1000		CSX1000									
	a_e / D		a_e / D		a_e / D		a_e / D		a_e / D		a_e / D		a_e / D									
	1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5								
									600	800												
									450	600												
									600	800												
									450	600												
									–	–												
									–	–												
					150	360	–	–			–	–	–	–								
					150	360	–	–			–	–	–	–								
					–	–	150	400			700	900	700	900								
					–	–	150	400			600	800	600	800								
					–	–	150	400			600	800	600	800								
	140	200	140	200																		
	120	180	120	180																		
	–	–	–	–																		
	120	180	120	180																		

HC	metallo duro rivestito
HT	metallo duro non rivestito, componente principale (TiC) o (TiN), Cermet
HW	metallo duro non rivestito, componente principale (WC)
BL	nitruro di boro cubico-cristallino con basso contenuto di nitruro di boro
BH	nitruro di boro cubico-cristallino con alto contenuto di nitruro di boro
CN	ceramica Si_3N_4
CM	ceramica mista
HC_1	cermet rivestito
BC	CBN rivestito
CC	ceramica rivestito
CR	ceramica, componente principale ossido di alluminio (Al_2O_3), rinforzata
DP	diamante policristallino

Dati di avanzamento consigliato

Inserti per frese – Gruppo 1 (FMA11/12/17, FMD02, FMP12/17, EMP09/13)

Gruppo materiali		Avanzamento per tagliente [mm]																	
		EMP09			EMP09			EMP13			EMP13			FMA11			FMA11		
		LNKT08/12			LNKT16			ANGX11			ANGX15			SNEG12			SNEG15		
		Tipo lavorazione																	
		F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R
P	Acciaio non legato		0,25	0,50		0,28	0,55		0,23			0,25			0,20	0,23		0,22	0,25
	Acciaio al carbonio		0,23	0,47		0,26	0,51		0,22			0,23			0,19	0,21		0,20	0,24
	Acciaio alto legato e acciaio alto legato per utensili		0,22	0,44		0,24	0,48		0,20			0,22			0,18	0,20		0,19	0,22
M	Acciaio inossidabile		0,18	0,35		0,19	0,39		0,16			0,18			0,14	0,16		0,15	0,18
K	Ghisa grigia		0,28	0,55		0,30	0,61		0,26			0,28			0,22	0,25		0,24	0,28
	Ghise con grafite sferoidale		0,25	0,50		0,28	0,55		0,23			0,25			0,20	0,23		0,22	0,25
	Ghisa malleabile		0,25	0,50		0,28	0,55		0,23			0,25			0,20	0,23		0,22	0,25
N	Lavorazioni plastiche di leghe di alluminio								0,20			0,21							
	Leghe di alluminio fuso								0,20			0,21							
	Rame e leghe di rame (bronzo/ottone)								0,18			0,19							
S	Leghe resistenti al calore																		
	Leghe di titanio																		
H	Acciaio temprato																		
	Ghisa dura																		
	Ghise temprate																		
X	Materiali non metallici																		

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.

Inserti per frese – Gruppo 2 (FMA01/02/03/04, FME02/03/17, FMP01/02, EMP01/02/03/04/05/14)

Gruppo materiali		Avanzamento per tagliente [mm]																	
		FMA01 | FMA02			FMA03			FMA03			FMA04			FMA04			FMA04		
		SEET12			SEKN12			SEKN15			OFKT05			OFKR07			ODHT06		
		Tipo lavorazione																	
		F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R
P	Acciaio non legato	0,15	0,20	0,25		0,18			0,20		0,20	0,25		0,20	0,25		0,20	0,25	
	Acciaio al carbonio	0,14	0,19	0,23		0,17			0,19		0,19	0,23		0,19	0,23		0,19	0,23	
	Acciaio alto legato e acciaio alto legato per utensili	0,13	0,18	0,22		0,16			0,18		0,18	0,22		0,18	0,22		0,18	0,22	
M	Acciaio inossidabile	0,11	0,14	0,18		0,13			0,14		0,14	0,18		0,14	0,18		0,14	0,18	
K	Ghisa grigia	0,17	0,22	0,28		0,20			0,22		0,22	0,28		0,22	0,28		0,22	0,28	
	Ghise con grafite sferoidale	0,15	0,20	0,25		0,18			0,20		0,20	0,25		0,20	0,25		0,20	0,25	
	Ghisa malleabile	0,15	0,20	0,25		0,18			0,20		0,20	0,25		0,20	0,25		0,20	0,25	
N	Lavorazioni plastiche di leghe di alluminio	0,13	0,17	0,21							0,17	0,21		0,17	0,21		0,17	0,21	
	Leghe di alluminio fuso	0,13	0,17	0,21							0,17	0,21		0,17	0,21		0,17	0,21	
	Rame e leghe di rame (bronzo/ottone)	0,11	0,15	0,19							0,15	0,19		0,15	0,19		0,15	0,19	
S	Leghe resistenti al calore	0,11	0,14	0,18							0,14	0,18		0,14	0,18		0,14	0,18	
	Leghe di titanio	0,11	0,14	0,18							0,14	0,18		0,14	0,18		0,14	0,18	
H	Acciaio temprato																		
	Ghisa dura																		
	Ghise temprate																		
X	Materiali non metallici																		

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.

	Avanzamento per tagliente [mm]																							
	FMA11			FMA12			FMA12			FMD02			FMD02			FMP12			FMP12			FMA17 | FMP17		
	SNEG19			ONHU06			ONHU09			PNEG11			HNEX09			WNHU06			WNHU08			SNGX12		
	Tipo lavorazione																							
	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R
			0,29	0,19	0,23			0,23		0,15	0,20	0,30					0,23			0,25			0,23	
			0,27	0,17	0,22			0,22		0,14	0,19	0,28					0,22			0,23			0,22	
			0,26	0,16	0,20			0,20		0,13	0,18	0,26					0,20			0,22			0,20	
			0,20					0,16									0,16			0,18			0,16	
			0,32	0,20	0,26			0,26		0,17	0,22	0,33	0,17	0,22	0,33		0,26			0,28			0,26	
			0,29	0,19	0,23			0,23		0,15	0,20	0,30	0,15	0,20	0,30		0,23			0,25			0,23	
			0,29	0,19	0,23			0,23		0,15	0,20	0,30	0,15	0,20	0,30		0,23			0,25			0,23	
																							0,20	
																							0,20	
																							0,18	

F Finitura
M Asportazione media
R Sgrossatura

	Avanzamento per tagliente [mm]																							
	FME02			FME03			FME03			FME17			FMP01			FMP02			EMP01 | EMP02			EMP01 | EMP02		
	SPK*12			SPK*12			SPK*15			SNGX1205ENN**			TPKN22			SEET12			APKT11			APKT16		
	Tipo lavorazione																							
	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R
		0,20			0,19			0,20		0,20	0,25			0,20		0,15	0,20	0,25	0,10	0,15	0,20	0,12	0,17	0,23
		0,19			0,17			0,19		0,19	0,23			0,19		0,14	0,19	0,23	0,09	0,14	0,19	0,11	0,16	0,21
		0,18			0,16			0,18		0,18	0,22			0,18		0,13	0,18	0,22	0,09	0,13	0,18	0,10	0,15	0,20
		0,14			0,13			0,14		0,14	0,18			0,14		0,11	0,14	0,18	0,07	0,11	0,14	0,08	0,12	0,16
		0,22			0,20			0,22		0,22	0,28			0,22		0,17	0,22	0,28	0,11	0,17	0,22	0,13	0,19	0,25
		0,20			0,19			0,20		0,20	0,25			0,20		0,15	0,20	0,25	0,10	0,15	0,20	0,12	0,17	0,23
		0,20			0,19			0,20		0,20	0,25			0,20		0,15	0,20	0,25	0,10	0,15	0,20	0,12	0,17	0,23
										0,17	0,21					0,13	0,17	0,21	0,09	0,13	0,17	0,10	0,15	0,20
										0,17	0,21					0,13	0,17	0,21	0,09	0,13	0,17	0,10	0,15	0,20
										0,15	0,19					0,11	0,15	0,19	0,08	0,11	0,15	0,09	0,13	0,18
										0,14	0,18													
										0,14	0,18													

F Finitura
M Asportazione media
R Sgrossatura

Dati di avanzamento consigliato

Inserti per frese – Gruppo 2 (FMA01/02/03/04, FME02/03/17, FMP01/02, EMP01/02/03/04/05/14)

Gruppo materiali		Avanzamento per tagliente [mm]																	
		EMP03 | EMP04			EMP05			EMP14											
		APKT11			ADKT**			VPGT22											
		Tipo lavorazione																	
		F	M	R	F	M	R	F	M	R									
P	Acciaio non legato	0,12	0,17	0,23	0,10	0,15	0,20												
	Acciaio al carbonio	0,11	0,16	0,21	0,09	0,14	0,19												
	Acciaio alto legato e acciaio alto legato per utensili	0,10	0,15	0,20	0,09	0,13	0,18												
M	Acciaio inossidabile	0,08	0,12	0,16	0,07	0,11	0,14												
K	Ghisa grigia	0,13	0,19	0,25	0,11	0,17	0,22												
	Ghise con grafite sferoidale	0,12	0,17	0,23	0,10	0,15	0,20												
	Ghisa malleabile	0,12	0,17	0,23	0,10	0,15	0,20												
N	Lavorazioni plastiche di leghe di alluminio	0,10	0,15	0,20	0,09	0,13	0,17	0,05	0,2	0,3									
	Leghe di alluminio fuso	0,10	0,15	0,20	0,09	0,13	0,17	0,05	0,2	0,3									
	Rame e leghe di rame (bronzo/ottone)	0,09	0,13	0,18	0,08	0,11	0,15	0,05	0,2	0,3									
S	Leghe resistenti al calore																		
	Leghe di titanio																		
H	Acciaio temprato																		
	Ghisa dura																		
	Ghise temprate																		
X	Materiali non metallici																		

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.

Inserti per frese – Gruppo 3 (FMR01/02/03/04/11) Fresatura a spianare

Gruppo materiali		Avanzamento per tagliente [mm]																	
		FMR01			FMR01			FMR02			FMR02			FMR02			FMR03		
		RCKT10			RC*12			RC*12			RCKT16			RCKT20			RDKW07		
		Tipo lavorazione																	
		F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R
P	Acciaio non legato		0,20	0,25		0,20	0,25		0,20	0,25		0,23	0,29		0,26	0,33		0,17	
	Acciaio al carbonio		0,19	0,23		0,19	0,23		0,19	0,23		0,21	0,27		0,25	0,31		0,16	
	Acciaio alto legato e acciaio alto legato per utensili		0,18	0,22		0,18	0,22		0,18	0,22		0,20	0,25		0,23	0,29		0,15	
M	Acciaio inossidabile		0,14	0,18		0,14	0,18		0,14	0,18		0,16	0,20		0,19	0,23		0,12	
K	Ghisa grigia		0,22	0,28		0,22	0,28		0,22	0,28		0,25	0,32		0,29	0,36		0,19	
	Ghise con grafite sferoidale		0,20	0,25		0,20	0,25		0,20	0,25		0,23	0,29		0,26	0,33		0,17	
	Ghisa malleabile		0,20	0,25		0,20	0,25		0,20	0,25		0,23	0,29		0,26	0,33		0,17	
N	Lavorazioni plastiche di leghe di alluminio					0,17	0,21		0,17	0,21									
	Leghe di alluminio fuso					0,17	0,21		0,17	0,21									
	Rame e leghe di rame (bronzo/ottone)					0,15	0,19		0,15	0,19									
S	Leghe resistenti al calore																		
	Leghe di titanio																		
H	Acciaio temprato																		
	Ghisa dura																		
	Ghise temprate																		
X	Materiali non metallici																		

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.

F Finitura
M Asportazione media
R Sgrossatura

	Avanzamento per tagliente [mm]																							
	FMR03			FMR03			FMR04			FMR04			FMR04			FMR04			FMR11			FMR11		
	RDKW08			RD*10			RD*10			RD*12			RDKW16			RDKW20			RD*10			RP**10		
	Tipo lavorazione																							
	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R
		0,17			0,20			0,20		0,15	0,20	0,25	0,17	0,23	0,29	0,2	0,26	0,33		0,20			0,20	
		0,16			0,19			0,19		0,14	0,19	0,23	0,16	0,21	0,27	0,19	0,25	0,31		0,19			0,19	
		0,15			0,18			0,18		0,13	0,18	0,22	0,15	0,20	0,25	0,18	0,23	0,29		0,18			0,18	
		0,12			0,14			0,14		0,11	0,14	0,18	0,12	0,16	0,20	0,14	0,19	0,23		0,14			0,14	
		0,19			0,22			0,22		0,17	0,22	0,28	0,19	0,25	0,32	0,22	0,29	0,36		0,22			0,22	
		0,17			0,20			0,20		0,15	0,20	0,25	0,17	0,23	0,29	0,20	0,26	0,33		0,20			0,20	
		0,17			0,20			0,20		0,15	0,20	0,25	0,17	0,23	0,29	0,20	0,26	0,33		0,20			0,20	
					0,17			0,17		0,13	0,17	0,21								0,17			0,17	
					0,17			0,17		0,13	0,17	0,21								0,17			0,17	
					0,15			0,15		0,11	0,15	0,19								0,15			0,15	

F Finitura
M Asportazione media
R Sgrossatura

Dati di avanzamento consigliato

Inserti per frese – Gruppo 3 (FMR01/02/03/04/11) Fresatura circolare

Gruppo materiali		Avanzamento per tagliente [mm]							
		FMR01	FMR01	FMR02	FMR02		FMR02		FMR03
		RCKT10	RC*12	RC*12	RCKT16		RCKT20		RDKW07
		Diametro utensile [mm]							
		25-32	40-50	50-100	63-125	160-200	80-125	160-250	15
P	Acciaio non legato	0,12	0,16	0,18	0,24	0,32	0,26	0,35	0,07
	Acciaio al carbonio	0,11	0,14	0,16	0,21	0,28	0,23	0,31	0,06
	Acciaio alto legato e acciaio alto legato per utensili	0,10	0,13	0,14	0,19	0,26	0,21	0,28	0,06
M	Acciaio inossidabile	0,07	0,09	0,10	0,14	0,18	0,15	0,20	0,04
K	Ghisa grigia	0,11	0,14	0,16	0,22	0,29	0,23	0,32	0,06
	Ghise con grafite sferoidale	0,10	0,13	0,14	0,19	0,26	0,21	0,28	0,06
	Ghisa malleabile	0,10	0,13	0,14	0,19	0,26	0,21	0,28	0,06
N	Lavorazioni plastiche di leghe di alluminio								
	Leghe di alluminio fuso								
	Rame e leghe di rame (bronzo/ottone)								
S	Leghe resistenti al calore								
	Leghe di titanio								
H	Acciaio temprato								
	Ghisa dura								
	Ghise temprate								
X	Materiali non metallici								

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.

Inserti per frese – Gruppo 4 (BMR01/02/03/04, TMP01, CMZ01, CMA01, CMD01)

Gruppo materiali		Avanzamento per tagliente [mm]								
		BMR01	BMR01	BMR01	BMR01	BMR02	BMR02	BMR02	BMR03	BMR03
		ZD*08 / SP*06	ZD*11 / SP*06	ZD*13 / SP*09	ZP*22 / SP*12	ROHX12	ROHX16	ROHX20	–	–
		Diametro utensile [mm]								
		20	25	32	40–63	12	16	20	16	20
P	Acciaio non legato	0,14	0,21	0,26	0,32	0,10	0,13	0,14	0,13	0,14
	Acciaio al carbonio	0,10	0,15	0,18	0,22	0,07	0,09	0,10	0,09	0,10
	Acciaio alto legato e acciaio alto legato per utensili	0,09	0,14	0,17	0,21	0,07	0,08	0,09	0,08	0,09
M	Acciaio inossidabile	0,08	0,12	0,14	0,18	0,06	0,07	0,08	0,07	0,08
K	Ghisa grigia	0,18	0,27	0,34	0,42	0,13	0,17	0,18	0,17	0,18
	Ghise con grafite sferoidale	0,13	0,20	0,25	0,30	0,10	0,12	0,13	0,12	0,13
	Ghisa malleabile	0,14	0,21	0,26	0,32	0,10	0,13	0,14	0,13	0,14
N	Lavorazioni plastiche di leghe di alluminio									
	Leghe di alluminio fuso									
	Rame e leghe di rame (bronzo/ottone)									
S	Leghe resistenti al calore									
	Leghe di titanio									
H	Acciaio temprato									
	Ghisa dura									
	Ghise temprate									
X	Materiali non metallici									

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.

	Avanzamento per tagliente [mm]							
	FMR03	FMR03	FMR04	FMR04	FMR04	FMR04	FMR11	FMR11
	RDKW08	RD*10	RD*10	RD*12	RDKW16	RDKW20	RD**10	RP**10
	Diametro utensile [mm]							
	16-25	32	32-40	50-63	80-100	125-160	32-40	32-40
	0,07	0,12	0,12	0,17	0,24	0,30	0,12	0,12
	0,06	0,11	0,11	0,15	0,21	0,26	0,11	0,11
	0,06	0,10	0,10	0,14	0,19	0,24	0,10	0,10
	0,04	0,07	0,07	0,10	0,14	0,17	0,07	0,07
	0,06	0,11	0,11	0,15	0,22	0,27	0,11	0,11
	0,06	0,10	0,10	0,14	0,19	0,24	0,10	0,10
	0,06	0,10	0,10	0,14	0,19	0,24	0,10	0,10
		0,10	0,10	0,11			0,10	0,10
		0,10	0,10	0,11			0,10	0,10
		0,10	0,10	0,11			0,10	0,10

	Avanzamento per tagliente [mm]											
	BMR03	BMR03	BMR03	BMR04	BMR04	BMR04	BMR04	BMR04	CMZ01	CMA01	CMD01	
	–	–	–	ZOHX12	ZOHX16	ZOHX20	ZOHX25	ZOHX30	SPMT12	SPMT12	SPMT12	
	Diametro utensile [mm]											
	25	30–32	40–50	12	16	20	25	30	12–32	12–32	12–36	
	0,21	0,26	0,30	0,10	0,13	0,14	0,16	0,17	0,23	0,23	0,23	
	0,15	0,18	0,21	0,07	0,09	0,10	0,11	0,12	0,16	0,16	0,16	
	0,14	0,17	0,20	0,07	0,08	0,09	0,10	0,11	0,15	0,15	0,15	
	0,12	0,14	0,17	0,06	0,07	0,08	0,09	0,09	0,13	0,13	0,13	
	0,27	0,34	0,39	0,13	0,17	0,18	0,21	0,22	0,30	0,30	0,30	
	0,20	0,25	0,29	0,10	0,12	0,13	0,15	0,16	0,22	0,22	0,22	
	0,21	0,26	0,30	0,10	0,13	0,14	0,16	0,17	0,23	0,23	0,23	

Dati di avanzamento consigliato

Inserti per frese – Gruppo 5 (SMP01/03/05/09)

	Gruppo materiali	Avanzamento per tagliente [mm]								
		SMP01	SMP01	SMP01	SMP01	SMP01	SMP03	SMP03	SMP03	SMP05
		XSEQ1202	XSEQ1203	XSEQ12T3	XSEQ1204	XSEQ12T4	MPHT06	MPHT08	MPHT12	QC16
		Diametro utensile [mm]								
		63–100	63–100	63–160	63–160	63–160	80–125	125–200	120–200	25–39
P	Acciaio non legato	0,12	0,12	0,13	0,13	0,14	0,14	0,15	0,16	0,08
P	Acciaio al carbonio	0,11	0,11	0,12	0,12	0,13	0,13	0,14	0,15	0,08
P	Acciaio alto legato e acciaio alto legato per utensili	0,10	0,10	0,11	0,11	0,12	0,12	0,13	0,14	0,07
M	Acciaio inossidabile	0,10	0,10	0,11	0,11	0,12	0,12	0,13	0,14	0,07
K	Ghisa grigia	0,11	0,11	0,12	0,12	0,13	0,13	0,14	0,15	0,08
K	Ghise con grafite sferoidale	0,11	0,11	0,12	0,12	0,13	0,13	0,14	0,15	0,07
K	Ghisa malleabile	0,11	0,11	0,12	0,12	0,13	0,13	0,14	0,15	0,07
N	Lavorazioni plastiche di leghe di alluminio									
N	Leghe di alluminio fuso									
N	Rame e leghe di rame (bronzo/ottone)									
S	Leghe resistenti al calore									
S	Leghe di titanio									
H	Acciaio temprato									
H	Ghisa dura									
H	Ghise temprate									
X	Materiali non metallici									

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.

Inserti per frese – Gruppo 6 (FMD03, FME04, FMP03, HMP01)

	Gruppo materiali	Avanzamento per tagliente [mm]																	
		FMD03			FMD03			FME04			FMP03			FMP03			FMP03		
		LNKT20			LNKT25			LNKT15			LNKT12			LNKT15			LNKT20		
		Tipo lavorazione																	
		F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R
P	Acciaio non legato			0,50			0,50			0,45			0,45			0,45			0,50
P	Acciaio al carbonio			0,47			0,47			0,42			0,42			0,42			0,47
P	Acciaio alto legato e acciaio alto legato per utensili			0,44			0,44			0,40			0,40			0,40			0,44
M	Acciaio inossidabile			0,45			0,45			0,40			0,40			0,40			0,45
K	Ghisa grigia			0,55			0,55			0,50			0,50			0,50			0,55
K	Ghise con grafite sferoidale			0,50			0,50			0,45			0,45			0,45			0,50
K	Ghisa malleabile			0,50			0,50			0,45			0,45			0,45			0,50
N	Lavorazioni plastiche di leghe di alluminio																		
N	Leghe di alluminio fuso																		
N	Rame e leghe di rame (bronzo/ottone)																		
S	Leghe resistenti al calore																		
S	Leghe di titanio																		
H	Acciaio temprato																		
H	Ghisa dura																		
H	Ghise temprate																		
X	Materiali non metallici																		

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.

ZCC-CT

	Avanzamento per tagliente [mm]				
	SMP05	SMP09	SMP09	SMP09	
	QC22	LNGX0804	LNGX1005	LNGX1407	
	Diametro utensile [mm]				
	44	–	–	–	
	0,08	0,14	0,15	0,16	
	0,08	0,13	0,14	0,15	
	0,07	0,12	0,13	0,13	
	0,07	0,12	0,13	0,14	
	0,08	0,13	0,14	0,15	
	0,07	0,13	0,14	0,15	
	0,07	0,10	0,11	0,12	

	Avanzamento per tagliente [mm]						
	FMP03			HMP01			
	LNKT25			SPMT-APKT			
	Tipo lavorazione						
	F	M	R	F	M	R	
			0,55		0,25		
			0,51		0,23		
			0,48		0,22		
			0,47		0,15		
			0,61		0,28		
			0,55		0,25		
			0,55		0,25		

F Finitura
M Asportazione media
R Sgrossatura

Dati di avanzamento consigliato

Inserti per frese – Gruppo 7 (XMR01, XMP01, QCH)

Gruppo materiali		Avanzamento per tagliente [mm]								
		Fresatura a spianare XMR01			Fresatura a tuffo XMR01			Fresatura circolare XMR01		
		SDMT/WPGT			SDMT/WPGT			SDMT/WPGT		
		Diametro utensile [mm]								
		20–25	30–50	63–160	20–25	30–50	63–160	20–25	30–50	63–160
P	Acciaio non legato	1,00	1,20	2,00	0,20	0,25	0,30	0,80	0,96	1,40
	Acciaio al carbonio	0,93	1,12	1,86	0,19	0,23	0,28	0,74	0,89	1,30
	Acciaio alto legato e acciaio alto legato per utensili	0,70	0,84	1,40	0,18	0,22	0,26	0,70	0,84	1,23
M	Acciaio inossidabile	0,50	0,60	1,00	0,14	0,18	0,21	0,56	0,67	0,98
K	Ghisa grigia	0,90	1,08	1,80	0,22	0,28	0,33	0,88	1,06	1,54
	Ghise con grafite sferoidale	0,90	1,08	1,80	0,20	0,25	0,30	0,80	0,96	1,40
	Ghisa malleabile	1,00	1,20	2,00	0,20	0,25	0,30	0,80	0,96	1,40
N	Lavorazioni plastiche di leghe di alluminio									
	Leghe di alluminio fuso									
	Rame e leghe di rame (bronzo/ottone)									
S	Leghe resistenti al calore									
	Leghe di titanio									
H	Acciaio temprato									
	Ghisa dura									
	Ghise temprate									
X	Materiali non metallici									

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.

Inserti per frese – Gruppo 8 (FMP06, FMR06)

Gruppo materiali		Avanzamento per tagliente [mm]																	
		FMP06			FMP06			FMP06			FMR06			FMR06					
		SNCU12 (HC)			SNGN12 (CN)			SNGN12 (CM)			RNGN* (CN)			RNGN* (CM)					
		Tipo lavorazione																	
		F	M	R	F	M	R	F	M	R	F	M	R	F	M	R			
P	Acciaio non legato		0,23																
	Acciaio al carbonio		0,22																
	Acciaio alto legato e acciaio alto legato per utensili		0,20																
M	Acciaio inossidabile		0,16																
K	Ghisa grigia		0,26			0,10	0,25					0,10	0,25						
	Ghise con grafite sferoidale		0,23			0,10	0,25					0,10	0,25						
	Ghisa malleabile		0,23			0,10	0,25					0,10	0,25						
N	Lavorazioni plastiche di leghe di alluminio																		
	Leghe di alluminio fuso																		
	Rame e leghe di rame (bronzo/ottone)																		
S	Leghe resistenti al calore																		
	Leghe di titanio																		
H	Acciaio temprato								0,05	0,10					0,05	0,10			
	Ghisa dura								–	–					–	–			
	Ghise temprate								0,05	0,10					0,05	0,10			
X	Materiali non metallici																		

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.

	Avanzamento per tagliente [mm]							
	XMP01	QCH	QCH	QCH	QCH	QCH	QCH	
	CNE	ZOHX	RD*	APKT	WPGT	SDMT	XPHT	
	Diametro utensile [mm]							
	80–400	16–32	15–32	16–40	20–42	20–40	16–32	
	0,20	0,20	0,20	0,15	1,00	1,00	0,20	
	0,20	0,19	0,19	0,14	0,93	0,93	0,19	
	0,20	0,18	0,18	0,13	0,70	0,70	0,18	
	0,20	0,14	0,14	0,11	0,50	0,50	0,14	
	0,20	0,22	0,22	0,17	0,90	0,90	0,22	
	0,20	0,20	0,20	0,15	0,90	0,90	0,20	
	0,20	0,20	0,20	0,15	1,00	1,00	0,20	
				0,13				
				0,13				
				0,11				

HC metallo duro rivestito
CN ceramica Si_3N_4
CM ceramica mista

F Finitura
M Asportazione media
R Sgrossatura

FRESE IN METALLO DURO INTEGRALE

Frese in metallo duro integrale

Panoramica prodotti	**B350-B359**
Panoramica gradi	**B360-B361**
Codice sistema – DIN-ISO	**B362**
Codice sistema – JIS	**B363**
Codice sistema - serie QCH	**B364-B365**
Serie GM	**B367-B420**
Serie PM	**B421-B442**
Serie PM Micro	**B443-B452**
Serie VPM	**B453-B456**
Serie EPM	**B457-B472**
Serie HM	**B473-B494**
Serie NM	**B495-B500**
Serie AL	**B501-B512**
Serie ALG/ALP	**B513-B524**
Serie TM	**B525-B542**
Serie HPC	**B543-B548**
Serie UM	**B549-B558**
Serie UMC	**B559-B560**
Serie VSM	**B561-B564**
Frese a sbavare – Serie FM	**B565-B568**
Serie QCH	**B569-B581**
Dati di taglio consigliati	**B582-B616**
Informazioni tecniche	**B617-B632**
Gli utensili speciali	**B633**

B

Fresatura ad alte prestazioni

Prodotti	Frese in metallo duro integrale	Denti	Ø	Applicazione						Versione	Pagina
				P	M	K	N	S	H		
PM-2E		2	1,0-20,0	✔	✔	✔			✔	Frese a candela	B421
PM-2EL		2	3,0-20,0	✔	✔	✔			✔	Frese a candela	B422
PM-4E-G		4	1,0-20,0	✔	✔	✔			✔	Frese a candela	B423
PM-4EL-G		4	3,0-20,0	✔	✔	✔			✔	Frese a candela	B424
PM-4EX-G		4	3,0-20,0	✔	✔	✔			✔	Frese a candela	B425
PM-4E		4	1,0-20,0	✔	✔	✔			✔	Frese a candela	B426
PM-4EL		4	3,0-20,0	✔	✔	✔			✔	Frese a candela	B427
PM-6E		6	6,0-20,0	✔	✔	✔			✔	Frese a candela	B428
PM-6EL		6	6,0-20,0	✔	✔	✔			✔	Frese a candela	B429
PM-2B		2	1,0-20,0	✔	✔	✔			✔	Frese a testa semisferica	B430
PM-2BL		2	2,0-20,0	✔	✔	✔			✔	Frese a testa semisferica	B431
PM-2BFP		2	1,0-20,0	✔	✔	✔			✔	Frese a testa semisferica	B432
PM-2BC		2	0,5-4,0	✔	✔	✔			✔	Frese a testa semisferica con collo conico	B433
PM-4B		4	3,0-20,0	✔	✔	✔			✔	Frese a testa semisferica	B436
PM-4BL		4	3,0-20,0	✔	✔	✔			✔	Frese a testa semisferica	B437
PM-2R		2	1,0-12,0	✔	✔	✔			✔	Frese toroidali	B438
PM-4H		4	3,0-12,0	✔	✔	✔			✔	Frese ad alto avanza-mento	B439
PM-4HL		4	4,0-12,0	✔	✔	✔			✔	Frese ad alto avanza-mento	B440
PM-4R		4	3,0-12,0	✔	✔	✔			✔	Frese toroidali	B441
PM-4RL		4	6,0-16,0	✔	✔	✔			✔	Frese toroidali	B442
PM-2EP		2	0,5-5,0	✔	✔	✔			✔	Frese a candela	B444

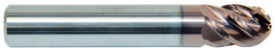
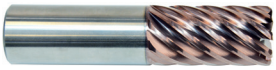
✔ Molto adatto ✔ Adatto

Fresatura ad alte prestazioni

Prodotti	Frese in metallo duro integrale	Denti	Ø	Applicazione						Versione	Pagina
				P	M	K	N	S	H		
PM-2ES		2	0,3-3,0	✔	✔	✔			✓	Frese a candela	B443
PM-2BS		2	0,3-3,0	✔	✔	✔			✓	Frese a testa semisferica	B446
PM-2BP		2	0,5-5,0	✔	✔	✔			✓	Frese a testa semisferica	B447
PM-2RP		2	0,5-5,0	✔	✔	✔			✓	Frese toroidali	B449
EPM-2E		2	3,0-20,0	✔	✔	✔			✓	Frese a candela	B457
EPM-2E-W		2	3,0-20,0	✔	✔	✔			✓	Frese a candela	B458
EPM-2EL		2	3,0-20,0	✔	✔	✔			✓	Frese a candela	B459
EPM-2EL-W		2	3,0-20,0	✔	✔	✔			✓	Frese a candela	B460
EPM-4E		4	3,0-20,0	✔	✔	✔			✓	Frese a candela	B461
EPM-4E-W		4	3,0-20,0	✔	✔	✔			✓	Frese a candela	B462
EPM-4EL		4	3,0-20,0	✔	✔	✔			✓	Frese a candela	B463
EPM-4EL-W		4	3,0-20,0	✔	✔	✔			✓	Frese a candela	B464
EPM-2B		2	3,0-20,0	✔	✔	✔			✓	Frese a testa semisferica	B465
EPM-2B-W		2	3,0-20,0	✔	✔	✔			✓	Frese a testa semisferica	B466
EPM-2BL		2	3,0-20,0	✔	✔	✔			✓	Frese a testa semisferica	B467
EPM-2BL-W		2	3,0-20,0	✔	✔	✔			✓	Frese a testa semisferica	B468
EPM-4B		4	3,0-20,0	✔	✔	✔			✓	Frese a testa semisferica	B469
EPM-4B-W		4	3,0-20,0	✔	✔	✔			✓	Frese a testa semisferica	B470
EPM-4BL		4	3,0-20,0	✔	✔	✔			✓	Frese a testa semisferica	B471
EPM-4BL-W		4	3,0-20,0	✔	✔	✔			✓	Frese a testa semisferica	B472
VPM-4E		4	1,0-20,0	✔	✔	✔			✓	Frese a candela	B453

✔ Molto adatto ✓ Adatto

Fresatura ad alte prestazioni

Prodotti	Frese in metallo duro integrale	Denti	Ø	Applicazione						Versione	Pagina
				P	M	K	N	S	H		
VPM-4E-W		4	5,0-20,0	✔	✔	✔			✓	Frese a candela	B454
VPM-4R		4	3,0-12,0	✔	✔	✔			✓	Frese toroidali	B455
TM-4B		4	6,0-20,0		✓			✔		Frese a testa semisferica	B525
TM-4BL		4	6,0-20,0		✓			✔		Frese a testa semisferica	B526
TM-4BP		4	6,0-20,0		✓			✔		Frese a testa semisferica	B527
TM-5B		5	6,0-20,0		✓			✔		Frese a testa semisferica	B528
TM-5BL		5	6,0-20,0		✓			✔		Frese a testa semisferica	B529
TM-5BP		5	6,0-20,0		✓			✔		Frese a testa semisferica	B530
TM-2R		2	1,0-5,0		✔			✔		Frese toroidali	B531
TM-3R		3	3,0-5,0		✔			✔		Frese toroidali	B532
TM-4R		4	6,0-25,0		✓			✔		Frese toroidali	B533
TM-4RP		4	8,0-25,0		✓			✔		Frese toroidali	B535
TM-5R		5	6,0-10,0		✓			✔		Frese toroidali	B537
TM-7R		7	12,0-21,0		✓			✔		Frese toroidali	B538
TM-9R		9	25,0		✓			✔		Frese toroidali	B539
TM-5RP		5	8,0-16,0		✓			✔		Frese toroidali	B540
TM-7RP		7	12,0-20,0		✓			✔		Frese toroidali	B541
TM-9RP		9	25,0		✓			✔		Frese toroidali	B542

✔ Molto adatto ✓ Adatto

Lavorazione generica

5501R302GM		2	3,0-20,0	✔	✔	✔				Frese a candela	B367
5502R302GM		2	1,0-20,0	✔	✔	✔				Frese a candela	B368

✔ Molto adatto ✓ Adatto

Lavorazione generica

Prodotti	Frese in metallo duro integrale	Denti	Ø	Applicazione						Versione	Pagina
				P	M	K	N	S	H		
GM-2E		2	1,0-20,0	✔	✔	✔				Frese a candela	B369
GM-2EL		2	3,0-20,0	✔	✔	✔				Frese a candela	B370
GM-2EX		2	3,0-20,0	✔	✔	✔				Frese a candela	B371
GM-2EFP		2	6,0-16,0	✔	✔	✔				Frese a candela	B372
GM-2F		2	1,0-20,0	✔	✔	✔				Frese a candela	B373
GM-2FL		2	3,0-20,0	✔	✔	✔				Frese a candela	B374
GM-2EP		2	0,5-5,0	✔	✔	✔				Mini frese frontali	B375
GM-2ES		2	0,3-3,0	✔	✔	✔				Mini frese frontali	B377
GM-3E		3	1,0-20,0	✔	✔	✔				Frese a candela	B378
GM-3EL		3	3,0-20,0	✔	✔	✔				Frese a candela	B379
5501R303GM		3	3,0-20,0	✔	✔	✔				Frese a candela	B380
5601R303GM		3	3,0-20,0	✔	✔	✔				Frese a candela	B381
5502R303GM		3	2,0-20,0	✔	✔	✔				Frese a candela	B382
5602R303GM		3	3,0-20,0	✔	✔	✔				Frese a candela	B383
5502R453GM		3	3,0-20,0	✔	✔	✔				Frese a candela	B384
5602R453GM		3	3,0-20,0	✔	✔	✔				Frese a candela	B385
GM-4F-G		4	1,0-20,0	✔	✔	✔				Frese a candela	B386
GM-4EL-G		4	3,0-20,0	✔	✔	✔				Frese a candela	B387
GM-4FL-G		4	3,0-20,0	✔	✔	✔				Frese a candela	B388
GM-4EX-G		4	3,0-20,0	✔	✔	✔				Frese a candela	B389
GM-4E		4	1,0-20,0	✔	✔	✔				Frese a candela	B390

✔ Molto adatto ✔ Adatto

Lavorazione generica

Prodotti	Frese in metallo duro integrale	Denti	Ø	Applicazione						Versione	Pagina
				P	M	K	N	S	H		
GM-4E-G		4	1,0-20,0	✔	✔	✔				Frese a candela	B391
GM-4EL		4	3,0-20,0	✔	✔	✔				Frese a candela	B392
GM-4EFP		4	6,0-20,0	✔	✔	✔				Frese a candela	B393
5501R304GF		4	3,0-20,0	✔	✔	✔				Frese a candela	B394
5601R304GF		4	3,0-20,0	✔	✔	✔				Frese a candela	B395
5502R304GF		4	3,0-20,0	✔	✔	✔				Frese a candela	B396
5602R304GF		4	3,0-20,0	✔	✔	✔				Frese a candela	B397
5508R454GM		4	3,0-20,0	✔	✔	✔				Frese a candela	B398
5602R454GM		4	3,0-20,0	✔	✔	✔				Frese a candela	B399
5589R45MGFR		6-10	6,0-20,0	✔	✔	✔				Frese a candela	B400
GM-6E		6	6,0-20,0	✔	✔	✔				Frese a candela	B401
GM-6EL		6	6,0-20,0	✔	✔	✔				Frese a candela	B402
5565R302GF		2	3,0-20,0	✔	✔	✔				Frese a testa semisferica	B403
5665R202GM		2	3,0-20,0	✔	✔	✔				Frese a testa semisferica	B404
5566R302GF		2	3,0-12,0	✔	✔	✔				Frese a testa semisferica	B405
GM-2B		2	1,0-20,0	✔	✔	✔				Frese a testa semisferica	B406
GM-2BL		2	1,0-20,0	✔	✔	✔				Frese a testa semisferica	B407
GM-2BFP		2	1,0-20,0	✔	✔	✔				Frese a testa semisferica	B408
GM-2BS		2	0,3-3,0	✔	✔	✔				Mini frese a testa semi-sferica	B409
GM-2BP		2	0,5-5,0	✔	✔	✔				Mini frese a testa semi-sferica	B410
GM-4B		4	3,0-20,0	✔	✔	✔				Frese a testa semisferica	B412

✔ Molto adatto ✔ Adatto

Frese in metallo duro integrale

Lavorazione generica

Prodotti	Frese in metallo duro integrale	Denti	Ø	Applicazione						Versione	Pagina
				P	M	K	N	S	H		
GM-4BL		4	3,0-20,0	✔	✔	✔				Frese a testa semisferica	B413
GM-2R		2	1,0-12,0	✔	✔	✔				Frese toroidali	B414
GM-4R		4	3,0-12,0	✔	✔	✔				Frese toroidali	B415
GM-4RL		4	6,0-16,0	✔	✔	✔				Frese toroidali	B416
5602R303GR		3	6,0-8,0	✔	✔	✔				Frese a sgrossare	B417
5602R304GR		4	10,0-20,0	✔	✔	✔				Frese a sgrossare	B418
5602R305GR		5	25,0	✔	✔	✔				Frese a sgrossare	B419
GM-4W		4	3,0-20,0	✔	✔	✔				Frese a sgrossare	B420

✔ Molto adatto ✔ Adatto

Lavorazioni di acciai temprati

HM-2E		2	1,0-20,0						✔	Frese a candela	B473
HM-2EFP		2	6,0-20,0						✔	Frese a candela	B474
HM-2EP		2	0,5-5,0						✔	Mini frese frontali	B475
HM-2ES		2	0,3-3,0						✔	Mini frese frontali	B477
HM-4E		4	1,0-20,0						✔	Frese a candela	B478
HM-4EL		4	3,0-20,0						✔	Frese a candela	B479
HM-4EFP		4	6,0-20,0						✔	Frese a candela	B480
5502R55MHH		4-8	3,0-20,0						✔	Frese a candela	B481
HM-6E		6	6,0-20,0						✔	Frese a candela	B482
HM-6EL		6	6,0-25,0						✔	Frese a candela	B483
HM-2B		2	1,0-20,0						✔	Frese a testa semisferica	B484
HM-2BL		2	2,0-20,0						✔	Frese a testa semisferica	B485

✔ Molto adatto ✔ Adatto

Lavorazioni di acciai temprati

Prodotti	Frese in metallo duro integrale	Denti	Ø	Applicazione						Versione	Pagina
				P	M	K	N	S	H		
HM-2BFP		2	1,0-20,0						✔	Frese a testa semisferica	B486
HM-2BS		2	0,3-3,0						✔	Mini frese a testa semi-sferica	B487
HM-2BP		2	0,5-5,0						✔	Mini frese a testa semi-sferica	B488
HM-4B		4	2,0-20,0						✔	Frese a testa semisferica	B490
HM-4BL		4	3,0-20,0						✔	Frese a testa semisferica	B491
HM-4R		4	3,0-12,0						✔	Frese toroidali	B492
HM-4RF		4	6,0-12,0						✔	Frese toroidali	B493
HM-4RP		4	3,0-16,0						✔	Frese toroidali	B494

✔ Molto adatto ✔ Adatto

Rame e leghe di rame

5502R402NM		2	3,0-20,0				✔			Frese a candela	B495
NM-2E		2	1,0-12,0				✔			Frese a candela	B496
NM-2EP		2	0,5-5,0				✔			Mini frese frontali	B497
NM-4E		4	3,0-12,0				✔			Frese a candela	B498
NM-2B		2	1,0-12,0				✔			Frese a testa semisferica	B499
NM-2BP		2	0,5-5,0				✔			Mini frese a testa semi-sferica	B500

✔ Molto adatto ✔ Adatto

Alluminio e leghe di alluminio

AL-2E		2	1,0-20,0				✔			Frese a candela	B501
AL-2EL		2	3,0-20,0				✔			Frese a candela	B502
AL-3E		3	1,0-20,0				✔			Frese a candela	B503
AL-3EL		3	3,0-20,0				✔			Frese a candela	B504
AL-3W		3	6,0-20,0				✔			Frese a sgrossare	B505

✔ Molto adatto ✔ Adatto

Alluminio e leghe di alluminio

Prodotti	Frese in metallo duro integrale	Denti	Ø	Applicazione						Versione	Pagina
				P	M	K	N	S	H		
5565R302NH		2	3,0-16,0				✔			Frese a testa semisferica	B506
5566R302NH		2	3,0-16,0				✔			Frese a testa semisferica	B507
AL-2B		2	2,0-12,0				✔			Frese a testa semisferica	B508
AL-2R-AIR		2	6,0-20,0				✔			Frese toroidali ad alte prestazioni	B509
AL-2RL-AIR		2	6,0-20,0				✔			Frese toroidali ad alte prestazioni	B510
AL-3R-AIR		3	12,0-20,0				✔			Frese toroidali ad alte prestazioni	B511
AL-3RL-AIR		3	12,0-20,0				✔			Frese toroidali ad alte prestazioni	B512
ALP-1EP			2,0-10,0				✔			Frese a candela	B513
ALG-2E		2	1,0-20,0				✔			Frese a candela	B514
ALP-2E		2	1,0-12,0				✔			Frese a candela	B515
ALG-3E		3	1,0-20,0				✔			Frese a candela	B516
ALG-3E-W		3	3,0-20,0				✔			Frese a candela	B517
ALP-3E		3	1,0-20,0				✔			Frese a candela	B518
ALP-3E-W		3	3,0-20,0				✔			Frese a candela	B519
ALP-4E		4	3,0-20,0				✔			Frese a candela	B520
ALP-4E-W		4	3,0-20,0				✔			Frese a candela	B521
ALG-2R		2	6,0-25,0				✔			Frese toroidali	B522
ALG-2R-W		2	6,0-25,0				✔			Frese toroidali	B523

✔ Molto adatto ✔ Adatto

HPC - con angolo elicoidale disuguale

5501R38414GM		4	3,0-20,0	✔	✔	✔			✔	Frese a candela	B543
5502R38414GM		4	3,0-20,0	✔	✔	✔			✔	Frese a candela	B544

✔ Molto adatto ✔ Adatto

HPC - con angolo elicoidale disuguale

Prodotti	Frese in metallo duro integrale	Denti	Ø	Applicazione						Versione	Pagina
				P	M	K	N	S	H		
5601R38414GM		4	4,0-20,0	✔	✔	✔			✓	Frese a candela	B545
5602R38414GM		4	3,0-25,0	✔	✔	✔			✓	Frese a candela	B546
5502R38414GM-R		4	4,0-20,0	✔	✔	✔			✓	Frese toroidali	B547
5602R38414GM-R		4	4,0-20,0	✔	✔	✔			✓	Frese toroidali	B548
UM-4E		4	4,0-20,0	✔	✔	✔			✓	Frese a candela	B549
UM-4E-W		4	4,0-20,0	✔	✔	✔			✓	Frese a candela	B550
UM-4EL		4	4,0-20,0	✔	✔	✔			✓	Frese a candela	B551
UM-4EL-W		4	4,0-20,0	✔	✔	✔			✓	Frese a candela	B552
UM-4ELP-W		4	4,0-20,0	✔	✔	✔			✓	Frese a candela	B553
UM-4EFP		4	6,0-20,0	✔	✔	✔			✓	Frese a candela	B554
UM-4R		4	4,0-20,0	✔	✔	✔			✓	Frese toroidali	B555
UM-4RL		4	6,0-16,0	✔	✔	✔			✓	Frese toroidali	B556
UM-4RFP		4	6,0-16,0	✔	✔	✔			✓	Frese toroidali	B557
UM-5EP-W		5	6,0-25,0	✔	✔	✔			✓	Frese a candela	B558
UMC-4E		4	6,0-20,0	✔	✔	✔			✓	Frese a candela	B559
UMC-4E-W		4	6,0-20,0	✔	✔	✔			✓	Frese a candela	B560
VSM-4E		4	4,0-20,0	✓	✔			✔		Frese a candela	B561
VSM-4E-C		4	10,0-20,0	✓	✔			✔		Frese a candela	B562
VSM-4R		4	4,0-20,0	✓	✔			✔		Frese toroidali	B563

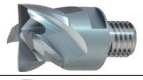
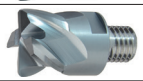
✔ Molto adatto ✓ Adatto

Frese a sbavare

Prodotti	Frese in metallo duro integrale	Denti	Ø	Applicazione						Versione	Pagina
				P	M	K	N	S	H		
5501/5601		3-4	0,2-0,7	✔	✔	✔	✔			Frese a sbavare	B565
5501/5601		3-4	0,2-0,7	✔	✔	✔	✔			Frese a sbavare	B566
5501/5601		3-4	0,2-0,7	✔	✔	✔	✔			Frese a sbavare	B567
5601		4	5,2-10,0	✔	✔	✔	✔			Frese a sbavare	B568

✔ Molto adatto ✔ Adatto

Fresa a testina filettataFresatura ad alte prestazioniLavorazioni di acciai temprati

PM-2B		2	10,0-32,0	✔	✔	✔			✔	Frese a testa semisferica	B569
PM-4B		4	10,0-32,0	✔	✔	✔			✔	Frese a testa semisferica	B570
PM-4E		4	10,0-32,0	✔	✔	✔			✔	Frese a candela	B571
PM-4R		4	10,0-32,0	✔	✔	✔			✔	Frese toroidali	B572
HMX-2B		2	10,0-32,0						✔	Frese a testa semisferica	B575
HMX-4B		4	12,0-32,0						✔	Frese a testa semisferica	B576
HMX-4E		4	10,0-32,0						✔	Frese a candela	B577
HMX-4R		4	10,0-32,0						✔	Frese toroidali	B578
VPM-4E		4	10,0-32,0	✔	✔	✔			✔	Frese a candela	B573
VPM-4R		4	10,0-32,0	✔	✔	✔			✔	Frese toroidali	B574

✔ Molto adatto ✔ Adatto

Metallo duro rivestito PVD

Grado	Descrizione gradi
KMD401	Substrato in metallo duro rivestito in PVD adatto per la lavorazione di metalli non ferrosi, CFK e GFK e materiali organici. Il rivestimento in DLC ha un'eccezionale protezione contro l'usura e un'elevata stabilità termica.
KMG303	Substrato in metallo duro rivestito in PVD per lavorazioni universali di fresatura di acciaio (fino a HRC<=48), acciaio inossidabile e ghise.
KMG405	Substrato in metallo duro rivestito in PVD per la fresatura ad alte prestazioni di acciaio (fino a HRC<=55), acciaio inossidabile, materiali a difficile asportazione e ghise. Resistenza all'usura e tenacità ottimizzate per un ampio spettro di applicazioni
KMG406	Substrato di metallo duro rivestito in PVD per l'ingresso nella lavorazione ad alte prestazioni. Applicazione universale per acciaio e materiali fusi fino a 55 HRC e acciaio inossidabile.
KMG555	Substrato in metallo duro rivestito in PVD per la lavorazione pesante di acciaio (fino a HRC 55-68). Resistenza all'usura e tenacità massime per risultati di lavorazione ottimali.
KMG309	Substrato in metallo duro rivestito in PVD per la fresatura di metalli non ferrosi. Elevata resistenza all'usura anche con materiali abrasivi.

Metallo duro non rivestito

Grado	Descrizione gradi
YK30F	Substrato in metallo duro non rivestito K30 per la lavorazione di acciaio, acciaio inossidabile, materiali in ghisa e metalli non ferrosi.

Metallo duro non rivestito

Grado	Descrizione gradi
YK40F	Substrato in metallo duro non rivestito K20-K30 / N20-N30 per l´asportazione di materiali in ghisa e metalli non ferrosi.

Frese in metallo duro integrale

Codice sistema – DIN-ISO

5	5	0	1	R	30	2	GM	R05	0800
1	2	3	4	5	6	7	8	9	10

Versione	
Code	Descrizione
5	Frese

1

Versione del codolo	
Code	Descrizione
1	Codolo
5	DIN 6535 HA
6	Stelo Weldon DIN 6535 HB
7	Whistle-Notch DIN 6535 HE
9	Stelo a conicità Morse

2

Versione del tagliente	
Code	Descrizione
0	Fresa per spallamento
6	Frese a testa sferica
8	Frese toroidali

3

Lunghezza utensile	
Code	Descrizione
1	DIN 6527 K
2	DIN 6527 L
5	Secondo la norma del costruttore ZCC-A
6	Secondo la norma del costruttore ZCC-B
8	DIN 6528
9	Secondo la norma del costruttore ZCC-D

4

Direzione di taglio	
Code	Descrizione
R	Destra
L	Sinistra

5

Angolo di inclinazione dell'elica	
Code	Descrizione
20	20°
30	30°
3841	38°/41°
45	45°
55	55°
60	60°

6

Numero taglienti	
Code	Descrizione
2	Due
...	
M	Diametri differenti con numero di taglienti differenti

7

Applicazione	
Code	Descrizione
GM	Asportazione media/HPC
GF	Finitura
HM	Lavorazioni di acciai temprati
MHH	Lavorazioni ad alta velocità ad elevata durezza
NH	Lavorazione ad alte prestazioni di materiali non ferrosi

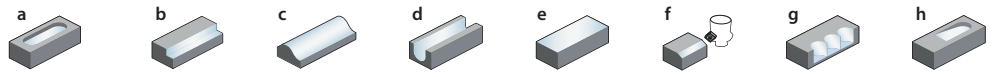
8

Raggio [mm]	
Code	Descrizione
R03	0,3
R15	1,5
R30	3,0
...	

9

Diametro [mm]	
Code	Descrizione
0100	1,0
0800	8,0
2000	20,0
...	

10



a Fresatura di cave **b** Fresatura ad angolo **c** Profilatura **d** Fresatura di fessure **e** Fresatura a spianare **f** Fresatura a smusso
g Fresatura a tuffo **h** Fresatura circolare/a rampe

Frese in metallo duro integrale

PM	–	2	R	L	P	–	D12	R0.5	–	M08
1		2	3	4	5		6	7		8

Applicazione	
Code	Descrizione
GR	Sgrossatura generica
GM	Asportazione media
GF	Finitura
PM	Lavorazione ad alte prestazioni
EPM	«Ecoline» – Lavorazione ad alte prestazioni
VPM	Applicazioni di scanalature piane
HM	Lavorazioni ad alta velocità ad elevata durezza
NM	Lavorazione generica di materiali non ferrosi
AL	Lavorazione generica di alluminio e leghe di alluminio
ALP	Lavorazione ad alte prestazioni di alluminio e leghe di alluminio
ALG	Lavorazione generica di alluminio e leghe di alluminio
UM	Lavorazione HSC/HPC
UMC	Lavorazione HSC con geometria rompitruciolo
VSM	Lavorazione generica di materiali a difficile asportazione
TM	Lavorazione generica di materiali a difficile asportazione
1	

Numero taglienti
2

Versione del tagliente	
Code	Descrizione
E	Frese a spallamento con smusso di protezione
F	Frese ad angolo con taglienti affilati
B	Frese a testa sferica
R	Frese toroidali
W	Frese a sgrossare
H	Frese ad alto avanzamento
3	

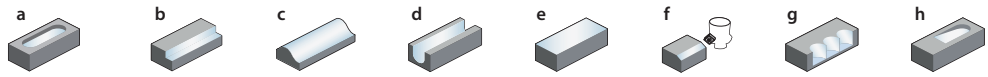
Lunghezza tagliente	
Code	Descrizione
L	Lungo
X	Extra lungo
F	Corto
4	

Tipo	
Code	Descrizione
S	Diametro min.
P	Collo ridotto
C	Collo conico
5	

Diametro [mm]	
Code	Descrizione
D3.0	3,0
D20.0	20,0
...	
6	

Raggio [mm]	
Code	Descrizione
R0.5	0,5
R3.0	3,0
...	
7	

Particolarità	
Code	Descrizione
G	Angolo di inclinazione dell'elica 30°
M	Lunghezza collo [mm]
S	Stelo sottile
AIR	Per l'industria aerospaziale
8	



a Fresatura di cave **b** Fresatura ad angolo **c** Profilatura **d** Fresatura di fessure **e** Fresatura a spianare **f** Fresatura a smusso
g Fresatura a tuffo **h** Fresatura circolare/a rampe

Frese in metallo duro integrale

Codice sistema – serie QCH

Q	08	–	PM	–	2	B	–	D12	R0.5
1	2		3		4	5		6	7

1 – Tipo de filettatura

2 – Dimensione del filetto [mm]

Code	Descrizione
08	8,0
10	10,0
12	12,0
14	14,0
18	18,0

3 – Applicazione

Code	Descrizione
PM	Lavorazione ad alte prestazioni
VPM	Applicazioni di scanalature piane
HMX	Lavorazioni di acciai temprati

4 – Numero taglienti

5 – Versione del tagliente

Code	Descrizione
E	Frese a spallamento con smusso di protezione
B	Frese a testa sferica
R	Frese toroidali

6 – Diametro [mm]

Code	Descrizione
D3.0	3,0
D8.0	8,0
D20.0	20,0

7 – Raggio [mm]

Code	Descrizione
R0.5	0,5
R1.0	1,5
R3.0	3,0
...	

a Fresatura di cave **b** Fresatura ad angolo **c** Profilatura **d** Fresatura di fessure **e** Fresatura a spianare **f** Fresatura a smusso
g Fresatura a tuffo **h** Fresatura circolare/a rampe

Frese in metallo duro integrale

G	25	–	QCH	–	Q	12	–	250	C	–	(ZJ)	(115)
1	2		3		4	5		6	7		8	9

Forma di serraggio	
Code	Descrizione
G	Cilindrico
XP	Weldon

1

Diametro di serraggio [mm]	
Code	Descrizione
12	12
16	16
20	20
25	25
32	32

2

Serie	
Code	Descrizione
QCH	Sistema di testine intercambiabili

3

Tipo filettatura	
Code	Descrizione
M	Metrico
Q	Filettatura Q

4

Dimensioni filettatura [mm]	
Code	Descrizione
8	8
10	10
12	12
14	14
...	

5

Lunghezza totale [mm]	
Code	Descrizione
85	85
150	150
200	200
...	

6

Materiale	
Code	Descrizione
C	Metallo duro integrale
S	Acciaio

7

Attacco	
Code	Descrizione
ZJ	Conico
–	Cilindrico a gradini

8

Lunghezza cono [mm]	
Code	Descrizione
90	90
115	115
...	

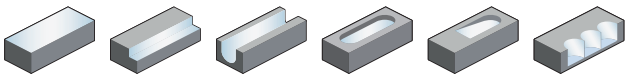
9

Notizen

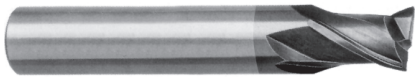
Frese a candela

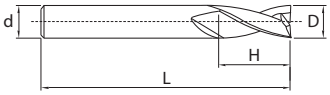
Asportazione media

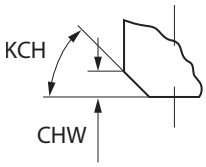
5501R302GM



– Versione del codolo DIN 6535HA
– taglio al centro
– Angolo di inclinazione dell'elica 30°







Articolo	✻	Dimensioni [mm]						Denti	Grado
		D	d (h6)	H	L	KCH	CHW		KMG303
5501R302GM-0300		3	6	4	50	0	0	2	●
5501R302GM-0400		4	6	5	54	0	0	2	●
5501R302GM-0500		5	6	6	54	0	0	2	●
5501R302GM-0600		6	6	7	54	45	0,1	2	●
5501R302GM-0800		8	8	9	58	45	0,1	2	●
5501R302GM-1000		10	10	11	66	45	0,1	2	●
5501R302GM-1200		12	12	12	73	45	0,1	2	●
5501R302GM-1400		14	14	14	75	45	0,15	2	●
5501R302GM-1600		16	16	16	82	45	0,15	2	●
5501R302GM-1800		18	18	18	84	45	0,15	2	●
5501R302GM-2000		20	20	20	92	45	0,15	2	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

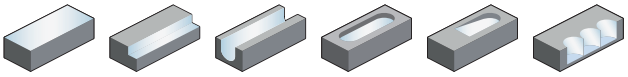
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

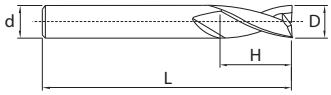
Frese a candela tagliente lungo

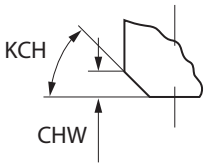
Asportazione media

5502R302GM



– Versione del codolo DIN 6535HA
– taglio al centro
– Angolo di inclinazione dell'elica 30°





Articolo	✻	Dimensioni [mm] D	d (h6)	H	L	KCH	CHW	Denti	Grado KMG303	YK30F
5502R302GM-0100		1	3	2	38	0	0	2	●	○
5502R302GM-0150		1,5	3	3	38	0	0	2	●	○
5502R302GM-0200		2	6	6	57	0	0	2	●	
5502R302GM-0250		2,5	6	7	57	0	0	2	●	
5502R302GM-0280		2,8	6	7	57	0	0	2	●	
5502R302GM-0300		3	6	7	57	0	0	2	●	
5502R302GM-0350		3,5	6	7	57	0	0	2	●	○
5502R302GM-0380		3,8	6	8	57	0	0	2	●	
5502R302GM-0400		4	6	8	57	0	0	2	●	
5502R302GM-0450		4,5	6	8	57	0	0	2	●	
5502R302GM-0480		4,8	6	8	57	0	0	2	●	
5502R302GM-0500		5	6	10	57	0	0	2	●	○
5502R302GM-0550		5,5	6	10	57	0	0	2	●	
5502R302GM-0575		5,75	6	10	57	0	0	2	●	
5502R302GM-0600		6	6	10	57	45	0,1	2	●	○
5502R302GM-0650		6,5	8	13	63	45	0,1	2	●	
5502R302GM-0675		6,75	8	13	63	45	0,1	2	○	○
5502R302GM-0700		7	8	13	63	45	0,1	2	●	
5502R302GM-0750		7,5	8	16	63	45	0,1	2	●	
5502R302GM-0775		7,75	8	16	63	45	0,1	2	●	
5502R302GM-0800		8	8	16	63	45	0,1	2	●	○
5502R302GM-0870		8,7	10	16	72	45	0,1	2	●	
5502R302GM-0900		9	10	16	72	45	0,1	2	●	
5502R302GM-0950		9,5	10	16	72	45	0,1	2	○	
5502R302GM-1000		10	10	19	72	45	0,1	2	●	○
5502R302GM-1100		11	12	22	83	45	0,1	2	●	
5502R302GM-1170		11,7	12	22	83	45	0,1	2	●	
5502R302GM-1200		12	12	22	83	45	0,1	2	●	○
5502R302GM-1370		13,7	14	22	83	45	0,1	2	●	
5502R302GM-1400		14	14	22	83	45	0,15	2	●	
5502R302GM-1500		15	16	26	92	45	0,15	2	●	
5502R302GM-1570		15,7	16	26	92	45	0,15	2	●	
5502R302GM-1600		16	16	26	92	45	0,15	2	●	○
5502R302GM-1700		17	18	26	92	45	0,15	2	○	
5502R302GM-1800		18	18	26	92	45	0,15	2	●	
5502R302GM-2000		20	20	32	104	45	0,15	2	●	

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

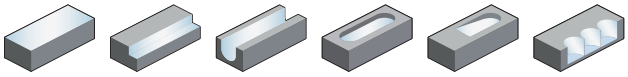
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

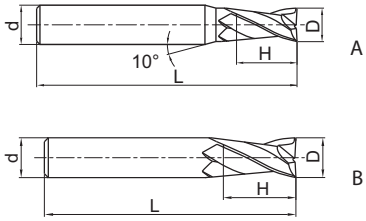
Frese a candela

Asportazione media

GM-2E



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 35°



Articolo	✻	Dimensioni [mm] D	d (h6)	H	L	Denti	Geometria	Grado KMG303
GM-2E-D1.0S		1	4	3	50	2	A	●
GM-2E-D1.5S		1,5	4	4	50	2	A	●
GM-2E-D2.0S		2	4	6	50	2	A	●
GM-2E-D2.5S		2,5	4	8	50	2	A	●
GM-2E-D3.0S		3	4	8	50	2	A	●
GM-2E-D4.0S		4	4	11	50	2	B	●
GM-2E-D1.0		1	6	3	50	2	A	●
GM-2E-D1.5		1,5	6	4	50	2	A	●
GM-2E-D2.0		2	6	6	50	2	A	●
GM-2E-D2.5		2,5	6	8	50	2	A	●
GM-2E-D3.0		3	6	8	50	2	A	●
GM-2E-D3.5		3,5	6	10	50	2	A	●
GM-2E-D4.0		4	6	11	50	2	A	●
GM-2E-D4.5		4,5	6	11	50	2	A	●
GM-2E-D5.0		5	6	13	50	2	A	●
GM-2E-D5.5		5,5	6	16	50	2	A	●
GM-2E-D6.0		6	6	16	50	2	B	●
GM-2E-D7.0		7	8	20	60	2	A	●
GM-2E-D8.0		8	8	20	60	2	B	●
GM-2E-D9.0		9	10	22	75	2	A	●
GM-2E-D10.0		10	10	25	75	2	B	●
GM-2E-D11.0		11	12	26	75	2	A	●
GM-2E-D12.0		12	12	30	75	2	B	●
GM-2E-D14.0		14	14	32	75	2	B	●
GM-2E-D16.0		16	16	45	100	2	B	●
GM-2E-D18.0		18	18	45	100	2	B	●
GM-2E-D20.0		20	20	45	100	2	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

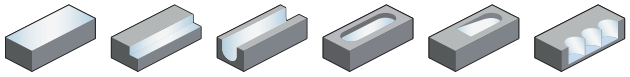
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

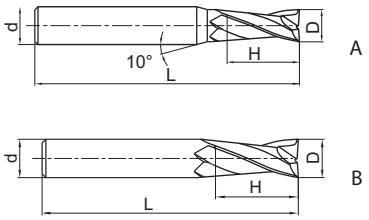
Frese a candela tagliente lungo

Asportazione media

GM-2EL



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 35°



Articolo	✻	Dimensioni [mm]				Denti	Geometria	Grado
		D	d (h6)	H	L			KMG303
GM-2EL-D3.0		3	6	12	75	2	A	●
GM-2EL-D4.0		4	6	15	75	2	A	●
GM-2EL-D5.0		5	6	20	75	2	A	●
GM-2EL-D6.0		6	6	20	75	2	B	●
GM-2EL-D8.0		8	8	25	100	2	B	●
GM-2EL-D10.0		10	10	30	100	2	B	●
GM-2EL-D12.0		12	12	35	100	2	B	●
GM-2EL-D14.0		14	14	40	100	2	B	●
GM-2EL-D16.0		16	16	50	150	2	B	●
GM-2EL-D20.0		20	20	55	150	2	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

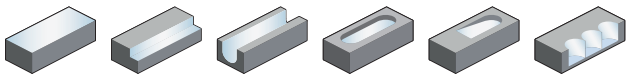
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

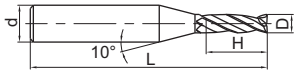
Frese a candela tagliente lungo

Asportazione media

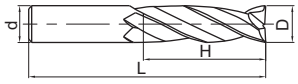
GM-2EX



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 35°



A



B

Articolo	✻	Dimensioni [mm]				Denti	Geometria	Grado
		D	d (h6)	H	L			KMG303
GM-2EX-D3.0		3	6	20	75	2	A	●
GM-2EX-D4.0		4	6	25	75	2	A	●
GM-2EX-D5.0		5	6	30	75	2	A	●
GM-2EX-D6.0		6	6	30	75	2	B	○
GM-2EX-D8.0		8	8	40	100	2	B	○
GM-2EX-D10.0		10	10	50	110	2	B	○
GM-2EX-D12.0		12	12	50	110	2	B	○
GM-2EX-D16.0		16	16	70	150	2	B	○
GM-2EX-D20.0		20	20	75	150	2	B	○

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

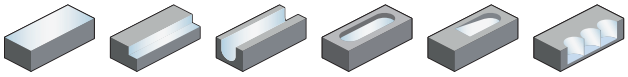
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

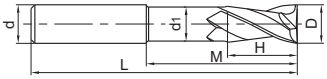
Frese a candela tagliente corto

Asportazione media

GM-2EFP



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 35°



Articolo	✻	Dimensioni [mm]						Denti	Grado
		D	d (h6)	d_1	H	M	L		KMG303
GM-2EFP-D6.0		6	6	5,8	9	30	75	2	○
GM-2EFP-D8.0		8	8	7,8	12	40	100	2	○
GM-2EFP-D10.0		10	10	9,6	15	50	100	2	○
GM-2EFP-D12.0		12	12	11,5	18	50	100	2	○
GM-2EFP-D16.0		16	16	15,5	24	50	150	2	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

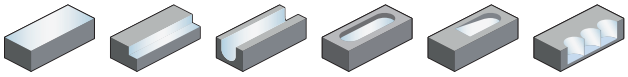
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

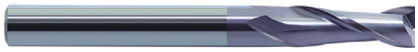
Frese a candela

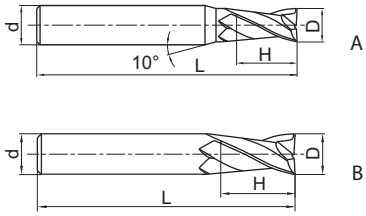
Asportazione media

GM-2F



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 35°





Articolo	✻	Dimensioni [mm] D	d (h6)	H	L	Denti	Geometria	Grado KMG303
GM-2F-D1.0		1	6	3	50	2	A	○
GM-2F-D1.5		1,5	6	4	50	2	A	○
GM-2F-D2.0		2	6	6	50	2	A	○
GM-2F-D2.5		2,5	6	8	50	2	A	○
GM-2F-D3.0		3	6	8	50	2	A	●
GM-2F-D3.5		3,5	6	10	50	2	A	○
GM-2F-D4.0		4	6	11	50	2	A	●
GM-2F-D4.5		4,5	6	11	50	2	A	●
GM-2F-D5.0		5	6	13	50	2	A	●
GM-2F-D5.5		5,5	6	16	50	2	A	○
GM-2F-D6.0		6	6	16	50	2	B	●
GM-2F-D7.0		7	8	20	60	2	A	●
GM-2F-D8.0		8	8	20	60	2	B	●
GM-2F-D9.0		9	10	22	75	2	A	○
GM-2F-D10.0		10	10	25	75	2	B	○
GM-2F-D11.0		11	12	26	75	2	A	○
GM-2F-D14.0		14	14	32	75	2	B	○
GM-2F-D16.0		16	16	45	100	2	B	○
GM-2F-D18.0		18	18	45	100	2	B	○
GM-2F-D20.0		20	20	45	100	2	B	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

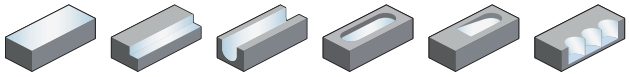
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

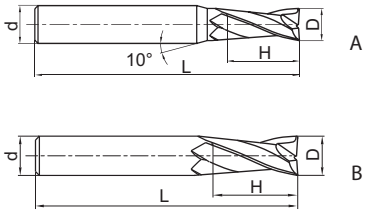
Frese a candela tagliente lungo

Asportazione media

GM-2FL



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 35°



Articolo	✻	Dimensioni [mm]				Denti	Geometria	Grado
		D	d (h6)	H	L			KMG303
GM-2FL-D3.0		3	6	12	75	2	A	○
GM-2FL-D4.0		4	6	15	75	2	A	○
GM-2FL-D5.0		5	6	20	75	2	A	○
GM-2FL-D6.0		6	6	20	75	2	B	○
GM-2FL-D8.0		8	8	25	100	2	B	○
GM-2FL-D10.0		10	10	30	100	2	B	○
GM-2FL-D12.0		12	12	35	100	2	B	○
GM-2FL-D14.0		14	14	40	100	2	B	○
GM-2FL-D16.0		16	16	50	150	2	B	○
GM-2FL-D20.0		20	20	55	150	2	B	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

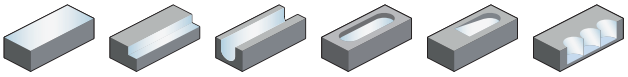
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

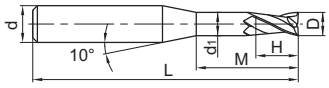
Frese a candela

Asportazione media

GM-2EP



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 35°



Articolo	✻	Dimensioni [mm] D	d (h6)	d_1	H	M	L	Denti	Grado KMG303
GM-2EP-D0.5-M04		0,5	4	0,45	0,7	4	50	2	●
GM-2EP-D0.5-M06		0,5	4	0,45	0,7	6	50	2	●
GM-2EP-D0.5-M08		0,5	4	0,45	0,7	8	50	2	●
GM-2EP-D0.6-M04		0,6	4	0,56	0,7	4	50	2	○
GM-2EP-D0.6-M06		0,6	4	0,56	0,7	6	50	2	●
GM-2EP-D0.8-M04		0,8	4	0,75	1,2	4	50	2	●
GM-2EP-D0.8-M06		0,8	4	0,75	1,2	6	50	2	●
GM-2EP-D0.8-M08		0,8	4	0,75	1,2	8	50	2	●
GM-2EP-D0.8-M10		0,8	4	0,75	1,2	10	50	2	●
GM-2EP-D1.0-M04		1	4	0,95	1,5	4	50	2	●
GM-2EP-D1.0-M06		1	4	0,95	1,5	6	50	2	●
GM-2EP-D1.0-M08		1	4	0,95	1,5	8	50	2	●
GM-2EP-D1.0-M10		1	4	0,95	1,5	10	50	2	●
GM-2EP-D1.0-M12		1	4	0,95	1,5	12	50	2	●
GM-2EP-D1.0-M14		1	4	0,95	1,5	14	50	2	●
GM-2EP-D1.0-M20		1	4	0,95	1,5	20	50	2	●
GM-2EP-D1.2-M04		1,2	4	1,15	1,8	4	50	2	○
GM-2EP-D1.2-M06		1,2	4	1,15	1,8	6	50	2	●
GM-2EP-D1.2-M08		1,2	4	1,15	1,8	8	50	2	●
GM-2EP-D1.2-M10		1,2	4	1,15	1,8	10	50	2	●
GM-2EP-D1.2-M12		1,2	4	1,15	1,8	12	50	2	○
GM-2EP-D1.5-M06		1,5	4	1,45	2,3	6	50	2	●
GM-2EP-D1.5-M08		1,5	4	1,45	2,3	8	50	2	●
GM-2EP-D1.5-M10		1,5	4	1,45	2,3	10	50	2	●
GM-2EP-D1.5-M12		1,5	4	1,45	2,3	12	50	2	●
GM-2EP-D1.5-M14		1,5	4	1,45	2,3	14	50	2	●
GM-2EP-D2.0-M06		2	4	1,95	3	6	50	2	●
GM-2EP-D2.0-M08		2	4	1,95	3	8	50	2	●
GM-2EP-D2.0-M10		2	4	1,95	3	10	50	2	●
GM-2EP-D2.0-M12		2	4	1,95	3	12	50	2	●
GM-2EP-D2.0-M14		2	4	1,95	3	14	50	2	●
GM-2EP-D2.0-M16		2	4	1,95	3	16	50	2	●
GM-2EP-D2.0-M20		2	4	1,95	3	20	50	2	○
GM-2EP-D2.5-M08		2,5	4	2,4	3,7	8	50	2	●
GM-2EP-D2.5-M10		2,5	4	2,4	3,7	10	50	2	●
GM-2EP-D2.5-M12		2,5	4	2,4	3,7	12	50	2	●
GM-2EP-D2.5-M14		2,5	4	2,4	3,7	14	50	2	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

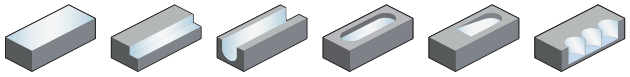
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

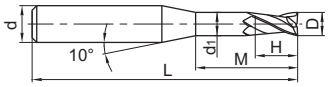
Frese a candela

Asportazione media

GM-2EP



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 35°



Articolo	✻	Dimensioni [mm] D	d (h6)	d_1	H	M	L	Denti	Grado KMG303
GM-2EP-D2.5-M16		2,5	4	2,4	3,7	16	60	2	●
GM-2EP-D2.5-M18		2,5	4	2,4	3,7	18	60	2	●
GM-2EP-D2.5-M20		2,5	4	2,4	3,7	20	60	2	●
GM-2EP-D3.0-M06		3	6	2,85	4,5	6	50	2	●
GM-2EP-D3.0-M08		3	6	2,85	4,5	8	50	2	●
GM-2EP-D3.0-M10		3	6	2,85	4,5	10	50	2	●
GM-2EP-D3.0-M12		3	6	2,85	4,5	12	50	2	●
GM-2EP-D3.0-M14		3	6	2,85	4,5	14	60	2	●
GM-2EP-D3.0-M16		3	6	2,85	4,5	16	60	2	●
GM-2EP-D3.0-M18		3	6	2,85	4,5	18	60	2	●
GM-2EP-D3.0-M20		3	6	2,85	4,5	20	60	2	●
GM-2EP-D4.0-M12		4	6	3,85	6	12	50	2	●
GM-2EP-D4.0-M14		4	6	3,85	6	14	60	2	●
GM-2EP-D4.0-M16		4	6	3,85	6	16	60	2	●
GM-2EP-D4.0-M20		4	6	3,85	6	20	60	2	●
GM-2EP-D4.0-M25		4	6	3,85	6	25	60	2	●
GM-2EP-D5.0-M16		5	6	4,85	7,5	16	60	2	●
GM-2EP-D5.0-M25		5	6	4,85	7,5	25	70	2	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

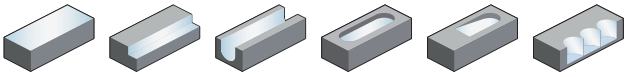
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

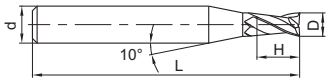
Frese a candela

Asportazione media

GM-2ES



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 35°



Articolo	✻	Dimensioni [mm]				Denti	Grado
		D	d (h6)	H	L		KMG303
GM-2ES-D0.3		0,3	4	0,6	50	2	●
GM-2ES-D0.4		0,4	4	0,8	50	2	●
GM-2ES-D0.5		0,5	4	1	50	2	●
GM-2ES-D0.6		0,6	4	1,2	50	2	●
GM-2ES-D0.7		0,7	4	1,4	50	2	●
GM-2ES-D0.8		0,8	4	1,6	50	2	●
GM-2ES-D0.9		0,9	4	1,8	50	2	●
GM-2ES-D1.0		1	4	2	50	2	●
GM-2ES-D1.1		1,1	4	2	50	2	●
GM-2ES-D1.2		1,2	4	2,5	50	2	●
GM-2ES-D1.3		1,3	4	2,5	50	2	●
GM-2ES-D1.4		1,4	4	3	50	2	●
GM-2ES-D1.5		1,5	4	3	50	2	●
GM-2ES-D1.6		1,6	4	3,5	50	2	●
GM-2ES-D1.7		1,7	4	3,5	50	2	●
GM-2ES-D1.8		1,8	4	4	50	2	●
GM-2ES-D1.9		1,9	4	4	50	2	●
GM-2ES-D2.0		2	4	4	50	2	●
GM-2ES-D2.1		2,1	4	4	50	2	●
GM-2ES-D2.2		2,2	4	4,5	50	2	●
GM-2ES-D2.3		2,3	4	4,5	50	2	●
GM-2ES-D2.4		2,4	4	5	50	2	●
GM-2ES-D2.5		2,5	4	5	50	2	●
GM-2ES-D2.6		2,6	4	5	50	2	●
GM-2ES-D2.7		2,7	4	5,5	50	2	●
GM-2ES-D2.8		2,8	4	5,5	50	2	●
GM-2ES-D2.9		2,9	4	6	50	2	●
GM-2ES-D3.0		3	4	6	50	2	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

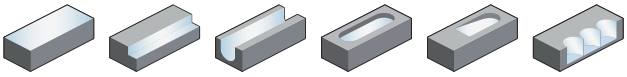
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

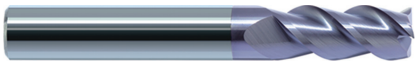
Frese a candela

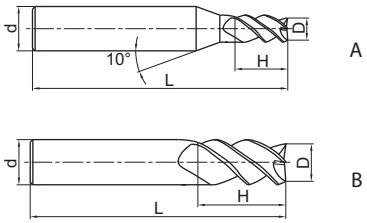
Asportazione media

GM-3E



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 45°





Articolo	✻	Dimensioni [mm] D	d (h6)	H	L	Denti	Geometria	Grado KMG303
GM-3E-D1.0S		1	4	3	50	3	A	○
GM-3E-D1.5S		1,5	4	4	50	3	A	○
GM-3E-D2.0S		2	4	6	50	3	A	○
GM-3E-D2.5S		2,5	4	8	50	3	A	○
GM-3E-D3.0S		3	4	8	50	3	A	○
GM-3E-D4.0S		4	4	11	50	3	B	○
GM-3E-D1.0		1	6	3	50	3	A	○
GM-3E-D1.5		1,5	6	4	50	3	A	○
GM-3E-D1.8		1,8	6	6	50	3	A	○
GM-3E-D2.0		2	6	6	50	3	A	○
GM-3E-D2.5		2,5	6	8	50	3	A	○
GM-3E-D3.0		3	6	8	50	3	A	○
GM-3E-D3.5		3,5	6	10	50	3	A	○
GM-3E-D4.0		4	6	11	50	3	A	○
GM-3E-D4.5		4,5	6	11	50	3	A	○
GM-3E-D5.0		5	6	13	50	3	A	○
GM-3E-D5.5		5,5	6	16	50	3	A	○
GM-3E-D6.0		6	6	16	50	3	B	○
GM-3E-D7.0		7	8	20	60	3	A	○
GM-3E-D8.0		8	8	20	60	3	B	○
GM-3E-D9.0		9	10	22	75	3	A	○
GM-3E-D10.0		10	10	25	75	3	B	○
GM-3E-D11.0		11	12	26	75	3	A	○
GM-3E-D12.0		12	12	30	75	3	B	○
GM-3E-D14.0		14	14	32	75	3	B	○
GM-3E-D16.0		16	16	45	100	3	B	○
GM-3E-D18.0		18	18	45	100	3	B	○
GM-3E-D20.0		20	20	45	100	3	B	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

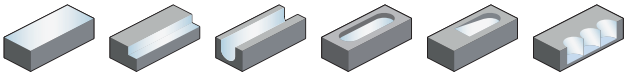
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

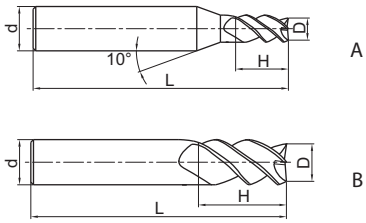
Frese a candela tagliente lungo

Asportazione media

GM-3EL



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 45°



Articolo	✻	Dimensioni [mm]				Denti	Geometria	Grado
		D	d (h6)	H	L			KMG303
GM-3EL-D3.0		3	6	12	75	3	A	●
GM-3EL-D4.0		4	6	15	75	3	A	●
GM-3EL-D5.0		5	6	20	75	3	A	●
GM-3EL-D6.0		6	6	20	75	3	B	●
GM-3EL-D8.0		8	8	25	100	3	B	●
GM-3EL-D10.0		10	10	30	100	3	B	●
GM-3EL-D12.0		12	12	35	100	3	B	●
GM-3EL-D14.0		14	14	40	100	3	B	●
GM-3EL-D16.0		16	16	50	150	3	B	●
GM-3EL-D20.0		20	20	55	150	3	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

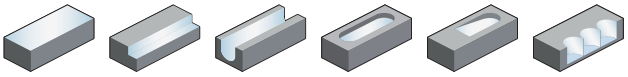
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

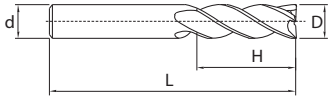
Frese a candela

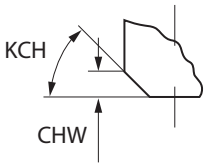
Asportazione media

5501R303GM



– Versione del codolo DIN 6535HA
– taglio al centro
– Angolo di inclinazione dell'elica 30°





Articolo	✻	Dimensioni [mm] D	d (h6)	H	L	KCH	CHW	Denti	Grado KMG303	YK30F
5501R303GM-0300		3	6	4	50	0	0	3	●	
5501R303GM-0400		4	6	5	54	0	0	3	●	
5501R303GM-0500		5	6	6	54	0	0	3	●	
5501R303GM-0600		6	6	7	54	45	0,1	3	●	○
5501R303GM-0800		8	8	9	58	45	0,1	3	●	
5501R303GM-1000		10	10	11	66	45	0,1	3	●	
5501R303GM-1200		12	12	12	73	45	0,1	3	●	
5501R303GM-1400		14	14	14	75	45	0,15	3	●	
5501R303GM-1600		16	16	16	82	45	0,15	3	●	
5501R303GM-1800		18	18	18	84	45	0,15	3	●	
5501R303GM-2000		20	20	20	92	45	0,15	3	●	

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

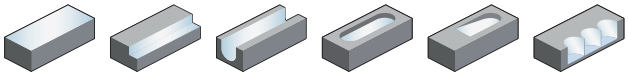
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

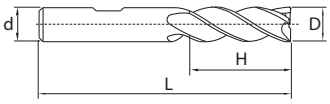
Frese a candela

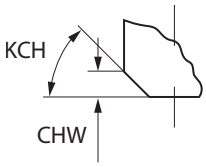
Asportazione media

5601R303GM



– Versione del codolo DIN 6535HB
– taglio al centro
– Angolo di inclinazione dell'elica 30°





Articolo	✻	Dimensioni [mm]						Denti	Grado
		D	d (h6)	H	L	KCH	CHW		KMG303
5601R303GM-0300		3	6	4	50	0	0	3	●
5601R303GM-0400		4	6	5	54	0	0	3	●
5601R303GM-0500		5	6	6	54	0	0	3	●
5601R303GM-0600		6	6	7	54	45	0,1	3	●
5601R303GM-0800		8	8	9	58	45	0,1	3	●
5601R303GM-1000		10	10	11	66	45	0,1	3	●
5601R303GM-1200		12	12	12	73	45	0,1	3	●
5601R303GM-1400		14	14	14	75	45	0,15	3	●
5601R303GM-1600		16	16	16	82	45	0,15	3	●
5601R303GM-1800		18	18	18	84	45	0,15	3	●
5601R303GM-2000		20	20	20	92	45	0,15	3	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

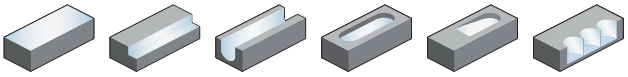
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

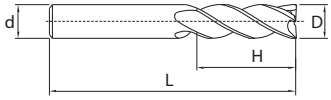
Frese a candela tagliente lungo

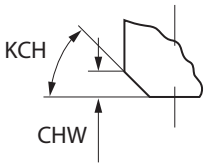
Asportazione media

5502R303GM



– Versione del codolo DIN 6535HA
– taglio al centro
– Angolo di inclinazione dell'elica 30°





Articolo	✻	Dimensioni [mm]						Denti	Grado	
		D	d (h6)	H	L	KCH	CHW		KMG303	YK30F
5502R303GM-0200		2	6	6	57	0	0	3	●	
5502R303GM-0300		3	6	7	57	0	0	3	●	○
5502R303GM-0400		4	6	8	57	0	0	3	●	○
5502R303GM-0500		5	6	10	57	0	0	3	●	○
5502R303GM-0600		6	6	10	57	45	0,1	3	●	○
5502R303GM-0800		8	8	16	63	45	0,1	3	●	○
5502R303GM-1000		10	10	19	72	45	0,1	3	●	○
5502R303GM-1200		12	12	22	83	45	0,1	3	●	○
5502R303GM-1300		13	14	22	83	45	0,1	3	○	
5502R303GM-1400		14	14	22	83	45	0,15	3	●	○
5502R303GM-1600		16	16	26	92	45	0,15	3	●	○
5502R303GM-1800		18	18	26	92	45	0,15	3	●	○
5502R303GM-2000		20	20	32	104	45	0,15	3	●	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

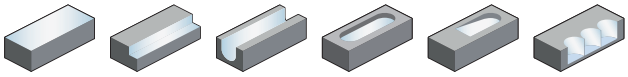
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

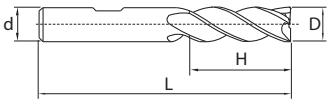
Frese a candela tagliente lungo

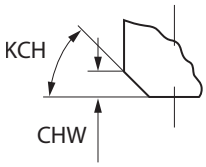
Asportazione media

5602R303GM



– Versione del codolo DIN 6535HB
– taglio al centro
– Angolo di inclinazione dell'elica 30°





Articolo	✻	Dimensioni [mm]						Denti	Grado
		D	d (h6)	H	L	KCH	CHW		KMG303
5602R303GM-0300		3	6	7	57	0	0	3	●
5602R303GM-0400		4	6	8	57	0	0	3	●
5602R303GM-0500		5	6	10	57	0	0	3	●
5602R303GM-0600		6	6	10	57	45	0,1	3	●
5602R303GM-0800		8	8	16	63	45	0,1	3	●
5602R303GM-1000		10	10	19	72	45	0,1	3	●
5602R303GM-1200		12	12	22	83	45	0,1	3	●
5602R303GM-1400		14	14	22	83	45	0,15	3	●
5602R303GM-1600		16	16	26	92	45	0,15	3	●
5602R303GM-1800		18	18	26	92	45	0,15	3	●
5602R303GM-2000		20	20	32	104	45	0,15	3	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

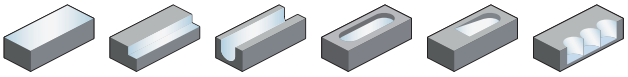
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

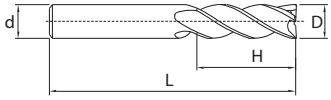
Frese a candela tagliente lungo

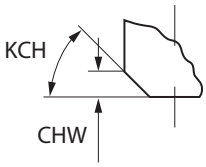
Asportazione media

5502R453GM



– Versione del codolo DIN 6535HA
– taglio al centro
– Angolo di inclinazione dell'elica 45°





Articolo	✻	Dimensioni [mm] D	d (h6)	H	L	KCH	CHW	Denti	Grado KMG405
5502R453GM-0300		3	6	7	57	0	0	3	●
5502R453GM-0400		4	6	8	57	0	0	3	●
5502R453GM-0500		5	6	10	57	0	0	3	●
5502R453GM-0600		6	6	10	57	45	0,1	3	●
5502R453GM-0800		8	8	16	63	45	0,1	3	●
5502R453GM-1000		10	10	19	72	45	0,1	3	●
5502R453GM-1200		12	12	22	83	45	0,1	3	●
5502R453GM-1400		14	14	22	83	45	0,15	3	●
5502R453GM-1600		16	16	26	92	45	0,15	3	●
5502R453GM-1800		18	18	26	92	45	0,15	3	●
5502R453GM-2000		20	20	32	104	45	0,15	3	●

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

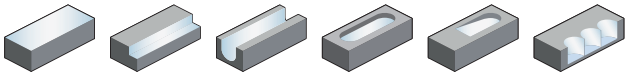
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

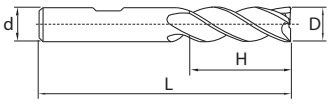
Frese a candela tagliente lungo

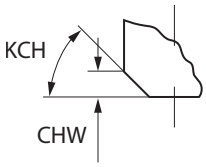
Asportazione media

5602R453GM



– Versione del codolo DIN 6535HB
– taglio al centro
– Angolo di inclinazione dell'elica 45°





Articolo	✻	Dimensioni [mm]						Denti	Grado	
		D	d (h6)	H	L	KCH	CHW		KMG303	KMG405
5602R453GM-0300		3	6	7	57	0	0	3	○	●
5602R453GM-0400		4	6	8	57	0	0	3	○	●
5602R453GM-0500		5	6	10	57	0	0	3	○	●
5602R453GM-0600		6	6	10	57	45	0,1	3	○	●
5602R453GM-0800		8	8	16	63	45	0,1	3	○	●
5602R453GM-1000		10	10	19	72	45	0,1	3	○	●
5602R453GM-1200		12	12	22	83	45	0,1	3	○	●
5602R453GM-1400		14	14	22	83	45	0,15	3	○	●
5602R453GM-1600		16	16	26	92	45	0,15	3	○	●
5602R453GM-1800		18	18	26	92	45	0,15	3	○	●
5602R453GM-2000		20	20	32	104	45	0,15	3	○	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

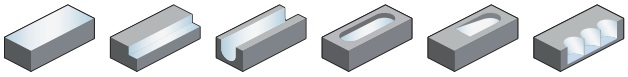
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

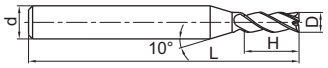
Frese a candela

Asportazione media

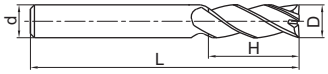
GM-4F-G



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 30°



A



B

Articolo	✻	Dimensioni [mm] D	d (h6)	H	L	Denti	Geometria	Grado KMG303
GM-4F-D2.0S-G		2	4	6	50	4	A	○
GM-4F-D2.5S-G		2,5	4	8	50	4	A	○
GM-4F-D4.0S-G		4	4	11	50	4	B	○
GM-4F-D1.0-G		1	6	3	50	4	A	○
GM-4F-D1.5-G		1,5	6	4	50	4	A	○
GM-4F-D2.0-G		2	6	6	50	4	A	○
GM-4F-D2.5-G		2,5	6	8	50	4	A	○
GM-4F-D3.0-G		3	6	8	50	4	A	○
GM-4F-D3.5-G		3,5	6	10	50	4	A	○
GM-4F-D4.0-G		4	6	11	50	4	A	○
GM-4F-D4.5-G		4,5	6	11	50	4	A	○
GM-4F-D5.0-G		5	6	13	50	4	A	○
GM-4F-D5.5-G		5,5	6	16	50	4	A	○
GM-4F-D6.0-G		6	6	16	50	4	B	○
GM-4F-D7.0-G		7	8	20	60	4	A	○
GM-4F-D8.0-G		8	8	20	60	4	B	○
GM-4F-D9.0-G		9	10	22	75	4	A	○
GM-4F-D10.0-G		10	10	25	75	4	B	○
GM-4F-D11.0-G		11	12	26	75	4	A	○
GM-4F-D12.0-G		12	12	30	75	4	B	○
GM-4F-D14.0-G		14	14	32	75	4	B	○
GM-4F-D16.0-G		16	16	45	100	4	B	○
GM-4F-D18.0-G		18	18	45	100	4	B	○
GM-4F-D20.0-G		20	20	45	100	4	B	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

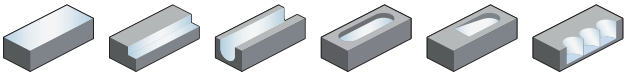
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

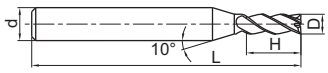
Frese a candela tagliente lungo

Asportazione media

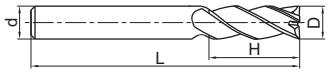
GM-4EL-G



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 30°



A



B

Articolo	✻	Dimensioni [mm]				Denti	Geometria	Grado
		D	d (h6)	H	L			KMG303
GM-4EL-D3.0-G		3	6	12	75	4	A	○
GM-4EL-D4.0-G		4	6	15	75	4	A	○
GM-4EL-D5.0-G		5	6	20	75	4	A	○
GM-4EL-D6.0-G		6	6	20	75	4	B	○
GM-4EL-D8.0-G		8	8	25	100	4	B	○
GM-4EL-D10.0-G		10	10	30	100	4	B	○
GM-4EL-D12.0-G		12	12	35	100	4	B	○
GM-4EL-D14.0-G		14	14	40	100	4	B	○
GM-4EL-D16.0-G		16	16	50	150	4	B	○
GM-4EL-D20.0-G		20	20	55	150	4	B	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

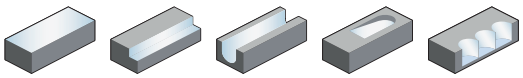
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

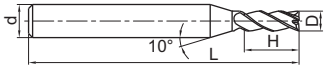
Frese a candela tagliente lungo

Asportazione media

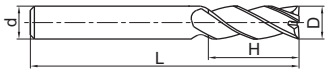
GM-4FL-G



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 30°



A



B

Articolo	✻	Dimensioni [mm] D	d (h6)	H	L	Denti	Geometria	Grado KMG303
GM-4FL-D3.0-G		3	6	12	75	4	A	○
GM-4FL-D4.0-G		4	6	15	75	4	A	○
GM-4FL-D5.0-G		5	6	20	75	4	A	●
GM-4FL-D6.0-G		6	6	20	75	4	B	●
GM-4FL-D8.0-G		8	8	25	100	4	B	●
GM-4FL-D10.0-G		10	10	30	100	4	B	●
GM-4FL-D12.0-G		12	12	35	100	4	B	●
GM-4FL-D14.0-G		14	14	40	100	4	B	○
GM-4FL-D16.0-G		16	16	50	150	4	B	○
GM-4FL-D20.0-G		20	20	55	150	4	B	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

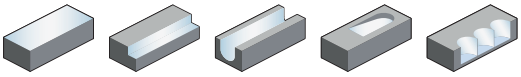
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

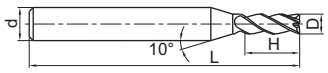
Frese a candela tagliente lungo

Asportazione media

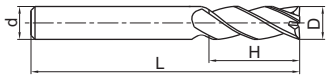
GM-4EX-G



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 30°



A



B

Articolo	✻	Dimensioni [mm] D	d (h6)	H	L	Denti	Geometria	Grado KMG303
GM-4EX-D3.0-G		3	6	20	75	4	A	●
GM-4EX-D4.0-G		4	6	25	75	4	A	●
GM-4EX-D5.0-G		5	6	30	75	4	A	●
GM-4EX-D6.0-G		6	6	30	75	4	B	●
GM-4EX-D8.0-G		8	8	40	100	4	B	●
GM-4EX-D10.0-G		10	10	50	110	4	B	●
GM-4EX-D12.0-G		12	12	50	110	4	B	●
GM-4EX-D14.0-G		14	14	70	150	4	B	○
GM-4EX-D16.0-G		16	16	70	150	4	B	●
GM-4EX-D20.0-G		20	20	75	150	4	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

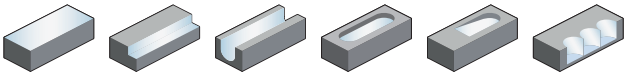
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

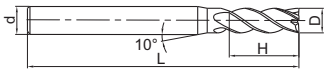
Frese a candela

Asportazione media

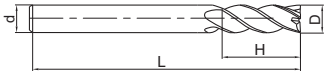
GM-4E



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 45°



A



B

Articolo	✻	Dimensioni [mm] D	d (h6)	H	L	Denti	Geometria	Grado KMG303
GM-4E-D1.0S		1	4	3	50	4	A	●
GM-4E-D1.5S		1,5	4	4	50	4	A	●
GM-4E-D2.0S		2	4	6	50	4	A	●
GM-4E-D2.5S		2,5	4	8	50	4	A	●
GM-4E-D3.0S		3	4	8	50	4	A	●
GM-4E-D4.0S		4	4	11	50	4	B	●
GM-4E-D1.0		1	6	3	50	4	A	●
GM-4E-D1.5		1,5	6	4	50	4	A	●
GM-4E-D2.0		2	6	6	50	4	A	●
GM-4E-D2.5		2,5	6	8	50	4	A	●
GM-4E-D3.0		3	6	8	50	4	A	●
GM-4E-D3.5		3,5	6	10	50	4	A	●
GM-4E-D4.0		4	6	11	50	4	A	●
GM-4E-D4.5		4,5	6	11	50	4	A	●
GM-4E-D5.0		5	6	13	50	4	A	●
GM-4E-D5.5		5,5	6	16	50	4	A	●
GM-4E-D6.0		6	6	16	50	4	B	●
GM-4E-D7.0		7	8	20	60	4	A	●
GM-4E-D8.0		8	8	20	60	4	B	●
GM-4E-D9.0		9	10	22	75	4	A	●
GM-4E-D10.0		10	10	25	75	4	B	●
GM-4E-D11.0		11	12	26	75	4	A	●
GM-4E-D12.0		12	12	30	75	4	B	●
GM-4E-D14.0		14	14	32	75	4	B	●
GM-4E-D16.0		16	16	45	100	4	B	●
GM-4E-D18.0		18	18	45	100	4	B	●
GM-4E-D20.0		20	20	45	100	4	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

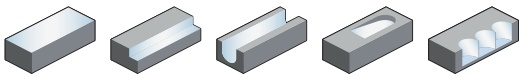
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

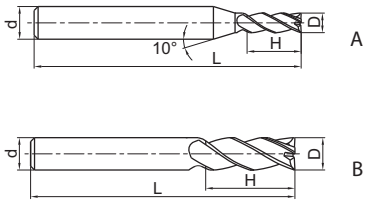
Frese a candela

Asportazione media

GM-4E-G



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 30°



Articolo	✻	Dimensioni [mm] D	d (h6)	H	L	Denti	Geometria	Grado KMG303
GM-4E-D1.0S-G		1	4	3	50	4	A	●
GM-4E-D1.5S-G		1,5	4	4	50	4	A	●
GM-4E-D2.0S-G		2	4	6	50	4	A	●
GM-4E-D2.5S-G		2,5	4	8	50	4	A	●
GM-4E-D3.0S-G		3	4	8	50	4	A	●
GM-4E-D4.0S-G		4	4	11	50	4	B	●
GM-4E-D1.0-G		1	6	3	50	4	A	●
GM-4E-D1.5-G		1,5	6	4	50	4	A	●
GM-4E-D2.0-G		2	6	6	50	4	A	●
GM-4E-D2.5-G		2,5	6	8	50	4	A	●
GM-4E-D3.0-G		3	6	8	50	4	A	●
GM-4E-D3.5-G		3,5	6	10	50	4	A	●
GM-4E-D3.5S-G		3,5	6	10	50	4	A	●
GM-4E-D4.0-G		4	6	11	50	4	A	●
GM-4E-D4.5-G		4,5	6	11	50	4	A	○
GM-4E-D5.0-G		5	6	13	50	4	A	●
GM-4E-D5.5-G		5,5	6	16	50	4	A	●
GM-4E-D6.0-G		6	6	16	50	4	B	●
GM-4E-D7.0-G		7	8	20	60	4	A	●
GM-4E-D8.0-G		8	8	20	60	4	B	●
GM-4E-D9.0-G		9	10	22	75	4	A	●
GM-4E-D10.0-G		10	10	25	75	4	B	●
GM-4E-D11.0-G		11	12	26	75	4	A	●
GM-4E-D12.0-G		12	12	30	75	4	B	●
GM-4E-D14.0-G		14	14	32	75	4	B	●
GM-4E-D16.0-G		16	16	45	100	4	B	●
GM-4E-D18.0-G		18	18	45	100	4	B	●
GM-4E-D20.0-G		20	20	45	100	4	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

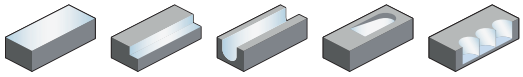
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

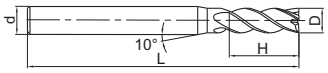
Frese a candela tagliente lungo

Asportazione media

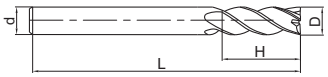
GM-4EL



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 45°



A



B

Articolo	✻	Dimensioni [mm] D	d (h6)	H	L	Denti	Geometria	Grado KMG303
GM-4EL-D3.0		3	6	12	75	4	A	●
GM-4EL-D4.0		4	6	15	75	4	A	●
GM-4EL-D5.0		5	6	20	75	4	A	●
GM-4EL-D6.0		6	6	20	75	4	B	●
GM-4EL-D8.0		8	8	25	100	4	B	●
GM-4EL-D10.0		10	10	30	100	4	B	●
GM-4EL-D12.0		12	12	35	100	4	B	●
GM-4EL-D14.0		14	14	40	100	4	B	●
GM-4EL-D16.0		16	16	50	150	4	B	●
GM-4EL-D20.0		20	20	55	150	4	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

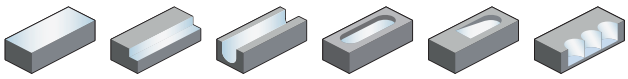
P	M	K	N	S	H
✔	✔	✔			

✔ Molto adatto
✔ Adatto

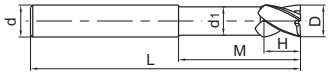
Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

Frese a candela tagliente corto | Asportazione media

GM-4EFP



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 45°



Articolo	✻	Dimensioni [mm]						Denti	Grado
		D	d (h6)	d_1	H	M	L		KMG303
GM-4EFP-D6.0		6	6	5,8	9	30	75	4	○
GM-4EFP-D8.0		8	8	7,8	12	40	100	4	○
GM-4EFP-D10.0		10	10	9,6	15	50	100	4	○
GM-4EFP-D12.0		12	12	11,5	18	50	100	4	○
GM-4EFP-D16.0		16	16	15,5	24	50	150	4	○
GM-4EFP-D20.0		20	20	19,5	30	60	150	4	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

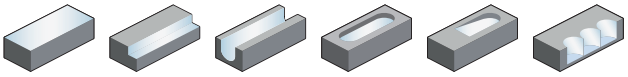
P	M	K	N	S	H
✔	✔	✔			

✔ Molto adatto
✔ Adatto

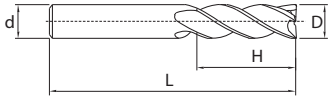
Codice sistema B362 | Dati di taglio B582 | Ordine utensili speciali B633

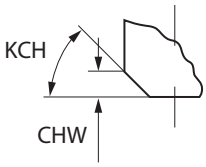
Frese a candela Finitura

5501R304GF



– Versione del codolo DIN 6535HA
– taglio al centro
– Angolo di inclinazione dell'elica 30°





Articolo	✻	Dimensioni [mm] D	d (h6)	H	L	KCH	CHW	Denti	Grado KMG303	YK30F
5501R304GF-0300		3	6	5	50	0	0	4	●	
5501R304GF-0400		4	6	8	54	0	0	4	●	
5501R304GF-0500		5	6	9	54	0	0	4	●	
5501R304GF-0600		6	6	10	54	45	0,1	4	●	
5501R304GF-0800		8	8	12	58	45	0,1	4	●	○
5501R304GF-1000		10	10	14	66	45	0,1	4	●	
5501R304GF-1200		12	12	16	73	45	0,1	4	●	
5501R304GF-1400		14	14	18	75	45	0,15	4	●	
5501R304GF-1600		16	16	22	82	45	0,15	4	●	
5501R304GF-1800		18	18	24	84	45	0,15	4	●	
5501R304GF-2000		20	20	26	92	45	0,15	4	●	

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

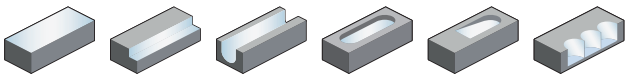
P	M	K	N	S	H
✔	✔	✔			

✔ Molto adatto
✔ Adatto

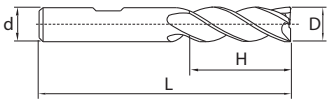
Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

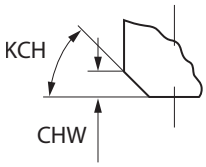
Frese a candela Finitura

5601R304GF



– Versione del codolo DIN 6535HB
– taglio al centro
– Angolo di inclinazione dell'elica 30°





Articolo	✻	Dimensioni [mm]						Denti	Grado
		D	d (h6)	H	L	KCH	CHW		KMG303
5601R304GF-0300		3	6	5	50	0	0	4	●
5601R304GF-0400		4	6	8	54	0	0	4	●
5601R304GF-0500		5	6	9	54	0	0	4	●
5601R304GF-0600		6	6	10	54	45	0,1	4	●
5601R304GF-0800		8	8	12	58	45	0,1	4	●
5601R304GF-1000		10	10	14	66	45	0,1	4	●
5601R304GF-1200		12	12	16	73	45	0,1	4	●
5601R304GF-1400		14	14	18	75	45	0,15	4	●
5601R304GF-1600		16	16	22	82	45	0,15	4	●
5601R304GF-1800		18	18	24	84	45	0,15	4	●
5601R304GF-2000		20	20	26	92	45	0,15	4	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

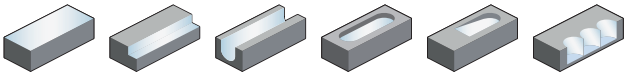
P	M	K	N	S	H
✔	✔	✔			

✔ Molto adatto
✔ Adatto

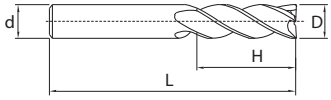
Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

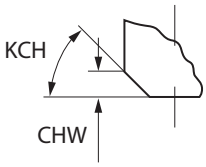
Frese a candela tagliente lungo Finitura

5502R304GF



– Versione del codolo DIN 6535HA
– taglio al centro
– Angolo di inclinazione dell'elica 30°





Articolo	✻	Dimensioni [mm] D	d (h6)	H	L	KCH	CHW	Denti	Grado KMG303
5502R304GF-0300		3	6	8	57	0	0	4	●
5502R304GF-0400		4	6	11	57	0	0	4	●
5502R304GF-0500		5	6	13	57	0	0	4	●
5502R304GF-0600		6	6	13	57	45	0,1	4	●
5502R304GF-0800		8	8	19	63	45	0,1	4	●
5502R304GF-1000		10	10	22	72	45	0,1	4	●
5502R304GF-1200		12	12	26	83	45	0,1	4	●
5502R304GF-1400		14	14	26	83	45	0,15	4	●
5502R304GF-1600		16	16	32	92	45	0,15	4	●
5502R304GF-1800		18	18	32	92	45	0,15	4	●
5502R304GF-2000		20	20	38	104	45	0,15	4	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

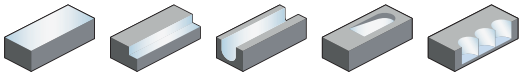
P	M	K	N	S	H
✔	✔	✔			

✔ Molto adatto
✔ Adatto

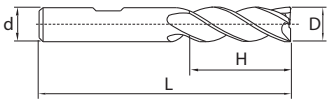
Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

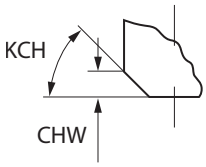
Frese a candela tagliente lungo **Finitura**

5602R304GF



– Versione del codolo DIN 6535HB
– taglio al centro
– Angolo di inclinazione dell'elica 30°





Articolo	✻	Dimensioni [mm]						Denti	Grado	
		D	d (h6)	H	L	KCH	CHW		KMG303	YK30F
5602R304GF-0300		3	6	8	57	0	0	4	●	
5602R304GF-0400		4	6	11	57	0	0	4	●	
5602R304GF-0500		5	6	13	57	0	0	4	●	
5602R304GF-0600		6	6	13	57	45	0,1	4	●	○
5602R304GF-0800		8	8	19	63	45	0,1	4	●	○
5602R304GF-1000		10	10	22	72	45	0,1	4	●	
5602R304GF-1200		12	12	26	83	45	0,1	4	●	
5602R304GF-1400		14	14	26	83	45	0,15	4	●	
5602R304GF-1600		16	16	32	92	45	0,15	4	●	
5602R304GF-1800		18	18	32	92	45	0,15	4	●	
5602R304GF-2000		20	20	38	104	45	0,15	4	●	

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

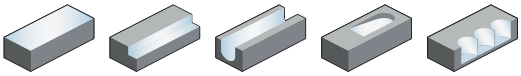
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

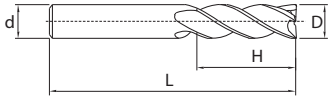
Frese a candela tagliente lungo

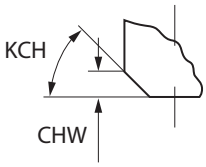
Asportazione media

5508R454GM



– Versione del codolo DIN 6535HA
– taglio al centro
– Angolo di inclinazione dell'elica 45°





Articolo	✻	Dimensioni [mm] D	d (h6)	H	L	KCH	CHW	Denti	Grado KMG303	YK30F
5508R454GM-0300		3	3	8	45	0	0	4	●	○
5508R454GM-0400		4	4	11	50	0	0	4	●	○
5508R454GM-0500		5	5	13	50	0	0	4	●	○
5508R454GM-0600		6	6	13	57	45	0,1	4	●	
5508R454GM-0800		8	8	19	63	45	0,1	4	●	○
5508R454GM-1000		10	10	22	72	45	0,1	4	●	○
5508R454GM-1200		12	12	26	83	45	0,1	4	●	○
5508R454GM-1400		14	14	26	83	45	0,15	4	●	○
5508R454GM-1500		15	16	32	92	0	0	4	○	
5508R454GM-1600		16	16	32	92	45	0,15	4	●	○
5508R454GM-1800		18	18	32	92	45	0,15	4	●	
5508R454GM-2000		20	20	38	104	45	0,15	4	●	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

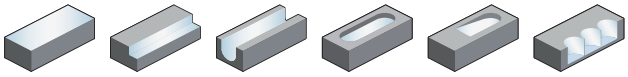
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

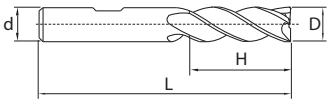
Frese a candela tagliente lungo

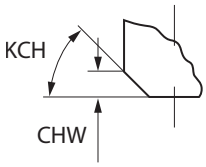
Asportazione media

5602R454GM



– Versione del codolo DIN 6535HB
– taglio al centro
– Angolo di inclinazione dell'elica 45°





Articolo	✻	Dimensioni [mm]						Denti	Grado
		D	d (h6)	H	L	KCH	CHW		KMG303
5602R454GM-0300		3	6	8	57	0	0	4	●
5602R454GM-0400		4	6	11	57	0	0	4	●
5602R454GM-0500		5	6	13	57	0	0	4	●
5602R454GM-0600		6	6	13	57	45	0,1	4	●
5602R454GM-0800		8	8	19	63	45	0,1	4	●
5602R454GM-1000		10	10	22	72	45	0,1	4	●
5602R454GM-1200		12	12	26	83	45	0,1	4	●
5602R454GM-1400		14	14	26	83	45	0,15	4	●
5602R454GM-1600		16	16	32	92	45	0,15	4	●
5602R454GM-1800		18	18	32	92	45	0,15	4	●
5602R454GM-2000		20	20	38	104	45	0,15	4	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

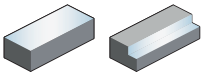
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

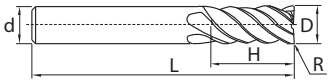
Frese toroidali con tagliente lungo

Finitura

5589R45MGFR



– Versione del codolo DIN 6535HA
– Angolo di inclinazione dell'elica 45°



Articolo	✻	Dimensioni [mm] D	R	d (h6)	H	L	Denti	Grado KMG405
5589R45MGFR02-0600		6	0,2	6	19	63	6	●
5589R45MGFR02-0800		8	0,2	8	28	72	6	●
5589R45MGFR02-1000		10	0,2	10	34	84	6	●
5589R45MGFR02-1200		12	0,2	12	40	97	6	●
5589R45MGFR03-1600		16	0,3	16	48	108	8	●
5589R45MGFR03-2000		20	0,3	20	56	122	10	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

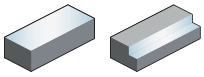
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

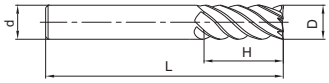
Frese a candela

Asportazione media

GM-6E



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio non oltre il centro
– Angolo di inclinazione dell'elica 45°



Articolo	✻	Dimensioni [mm]				Denti	Grado
		D	d (h6)	H	L		KMG303
GM-6E-D6.0		6	6	18	60	6	●
GM-6E-D8.0		8	8	20	60	6	●
GM-6E-D10.0		10	10	30	75	6	●
GM-6E-D12.0		12	12	32	75	6	●
GM-6E-D16.0		16	16	40	100	6	●
GM-6E-D20.0		20	20	45	100	6	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

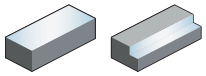
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

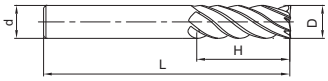
Frese a candela tagliente lungo

Asportazione media

GM-6EL



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio non oltre il centro
– Angolo di inclinazione dell'elica 45°



Articolo	✻	Dimensioni [mm] D	d (h6)	H	L	Denti	Grado KMG303
GM-6EL-D6.0		6	6	24	75	6	●
GM-6EL-D8.0		8	8	32	75	6	●
GM-6EL-D10.0		10	10	40	100	6	●
GM-6EL-D12.0		12	12	45	100	6	●
GM-6EL-D16.0		16	16	64	150	6	●
GM-6EL-D20.0		20	20	75	150	6	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

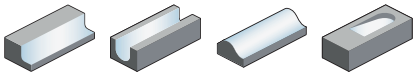
P	M	K	N	S	H
✔	✔	✔			

✔ Molto adatto
✔ Adatto

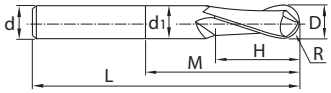
Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

Frese a testa sferica **Finitura**

5565R302GF



– Versione del codolo DIN 6535HA
– taglio al centro
– Angolo di inclinazione dell'elica 30°



Articolo	✻	Dimensioni [mm]							Denti	Grado
		D	R	d (h6)	d_1	H	M	L		KMG303
5565R302GF-0300		3	1,5	6	2,8	4	9	57	2	●
5565R302GF-0400		4	2	6	3,7	5	12	57	2	●
5565R302GF-0500		5	2,5	6	4,6	6	15	57	2	●
5565R302GF-0600		6	3	6	5,5	7	20	57	2	●
5565R302GF-0800		8	4	8	7,4	9	26	63	2	●
5565R302GF-1000		10	5	10	9,2	11	31	72	2	●
5565R302GF-1200		12	6	12	11	12	37	83	2	●
5565R302GF-1600		16	8	16	15	16	43	92	2	●
5565R302GF-2000		20	10	20	19	20	50	104	2	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

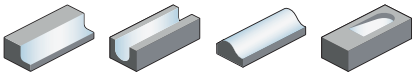
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

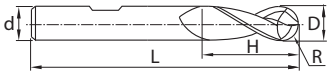
Frese a testa sferica

Asportazione media

5665R202GM



– Versione del codolo DIN 6535HB
– taglio al centro
– Angolo di inclinazione dell'elica 20°



Articolo	✻	Dimensioni [mm] D	R	d (h6)	d_1	H	L	Denti	Grado KMG303
5665R202GM-0300		3	1,5	6	2,8	4	57	2	●
5665R202GM-0400		4	2	6	3,7	5	57	2	●
5665R202GM-0500		5	2,5	6	4,6	6	57	2	●
5665R202GM-0600		6	3	6	5,5	7	57	2	●
5665R202GM-0800		8	4	8	7,4	9	63	2	●
5665R202GM-1000		10	5	10	9,2	11	72	2	●
5665R202GM-1200		12	6	12	11	12	83	2	●
5665R202GM-1600		16	8	16	15	16	92	2	●
5665R202GM-2000		20	10	20	19	20	104	2	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

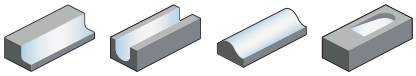
P	M	K	N	S	H
✔	✔	✔			

✔ Molto adatto
✔ Adatto

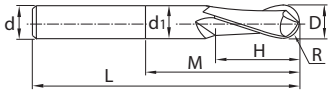
Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

Frese a testa sferica codolo lungo — Finitura

5566R302GF



– Versione del codolo DIN 6535HA
– taglio al centro
– Angolo di inclinazione dell'elica 30°



Articolo	✻	Dimensioni [mm]							Denti	Grado
		D	R	d (h6)	d_1	H	M	L		KMG303
5566R302GF-0300		3	1,5	6	2,8	4	15	75	2	●
5566R302GF-0400		4	2	6	3,7	5	20	75	2	●
5566R302GF-0500		5	2,5	6	4,6	6	25	80	2	●
5566R302GF-0600		6	3	6	5,5	7	60	80	2	●
5566R302GF-0800		8	4	8	7,4	9	65	90	2	●
5566R302GF-1000		10	5	10	9,2	11	40	100	2	●
5566R302GF-1200		12	6	12	11	12	50	120	2	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

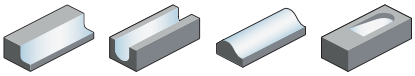
✔ Molto adatto
✔ Adatto

Codice sistema B362 | Dati di taglio B582 | Ordine utensili speciali B633

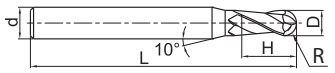
Frese a testa sferica

Asportazione media

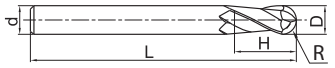
GM-2B



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 35°



A



B

Articolo	✻	Dimensioni [mm] R	D	d (h6)	H	L	Denti	Geometria	Grado KMG303
GM-2B-R0.5S		0,5	1	4	2	50	2	A	●
GM-2B-R0.75S		0,75	1,5	4	3	50	2	A	●
GM-2B-R1.0S		1	2	4	4	50	2	A	●
GM-2B-R1.25S		1,25	2,5	4	5	50	2	A	●
GM-2B-R1.5S		1,5	3	4	6	50	2	A	●
GM-2B-R2.0S		2	4	4	8	50	2	B	●
GM-2B-R0.5		0,5	1	6	2	50	2	A	○
GM-2B-R0.75		0,75	1,5	6	3	50	2	A	○
GM-2B-R1.0		1	2	6	4	50	2	A	●
GM-2B-R1.25		1,25	2,5	6	5	50	2	A	○
GM-2B-R1.5		1,5	3	6	6	50	2	A	●
GM-2B-R1.75		1,75	3,5	6	8	50	2	A	○
GM-2B-R2.0		2	4	6	8	50	2	A	●
GM-2B-R2.5		2,5	5	6	10	50	2	A	●
GM-2B-R2.75		2,75	5,5	6	12	50	2	A	○
GM-2B-R3.0		3	6	6	12	50	2	B	●
GM-2B-R3.5		3,5	7	8	14	60	2	A	○
GM-2B-R4.0		4	8	8	16	60	2	B	●
GM-2B-R4.5		4,5	9	10	18	75	2	A	○
GM-2B-R5.0		5	10	10	20	75	2	B	●
GM-2B-R6.0		6	12	12	24	75	2	B	●
GM-2B-R7.0		7	14	14	28	75	2	B	●
GM-2B-R8.0		8	16	16	32	100	2	B	●
GM-2B-R9.0		9	18	18	36	100	2	B	●
GM-2B-R10.0		10	20	20	40	100	2	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

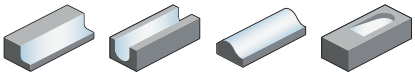
P	M	K	N	S	H
✔	✔	✔			

✔ Molto adatto
✔ Adatto

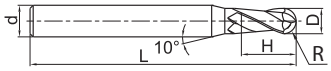
Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

Frese a testa sferica codolo lungo | Asportazione media

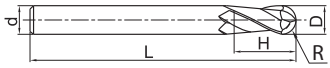
GM-2BL



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 35°



A



B

Articolo	✻	Dimensioni [mm]					Denti	Geometria	Grado
		R	D	d (h6)	H	L			KMG303
GM-2BL-R0.5		0,5	1	6	1,5	75	2	A	○
GM-2BL-R0.75		0,75	1,5	6	2,3	75	2	A	○
GM-2BL-R1.0		1	2	6	4	75	2	A	●
GM-2BL-R1.25		1,25	2,5	6	5	75	2	A	●
GM-2BL-R1.5		1,5	3	6	6	75	2	A	●
GM-2BL-R1.75		1,75	3,5	6	8	75	2	A	●
GM-2BL-R2.0		2	4	6	8	75	2	A	●
GM-2BL-R2.5		2,5	5	6	10	75	2	A	●
GM-2BL-R3.0		3	6	6	12	75	2	B	●
GM-2BL-R3.5		3,5	7	8	14	75	2	A	●
GM-2BL-R4.0		4	8	8	16	100	2	B	●
GM-2BL-R4.5		4,5	9	10	18	100	2	A	●
GM-2BL-R5.0		5	10	10	20	100	2	B	●
GM-2BL-R6.0		6	12	12	24	100	2	B	●
GM-2BL-R7.0		7	14	14	28	100	2	B	●
GM-2BL-R8.0		8	16	16	32	150	2	B	●
GM-2BL-R10.0		10	20	20	40	150	2	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

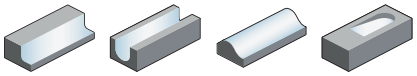
P	M	K	N	S	H
✔	✔	✔			

✔ Molto adatto
✔ Adatto

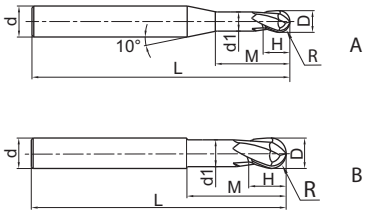
Codice sistema B362 | Dati di taglio B582 | Ordine utensili speciali B633

Frese a testa sferica tagliente corto — Asportazione media

GM-2BFP



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 35°



Articolo	✻	Dimensioni [mm] R	D	d (h6)	d_1	H	M	L	Denti	Geometria	Grado KMG303
GM-2BFP-R0.5		0,5	1	6	0,95	1	2,5	75	2	A	○
GM-2BFP-R0.75		0,75	1,5	6	1,45	1	3	75	2	A	○
GM-2BFP-R1.0		1	2	6	1,95	2	4	75	2	A	●
GM-2BFP-R1.5		1,5	3	6	2,85	3	6	75	2	A	○
GM-2BFP-R2.0		2	4	6	3,85	4	8	75	2	A	○
GM-2BFP-R2.5		2,5	5	6	4,85	5	10	75	2	A	○
GM-2BFP-R3.0		3	6	6	5,8	6	12	75	2	B	○
GM-2BFP-R4.0		4	8	8	7,8	8	16	100	2	B	○
GM-2BFP-R5.0		5	10	10	9,6	10	20	100	2	B	○
GM-2BFP-R6.0		6	12	12	11,5	12	24	100	2	B	○
GM-2BFP-R8.0		8	16	16	15,5	16	32	150	2	B	○
GM-2BFP-R10.0		10	20	20	19,5	20	40	150	2	B	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

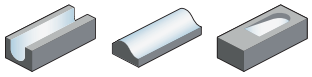
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

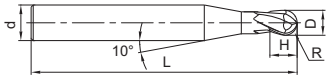
Frese a testa sferica

Asportazione media

GM-2BS



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 35°



Articolo	✻	Dimensioni [mm]					Denti	Grado
		R	D	d (h6)	H	L		KMG303
GM-2BS-R0.15		0,15	0,3	4	0,5	50	2	●
GM-2BS-R0.20		0,2	0,4	4	0,6	50	2	●
GM-2BS-R0.25		0,25	0,5	4	0,8	50	2	●
GM-2BS-R0.30		0,3	0,6	4	0,9	50	2	●
GM-2BS-R0.35		0,35	0,7	4	1	50	2	●
GM-2BS-R0.40		0,4	0,8	4	1,2	50	2	●
GM-2BS-R0.45		0,45	0,9	4	1,3	50	2	●
GM-2BS-R0.50		0,5	1	4	1,5	50	2	●
GM-2BS-R0.60		0,6	1,2	4	1,8	50	2	●
GM-2BS-R0.70		0,7	1,4	4	2	50	2	●
GM-2BS-R0.75		0,75	1,5	4	2,3	50	2	●
GM-2BS-R0.80		0,8	1,6	4	2,5	50	2	●
GM-2BS-R0.90		0,9	1,8	4	2,7	50	2	●
GM-2BS-R1.00		1	2	4	3	50	2	●
GM-2BS-R1.25		1,25	2,5	4	3,7	50	2	●
GM-2BS-R1.50		1,5	3	4	4,5	50	2	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

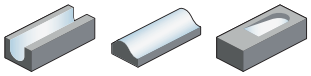
P	M	K	N	S	H
✔	✔	✔			

✔ Molto adatto
✔ Adatto

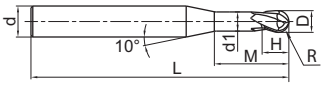
Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

Frese a testa sferica — Asportazione media

GM-2BP



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 35°



Articolo	✻	Dimensioni [mm] R	D	d (h6)	d_1	H	M	L	Denti	Grado KMG303
GM-2BP-R0.25-M04		0,25	0,5	4	0,45	0,7	4	50	2	●
GM-2BP-R0.25-M06		0,25	0,5	4	0,45	0,7	6	50	2	●
GM-2BP-R0.3-M04		0,3	0,6	4	0,55	0,9	4	50	2	●
GM-2BP-R0.3-M06		0,3	0,6	4	0,55	0,9	6	50	2	●
GM-2BP-R0.3-M08		0,3	0,6	4	0,55	0,9	8	50	2	●
GM-2BP-R0.4-M04		0,4	0,8	4	0,75	1,2	4	50	2	●
GM-2BP-R0.4-M06		0,4	0,8	4	0,75	1,2	6	50	2	●
GM-2BP-R0.4-M08		0,4	0,8	4	0,75	1,2	8	50	2	●
GM-2BP-R0.4-M10		0,4	0,8	4	0,75	1,2	10	50	2	●
GM-2BP-R0.5-M04		0,5	1	4	0,95	1,5	4	50	2	●
GM-2BP-R0.5-M06		0,5	1	4	0,95	1,5	6	50	2	●
GM-2BP-R0.5-M08		0,5	1	4	0,95	1,5	8	50	2	●
GM-2BP-R0.5-M10		0,5	1	4	0,95	1,5	10	50	2	●
GM-2BP-R0.5-M12		0,5	1	4	0,95	1,5	12	50	2	●
GM-2BP-R0.5-M20		0,5	1	4	0,95		20	50	2	●
GM-2BP-R0.6-M06		0,6	1,2	4	1,15	1,8	6	50	2	●
GM-2BP-R0.6-M08		0,6	1,2	4	1,15	1,8	8	50	2	●
GM-2BP-R0.6-M12		0,6	1,2	4	1,15	1,8	12	50	2	●
GM-2BP-R0.6-M16		0,6	1,2	4	1,15	1,8	16	50	2	●
GM-2BP-R0.75-M08		0,75	1,5	4	1,45	2,3	8	50	2	●
GM-2BP-R0.75-M12		0,75	1,5	4	1,45	2,3	12	50	2	●
GM-2BP-R0.75-M16		0,75	1,5	4	1,45	2,3	16	50	2	●
GM-2BP-R1.0-M06		1	2	4	1,95	3	6	50	2	○
GM-2BP-R1.0-M08		1	2	4	1,95	3	8	50	2	●
GM-2BP-R1.0-M10		1	2	4	1,95	3	10	50	2	●
GM-2BP-R1.0-M12		1	2	4	1,95	3	12	50	2	●
GM-2BP-R1.0-M16		1	2	4	1,95	3	16	50	2	●
GM-2BP-R1.0-M20		1	2	4	1,95	3	20	50	2	●
GM-2BP-R1.25-M08		1,25	2,5	4	2,4	3,7	8	50	2	●
GM-2BP-R1.25-M12		1,25	2,5	4	2,4	3,7	12	50	2	●
GM-2BP-R1.25-M16		1,25	2,5	4	2,4	3,7	16	60	2	●
GM-2BP-R1.25-M20		1,25	2,5	4	2,4	3,7	20	60	2	●
GM-2BP-R1.5-M08		1,5	3	6	2,85	4,5	8	50	2	●
GM-2BP-R1.5-M10		1,5	3	6	2,85	4,5	10	50	2	●
GM-2BP-R1.5-M12		1,5	3	6	2,85	4,5	12	50	2	●
GM-2BP-R1.5-M16		1,5	3	6	2,85	4,5	16	60	2	●
GM-2BP-R1.5-M20		1,5	3	6	2,85	4,5	20	60	2	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

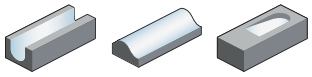
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

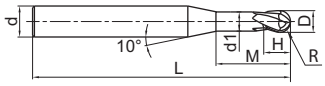
Frese a testa sferica

Asportazione media

GM-2BP



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 35°



Articolo	✻	Dimensioni [mm]							Denti	Grado
		R	D	d (h6)	d_1	H	M	L		KMG303
GM-2BP-R2.0-M10		2	4	6	3,85	6	10	60	2	●
GM-2BP-R2.0-M16		2	4	6	3,85	6	16	60	2	●
GM-2BP-R2.0-M20		2	4	6	3,85	6	20	60	2	●
GM-2BP-R2.0-M25		2	4	6	3,85	6	25	60	2	●
GM-2BP-R2.5-M16		2,5	5	6	4,85	7,5	16	60	2	●
GM-2BP-R2.5-M25		2,5	5	6	4,85	7,5	25	70	2	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

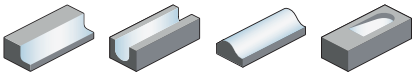
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

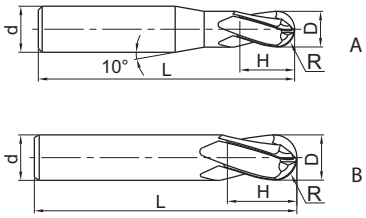
Frese a testa sferica

Asportazione media

GM-4B



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 35°



Articolo	✻	Dimensioni [mm] R	D	d (h6)	H	L	Denti	Geometria	Grado KMG303
GM-4B-R1.5		1,5	3	6	6	50	4	A	●
GM-4B-R2.0		2	4	6	8	50	4	A	●
GM-4B-R2.5		2,5	5	6	10	50	4	A	●
GM-4B-R3.0		3	6	6	12	50	4	B	●
GM-4B-R4.0		4	8	8	16	60	4	B	●
GM-4B-R5.0		5	10	10	20	75	4	B	●
GM-4B-R6.0		6	12	12	24	75	4	B	●
GM-4B-R7.0		7	14	14	28	75	4	B	●
GM-4B-R8.0		8	16	16	32	100	4	B	●
GM-4B-R9.0		9	18	18	36	100	4	B	●
GM-4B-R10.0		10	20	20	40	100	4	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

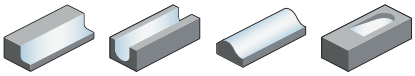
P	M	K	N	S	H
✔	✔	✔			

✔ Molto adatto
✔ Adatto

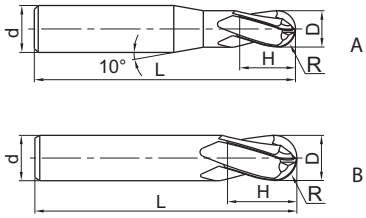
Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

Frese a testa sferica codolo lungo | Asportazione media

GM-4BL



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 35°



Articolo	✻	Dimensioni [mm]					Denti	Geometria	Grado
		R	D	d (h6)	H	L			KMG303
GM-4BL-R1.5		1,5	3	6	6	75	4	A	○
GM-4BL-R2.0		2	4	6	8	75	4	A	○
GM-4BL-R2.5		2,5	5	6	10	75	4	A	○
GM-4BL-R3.0		3	6	6	12	75	4	B	○
GM-4BL-R4.0		4	8	8	16	100	4	B	○
GM-4BL-R5.0		5	10	10	20	100	4	B	○
GM-4BL-R6.0		6	12	12	24	100	4	B	○
GM-4BL-R7.0		7	14	14	28	100	4	B	○
GM-4BL-R8.0		8	16	16	32	150	4	B	○
GM-4BL-R10.0		10	20	20	40	150	4	B	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

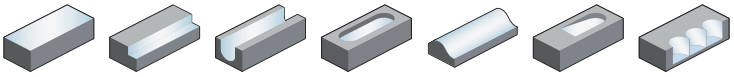
P	M	K	N	S	H
✔	✔	✔			

✔ Molto adatto
✔ Adatto

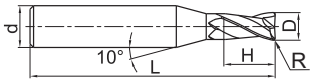
Codice sistema B362 | Dati di taglio B582 | Ordine utensili speciali B633

Frese toroidali Asportazione media

GM-2R



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 35°



Articolo	✻	Dimensioni [mm] R	D	d (h6)	H	L	Denti	Grado KMG303
GM-2R-D1.0R0.2		0,2	1	4	3	50	2	○
GM-2R-D1.5R0.2		0,2	1,5	4	4	50	2	○
GM-2R-D2.0R0.2		0,2	2	4	6	50	2	○
GM-2R-D2.0R0.5		0,5	2	4	6	50	2	○
GM-2R-D2.5R0.2		0,2	2,5	4	8	50	2	○
GM-2R-D2.5R0.5		0,5	2,5	4	8	50	2	○
GM-2R-D3.0R0.2		0,2	3	4	8	50	2	○
GM-2R-D3.0R0.3		0,3	3	4	8	50	2	○
GM-2R-D3.0R0.5		0,5	3	4	8	50	2	○
GM-2R-D4.0R0.2		0,2	4	4	11	50	2	○
GM-2R-D4.0R0.3		0,3	4	4	11	50	2	○
GM-2R-D4.0R0.5		0,5	4	4	11	50	2	○
GM-2R-D4.0R1.0		1	4	4	11	50	2	○
GM-2R-D5.0R0.3		0,3	5	6	13	50	2	○
GM-2R-D5.0R0.5		0,5	5	6	13	50	2	○
GM-2R-D5.0R1.0		1	5	6	13	50	2	○
GM-2R-D6.0R0.3		0,3	6	6	16	50	2	○
GM-2R-D6.0R0.5		0,5	6	6	16	50	2	○
GM-2R-D6.0R1.0		1	6	6	16	50	2	○
GM-2R-D8.0R0.3		0,3	8	8	20	60	2	○
GM-2R-D8.0R0.5		0,5	8	8	20	60	2	○
GM-2R-D8.0R1.0		1	8	8	20	60	2	○
GM-2R-D10.0R0.5		0,5	10	10	25	75	2	○
GM-2R-D10.0R1.0		1	10	10	25	75	2	○
GM-2R-D10.0R1.5		1,5	10	10	25	75	2	●
GM-2R-D10.0R2.0		2	10	10	25	75	2	○
GM-2R-D12.0R0.5		0,5	12	12	30	75	2	○
GM-2R-D12.0R1.0		1	12	12	30	75	2	○
GM-2R-D12.0R1.5		1,5	12	12	30	75	2	○
GM-2R-D12.0R2.0		2	12	12	30	75	2	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

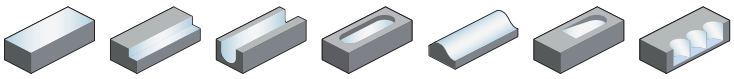
P	M	K	N	S	H
✔	✔	✔			

✔ Molto adatto
✔ Adatto

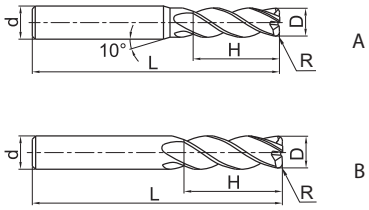
Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

Frese toroidali | Asportazione media

GM-4R



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 35°



Articolo	✻	Dimensioni [mm] R	D	d (h6)	H	L	Denti	Geometria	Grado KMG303
GM-4R-D3.0R0.2		0,2	3	4	8	50	4	A	●
GM-4R-D4.0R0.3		0,3	4	4	10	50	4	B	○
GM-4R-D4.0R0.5		0,5	4	4	10	50	4	B	●
GM-4R-D5.0R0.3		0,3	5	6	13	50	4	A	○
GM-4R-D5.0R0.5		0,5	5	6	13	50	4	A	●
GM-4R-D5.0R1.0		1	5	6	13	50	4	A	●
GM-4R-D6.0R0.5		0,5	6	6	16	50	4	B	●
GM-4R-D6.0R1.0		1	6	6	16	50	4	B	●
GM-4R-D8.0R0.5		0,5	8	8	20	60	4	B	●
GM-4R-D8.0R1.0		1	8	8	20	60	4	B	●
GM-4R-D10.0R0.5		0,5	10	10	25	75	4	B	●
GM-4R-D10.0R1.0		1	10	10	25	75	4	B	●
GM-4R-D10.0R2.0		2	10	10	25	75	4	B	●
GM-4R-D10.0R3.0		3	10	10	25	75	4	B	●
GM-4R-D12.0R0.5		0,5	12	12	30	75	4	B	●
GM-4R-D12.0R1.0		1	12	12	30	75	4	B	●
GM-4R-D12.0R2.0		2	12	12	30	75	4	B	●
GM-4R-D12.0R3.0		3	12	12	30	75	4	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

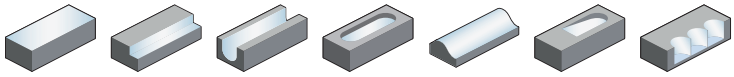
✔ Molto adatto
✔ Adatto

Codice sistema B362 | Dati di taglio B582 | Ordine utensili speciali B633

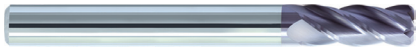
Frese toroidali codolo lungo

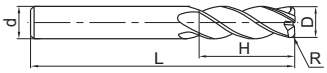
Asportazione media

GM-4RL



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 35°





Articolo	✻	Dimensioni [mm]					Denti	Grado
		R	D	d (h6)	H	L		KMG303
GM-4RL-D6.0R0.5		0,5	6	6	16	75	4	●
GM-4RL-D6.0R1.0		1	6	6	16	75	4	●
GM-4RL-D8.0R0.5		0,5	8	8	20	100	4	●
GM-4RL-D8.0R1.0		1	8	8	20	100	4	●
GM-4RL-D10.0R0.5		0,5	10	10	25	100	4	●
GM-4RL-D10.0R1.0		1	10	10	25	100	4	●
GM-4RL-D10.0R2.0		2	10	10	25	100	4	●
GM-4RL-D12.0R0.5		0,5	12	12	30	100	4	○
GM-4RL-D12.0R1.0		1	12	12	30	100	4	●
GM-4RL-D12.0R2.0		2	12	12	30	100	4	●
GM-4RL-D16.0R1.0		1	16	16	45	150	4	●
GM-4RL-D16.0R2.0		2	16	16	45	150	4	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

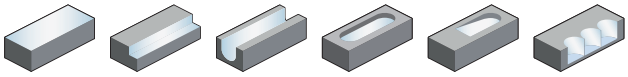
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

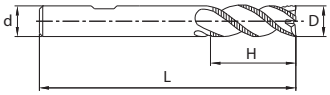
Frese a candela tagliente lungo

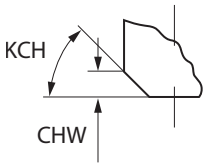
Sgrossatura generica

5602R303GR



– Versione del codolo DIN 6535HB
– taglio al centro
– Angolo di inclinazione dell'elica 30°





Articolo	✻	Dimensioni [mm]						Denti	Grado
		D	d (h6)	H	L	KCH	CHW		KMG303
5602R303GR-0600		6	6	13	57	45	0,25	3	●
5602R303GR-0800		8	8	19	63	45	0,25	3	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

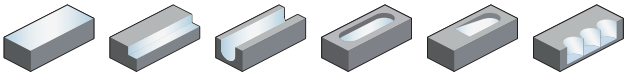
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

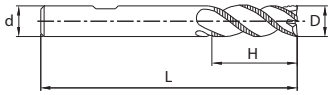
Frese a candela tagliente lungo

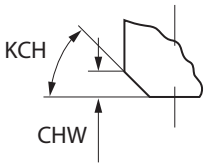
Sgrossatura generica

5602R304GR



– Versione del codolo DIN 6535HB
– taglio al centro
– Angolo di inclinazione dell'elica 30°





Articolo	✻	Dimensioni [mm] D	d (h6)	H	L	KCH	CHW	Denti	Grado KMG303
5602R304GR-1000		10	10	22	72	45	0,5	4	●
5602R304GR-1200		12	12	26	83	45	0,5	4	●
5602R304GR-1400		14	14	30	90	45	0,5	4	○
5602R304GR-1600		16	16	32	92	45	0,5	4	●
5602R304GR-2000		20	20	38	104	45	0,5	4	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

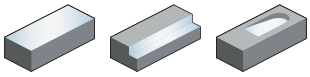
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

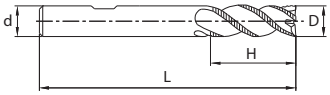
Frese a candela tagliente lungo

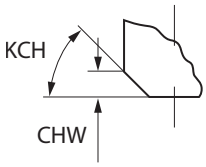
Sgrossatura generica

5602R305GR



– Versione del codolo DIN 6535HB
– taglio al centro
– Angolo di inclinazione dell'elica 30°





Articolo	✻	Dimensioni [mm]						Denti	Grado
		D	d (h6)	H	L	KCH	CHW		KMG303
5602R305GR-2500		25	25	45	121	45	0,5	5	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

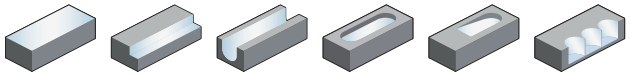
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

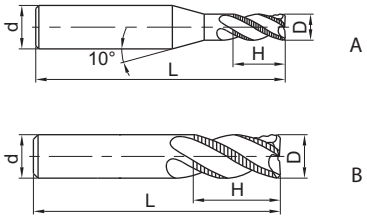
Frese a candela per sgrossatura

Asportazione media

GM-4W



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 30°



Articolo	✻	Dimensioni [mm]				Denti	Geometria	Grado
		D	d (h6)	H	L			KMG405
GM-4W-D3.0		3	6	8	50	4	A	○
GM-4W-D4.0		4	6	11	50	4	A	○
GM-4W-D5.0		5	6	13	50	4	A	○
GM-4W-D6.0		6	6	16	50	4	B	●
GM-4W-D7.0		7	8	20	60	4	A	●
GM-4W-D8.0		8	8	20	60	4	B	●
GM-4W-D9.0		9	10	22	75	4	A	●
GM-4W-D10.0		10	10	25	75	4	B	●
GM-4W-D11.0		11	12	26	75	4	A	●
GM-4W-D12.0		12	12	30	75	4	B	●
GM-4W-D16.0		16	16	45	100	4	B	●
GM-4W-D20.0		20	20	45	100	4	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

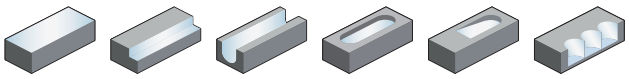
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

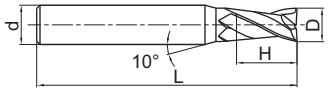
Frese a candela

Lavorazione ad alte prestazioni

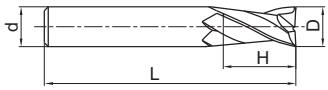
PM-2E



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 30°



A



B

Articolo	✻	Dimensioni [mm] D	d (h6)	H	L	Denti	Geometria	Grado KMG405
PM-2E-D1.0S		1	4	3	50	2	A	●
PM-2E-D1.5S		1,5	4	4	50	2	A	●
PM-2E-D2.0S		2	4	6	50	2	A	●
PM-2E-D2.5S		2,5	4	8	50	2	A	●
PM-2E-D3.0S		3	4	8	50	2	A	●
PM-2E-D4.0S		4	4	11	50	2	B	●
PM-2E-D1.0		1	6	3	50	2	A	●
PM-2E-D1.5		1,5	6	4	50	2	A	●
PM-2E-D2.0		2	6	6	50	2	A	●
PM-2E-D2.5		2,5	6	8	50	2	A	●
PM-2E-D3.0		3	6	8	50	2	A	●
PM-2E-D3.5		3,5	6	10	50	2	A	●
PM-2E-D4.0		4	6	11	50	2	A	●
PM-2E-D4.5		4,5	6	11	50	2	A	●
PM-2E-D5.0		5	6	13	50	2	A	●
PM-2E-D5.5		5,5	6	16	50	2	A	●
PM-2E-D6.0		6	6	16	50	2	B	●
PM-2E-D7.0		7	8	20	60	2	A	●
PM-2E-D8.0		8	8	20	60	2	B	●
PM-2E-D9.0		9	10	22	75	2	A	●
PM-2E-D10.0		10	10	25	75	2	B	●
PM-2E-D11.0		11	12	26	75	2	A	○
PM-2E-D12.0		12	12	30	75	2	B	●
PM-2E-D14.0		14	14	32	75	2	B	●
PM-2E-D16.0		16	16	45	100	2	B	●
PM-2E-D18.0		18	18	45	100	2	B	○
PM-2E-D20.0		20	20	45	100	2	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

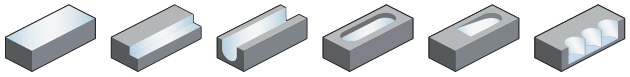
✔ Molto adatto
✔ Adatto

Codice sistema B362 | Dati di taglio B582 | Ordine utensili speciali B633

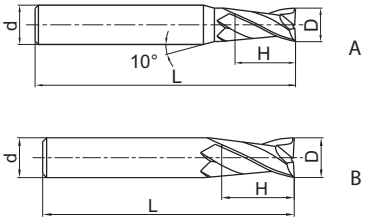
Frese a candela tagliente lungo

Lavorazione ad alte prestazioni

PM-2EL



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 30°



Articolo	✻	Dimensioni [mm]				Denti	Geometria	Grado
		D	d (h6)	H	L			KMG405
PM-2EL-D3.0		3	6	12	75	2	A	●
PM-2EL-D4.0		4	6	15	75	2	A	●
PM-2EL-D5.0		5	6	20	75	2	A	●
PM-2EL-D6.0		6	6	20	75	2	B	●
PM-2EL-D8.0		8	8	25	100	2	B	●
PM-2EL-D10.0		10	10	30	100	2	B	●
PM-2EL-D12.0		12	12	35	100	2	B	●
PM-2EL-D14.0		14	14	40	100	2	B	○
PM-2EL-D16.0		16	16	50	150	2	B	●
PM-2EL-D20.0		20	20	55	150	2	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

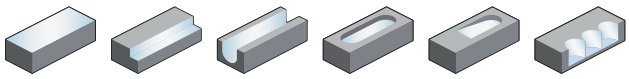
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

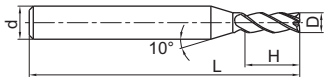
Frese a candela

Lavorazione ad alte prestazioni

PM-4E-G



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 30°



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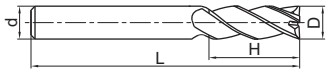


B

Articolo	✻	Dimensioni [mm] D	d (h6)	H	L	Denti	Geometria	Grado KMG405
PM-4E-D1.0S-G		1	4	3	50	4	A	●
PM-4E-D1.5S-G		1,5	4	4	50	4	A	●
PM-4E-D2.0S-G		2	4	6	50	4	A	●
PM-4E-D2.5S-G		2,5	4	8	50	4	A	●
PM-4E-D3.0S-G		3	4	8	50	4	A	●
PM-4E-D4.0S-G		4	4	11	50	4	B	●
PM-4E-D1.0-G		1	6	3	50	4	A	●
PM-4E-D1.5-G		1,5	6	4	50	4	A	●
PM-4E-D2.0-G		2	6	6	50	4	A	●
PM-4E-D2.5-G		2,5	6	8	50	4	A	●
PM-4E-D3.0-G		3	6	8	50	4	A	●
PM-4E-D3.5-G		3,5	6	10	50	4	A	●
PM-4E-D4.0-G		4	6	11	50	4	A	●
PM-4E-D4.5-G		4,5	6	11	50	4	A	●
PM-4E-D5.0-G		5	6	13	50	4	A	●
PM-4E-D5.5-G		5,5	6	16	50	4	A	●
PM-4E-D6.0-G		6	6	16	50	4	B	●
PM-4E-D7.0-G		7	8	20	60	4	A	●
PM-4E-D8.0-G		8	8	20	60	4	B	●
PM-4E-D9.0-G		9	10	22	75	4	A	●
PM-4E-D10.0-G		10	10	25	75	4	B	●
PM-4E-D11.0-G		11	12	26	75	4	A	●
PM-4E-D12.0-G		12	12	30	75	4	B	●
PM-4E-D14.0-G		14	14	32	75	4	B	●
PM-4E-D16.0-G		16	16	45	100	4	B	●
PM-4E-D18.0-G		18	18	45	100	4	B	●
PM-4E-D20.0-G		20	20	45	100	4	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

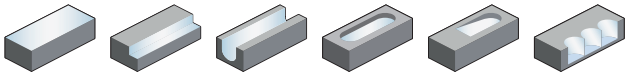
✔ Molto adatto
✔ Adatto

Codice sistema B362 | Dati di taglio B582 | Ordine utensili speciali B633

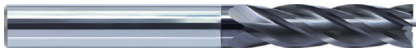
Frese a candela tagliente lungo

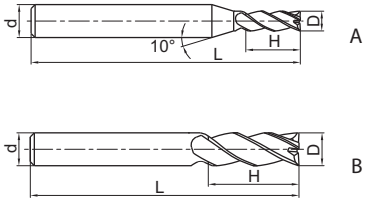
Lavorazione ad alte prestazioni

PM-4EL-G



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 30°





Articolo	✻	Dimensioni [mm] D	d (h6)	H	L	Denti	Geometria	Grado KMG405
PM-4EL-D3.0-G		3	6	12	75	4	A	○
PM-4EL-D4.0-G		4	6	15	75	4	A	○
PM-4EL-D5.0-G		5	6	20	75	4	A	○
PM-4EL-D6.0-G		6	6	20	75	4	B	○
PM-4EL-D8.0-G		8	8	25	100	4	B	○
PM-4EL-D10.0-G		10	10	30	100	4	B	○
PM-4EL-D12.0-G		12	12	35	100	4	B	○
PM-4EL-D14.0-G		14	14	40	100	4	B	○
PM-4EL-D16.0-G		16	16	50	150	4	B	○
PM-4EL-D20.0-G		20	20	55	150	4	B	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

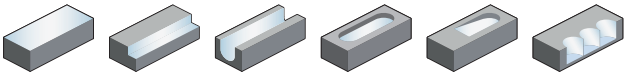
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

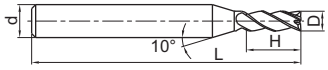
Frese a candela tagliente lungo

Lavorazione ad alte prestazioni

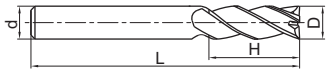
PM-4EX-G



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 30°



A



B

Articolo	✻	Dimensioni [mm]				Denti	Geometria	Grado
		D	d (h6)	H	L			KMG405
PM-4EX-D3.0-G		3	6	20	75	4	A	●
PM-4EX-D4.0-G		4	6	25	75	4	A	●
PM-4EX-D5.0-G		5	6	30	75	4	A	●
PM-4EX-D6.0-G		6	6	30	75	4	B	●
PM-4EX-D8.0-G		8	8	40	100	4	B	●
PM-4EX-D10.0-G		10	10	50	110	4	B	●
PM-4EX-D12.0-G		12	12	50	110	4	B	●
PM-4EX-D16.0-G		16	16	70	150	4	B	●
PM-4EX-D20.0-G		20	20	75	150	4	B	●

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

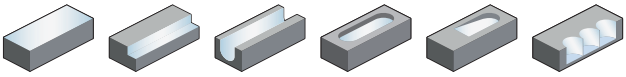
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

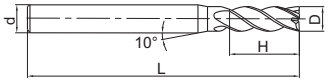
Frese a candela

Lavorazione ad alte prestazioni

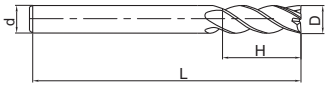
PM-4E



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 45°



A



B

Articolo	✻	Dimensioni [mm] D	d (h6)	H	L	Denti	Geometria	Grado KMG405
PM-4E-D1.0S		1	4	3	50	4	A	●
PM-4E-D1.5S		1,5	4	4	50	4	A	●
PM-4E-D2.0S		2	4	6	50	4	A	●
PM-4E-D2.5S		2,5	4	8	50	4	A	●
PM-4E-D3.0S		3	4	8	50	4	A	●
PM-4E-D4.0S		4	4	11	50	4	B	●
PM-4E-D1.0		1	6	3	50	4	A	●
PM-4E-D1.5		1,5	6	4	50	4	A	●
PM-4E-D2.0		2	6	6	50	4	A	●
PM-4E-D2.5		2,5	6	8	50	4	A	●
PM-4E-D3.0		3	6	8	50	4	A	●
PM-4E-D3.5		3,5	6	10	50	4	A	●
PM-4E-D4.0		4	6	11	50	4	A	●
PM-4E-D4.5		4,5	6	11	50	4	A	●
PM-4E-D5.0		5	6	13	50	4	A	●
PM-4E-D5.5		5,5	6	16	50	4	A	●
PM-4E-D6.0		6	6	16	50	4	B	●
PM-4E-D7.0		7	8	20	60	4	A	●
PM-4E-D8.0		8	8	20	60	4	B	●
PM-4E-D9.0		9	10	22	75	4	A	●
PM-4E-D10.0		10	10	25	75	4	B	●
PM-4E-D11.0		11	12	26	75	4	A	●
PM-4E-D12.0		12	12	30	75	4	B	●
PM-4E-D14.0		14	14	32	75	4	B	●
PM-4E-D16.0		16	16	45	100	4	B	●
PM-4E-D18.0		18	18	45	100	4	B	●
PM-4E-D20.0		20	20	45	100	4	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

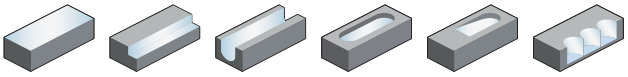
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

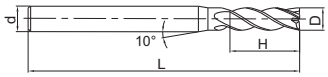
Frese a candela tagliente lungo

Lavorazione ad alte prestazioni

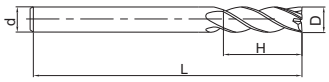
PM-4EL



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 45°



A



B

Articolo	✻	Dimensioni [mm] D	d (h6)	H	L	Denti	Geometria	Grado KMG405
PM-4EL-D3.0		3	6	12	75	4	A	●
PM-4EL-D4.0		4	6	15	75	4	A	●
PM-4EL-D5.0		5	6	20	75	4	A	●
PM-4EL-D6.0		6	6	20	75	4	B	●
PM-4EL-D8.0		8	8	25	100	4	B	●
PM-4EL-D10.0		10	10	30	100	4	B	●
PM-4EL-D12.0		12	12	35	100	4	B	●
PM-4EL-D14.0		14	14	40	100	4	B	●
PM-4EL-D16.0		16	16	50	150	4	B	●
PM-4EL-D20.0		20	20	55	150	4	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

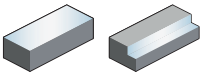
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

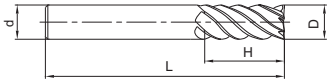
Frese a candela

Lavorazione ad alte prestazioni

PM-6E



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio non oltre il centro
– Angolo di inclinazione dell'elica 45°



Articolo	✻	Dimensioni [mm] D	d (h6)	H	L	Denti	Grado KMG405
PM-6E-D6.0		6	6	18	60	6	●
PM-6E-D8.0		8	8	20	60	6	●
PM-6E-D10.0		10	10	30	75	6	●
PM-6E-D12.0		12	12	32	75	6	●
PM-6E-D16.0		16	16	40	100	6	●
PM-6E-D20.0		20	20	45	100	6	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

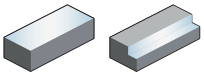
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

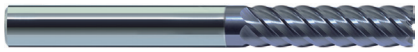
Frese a candela tagliente lungo

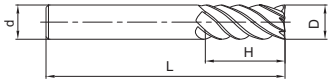
Lavorazione ad alte prestazioni

PM-6EL



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio non oltre il centro
– Angolo di inclinazione dell'elica 45°





Articolo	✻	Dimensioni [mm]				Denti	Grado
		D	d (h6)	H	L		KMG405
PM-6EL-D6.0		6	6	24	75	6	●
PM-6EL-D8.0		8	8	32	75	6	●
PM-6EL-D10.0		10	10	40	100	6	●
PM-6EL-D12.0		12	12	45	100	6	●
PM-6EL-D16.0		16	16	64	150	6	●
PM-6EL-D20.0		20	20	75	150	6	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

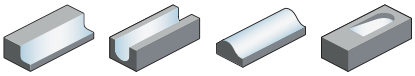
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

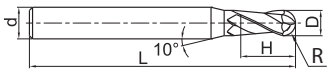
Frese a testa sferica

Lavorazione ad alte prestazioni

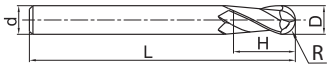
PM-2B



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 30°



A



B

Articolo	✻	Dimensioni [mm] R	D	d (h6)	H	L	Denti	Geometria	Grado KMG405
PM-2B-R0.5S		0,5	1	4	2	50	2	A	●
PM-2B-R0.75S		0,75	1,5	4	3	50	2	A	●
PM-2B-R1.0S		1	2	4	4	50	2	A	●
PM-2B-R1.25S		1,25	2,5	4	5	50	2	A	●
PM-2B-R1.5S		1,5	3	4	6	50	2	A	●
PM-2B-R2.0S		2	4	4	8	50	2	B	●
PM-2B-R0.5		0,5	1	6	2	50	2	A	●
PM-2B-R0.75		0,75	1,5	6	3	50	2	A	●
PM-2B-R1.0		1	2	6	4	50	2	A	●
PM-2B-R1.25		1,25	2,5	6	5	50	2	A	●
PM-2B-R1.5		1,5	3	6	6	50	2	A	●
PM-2B-R1.75		1,75	3,5	6	8	50	2	A	●
PM-2B-R2.0		2	4	6	8	50	2	A	●
PM-2B-R2.5		2,5	5	6	10	50	2	A	●
PM-2B-R2.75		2,75	5,5	6	12	50	2	A	●
PM-2B-R3.0		3	6	6	12	50	2	B	●
PM-2B-R3.5		3,5	7	8	14	60	2	A	●
PM-2B-R4.0		4	8	8	16	60	2	B	●
PM-2B-R4.5		4,5	9	10	18	75	2	A	●
PM-2B-R5.0		5	10	10	20	75	2	B	●
PM-2B-R6.0		6	12	12	24	75	2	B	●
PM-2B-R7.0		7	14	14	28	75	2	B	●
PM-2B-R8.0		8	16	16	32	100	2	B	●
PM-2B-R10.0		10	20	20	40	100	2	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

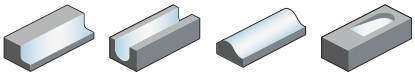
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

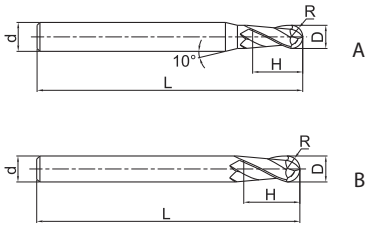
Frese a testa sferica codolo lungo

Lavorazione ad alte prestazioni

PM-2BL



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 30°



Articolo	✻	Dimensioni [mm]					Denti	Geometria	Grado
		R	D	d (h6)	H	L			KMG405
PM-2BL-R1.0		1	2	6	4	75	2	A	●
PM-2BL-R1.25		1,25	2,5	6	5	75	2	A	●
PM-2BL-R1.5		1,5	3	6	6	75	2	A	●
PM-2BL-R1.75		1,75	3,5	6	8	75	2	A	●
PM-2BL-R2.0		2	4	6	8	75	2	A	●
PM-2BL-R2.5		2,5	5	6	10	75	2	A	●
PM-2BL-R2.75		2,75	5,5	6	12	75	2	A	●
PM-2BL-R3.0		3	6	6	12	75	2	B	●
PM-2BL-R3.5		3,5	7	8	14	75	2	A	●
PM-2BL-R4.0		4	8	8	16	100	2	B	●
PM-2BL-R4.5		4,5	9	10	18	100	2	A	●
PM-2BL-R5.0		5	10	10	20	100	2	B	●
PM-2BL-R6.0		6	12	12	24	100	2	B	●
PM-2BL-R7.0		7	14	14	28	100	2	B	●
PM-2BL-R8.0		8	16	16	32	150	2	B	●
PM-2BL-R10.0		10	20	20	40	150	2	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

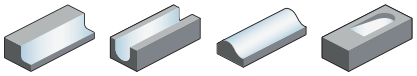
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

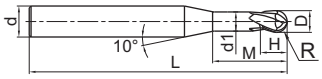
Frese a testa sferica tagliente corto

Lavorazione ad alte prestazioni

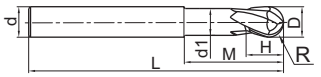
PM-2BFP



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 30°



A



B

Articolo	✻	Dimensioni [mm]							Denti	Geometria	Grado
		R	D	d (h6)	d_1	H	M	L			KMG405
PM-2BFP-R0.5		0,5	1	6	0,95	1	2,5	75	2	A	●
PM-2BFP-R0.75		0,75	1,5	6	1,45	1,5	3	75	2	A	●
PM-2BFP-R1.0		1	2	6	1,95	2	4	75	2	A	●
PM-2BFP-R1.5		1,5	3	6	2,85	3	6	75	2	A	●
PM-2BFP-R2.0		2	4	6	3,85	4	8	75	2	A	●
PM-2BFP-R2.5		2,5	5	6	4,85	5	10	75	2	A	●
PM-2BFP-R3.0		3	6	6	5,8	6	12	75	2	B	●
PM-2BFP-R4.0		4	8	8	7,8	8	16	100	2	B	●
PM-2BFP-R5.0		5	10	10	9,6	10	20	100	2	B	●
PM-2BFP-R6.0		6	12	12	11,5	12	24	100	2	B	●
PM-2BFP-R8.0		8	16	16	15,5	16	32	150	2	B	●
PM-2BFP-R10.0		10	20	20	19,5	20	40	150	2	B	●

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

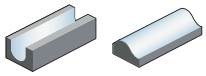
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

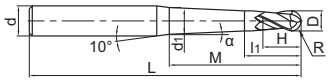
Frese a testa sferica collo conico

Lavorazione ad alte prestazioni

PM-2BC



– Codolo cilindrico
– taglio al centro
– Angolo di inclinazione dell'elica 30°



Articolo	✻	Dimensioni [mm]									Denti	Grado
		R	D	d (h6)	d_1	H	M	L	α	l_1		KMG405
PM-2BC05-R0.25-M03		0,25	0,5	4	0,49	0,5	3	50	0,5	1,5	2	○
PM-2BC05-R0.25-M05		0,25	0,5	4	0,53	0,5	5	50	0,5	1,5	2	○
PM-2BC10-R0.25-M03		0,25	0,5	4	0,52	0,5	3	50	1	1,5	2	○
PM-2BC10-R0.25-M05		0,25	0,5	4	0,59	0,5	5	50	1	1,5	2	○
PM-2BC15-R0.25-M03		0,25	0,5	4	0,54	0,5	3	50	1,5	1,5	2	○
PM-2BC15-R0.25-M05		0,25	0,5	4	0,65	0,5	5	50	1,5	1,5	2	○
PM-2BC05-R0.30-M05		0,3	0,6	4	0,62	0,6	5	50	0,5	1,6	2	○
PM-2BC05-R0.30-M08		0,3	0,6	4	0,68	0,6	8	50	0,5	1,6	2	○
PM-2BC10-R0.30-M05		0,3	0,6	4	0,68	0,6	5	50	1	1,6	2	○
PM-2BC10-R0.30-M08		0,3	0,6	4	0,79	0,6	8	50	1	1,6	2	○
PM-2BC10-R0.30-M10		0,3	0,6	4	0,86	0,6	10	50	1	1,6	2	○
PM-2BC10-R0.30-M12		0,3	0,6	4	0,93	0,6	12	50	1	1,6	2	○
PM-2BC10-R0.30-M15		0,3	0,6	4	1,03	0,6	15	50	1	1,6	2	○
PM-2BC15-R0.30-M05		0,3	0,6	4	0,74	0,6	5	50	1,5	1,6	2	○
PM-2BC15-R0.30-M08		0,3	0,6	4	0,9	0,6	8	50	1,5	1,6	2	○
PM-2BC05-R0.40-M08		0,4	0,8	4	0,87	0,8	8	50	0,5	1,8	2	○
PM-2BC10-R0.40-M08		0,4	0,8	4	0,98	0,8	8	50	1	1,8	2	○
PM-2BC15-R0.40-M08		0,4	0,8	4	1,09	0,8	8	50	1,5	1,8	2	○
PM-2BC05-R0.40-M12		0,4	0,8	4	0,94	0,8	12	60	0,5	1,8	2	○
PM-2BC10-R0.40-M12		0,4	0,8	4	1,12	0,8	12	60	1	1,8	2	○
PM-2BC15-R0.40-M12		0,4	0,8	4	1,3	0,8	12	60	1,5	1,8	2	○
PM-2BC05-R0.50-M10		0,5	1	6	1,08	1	10	60	0,5	2,5	2	○
PM-2BC05-R0.50-M15		0,5	1	6	1,16	1	15	60	0,5	2,5	2	○
PM-2BC10-R0.50-M10		0,5	1	6	1,21	1	10	60	1	2,5	2	○
PM-2BC10-R0.50-M15		0,5	1	6	1,38	1	15	60	1	2,5	2	○
PM-2BC15-R0.50-M10		0,5	1	6	1,34	1	10	60	1,5	2,5	2	○
PM-2BC15-R0.50-M15		0,5	1	6	1,6	1	15	60	1,5	2,5	2	○
PM-2BC20-R0.50-M15		0,5	1	6	1,82	1	15	60	2	2,5	2	○
PM-2BC05-R0.50-M20		0,5	1	6	1,25	1	20	70	0,5	2,5	2	○
PM-2BC05-R0.50-M25		0,5	1	6	1,34	1	25	70	0,5	2,5	2	○
PM-2BC05-R0.50-M30		0,5	1	6	1,42	1	30	70	0,5	2,5	2	○
PM-2BC10-R0.50-M20		0,5	1	6	1,56	1	20	70	1	2,5	2	○
PM-2BC10-R0.50-M25		0,5	1	6	1,73	1	25	70	1	2,5	2	○
PM-2BC10-R0.50-M30		0,5	1	6	1,91	1	30	70	1	2,5	2	○
PM-2BC15-R0.50-M20		0,5	1	6	1,86	1	20	70	1,5	2,5	2	○
PM-2BC20-R0.50-M20		0,5	1	6	2,17	1	20	70	2	2,5	2	○
PM-2BC30-R0.50-M20		0,5	1	6	2,78	1	20	70	3	2,5	2	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

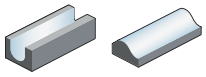
✔ Molto adatto
✔ Adatto

Codice sistema B362 | Dati di taglio B582 | Ordine utensili speciali B633

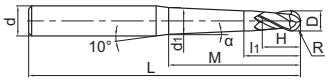
Frese a testa sferica collo conico

Lavorazione ad alte prestazioni

PM-2BC



– Codolo cilindrico
– taglio al centro
– Angolo di inclinazione dell'elica 30°



Articolo	✻	Dimensioni [mm] R	D	d (h6)	d_1	H	M	L	α	l_1	Denti	Grado KMG405
PM-2BC50-R0.50-M20		0,5	1	6	4,01	1	20	70	5	2,5	2	○
PM-2BC10-R0.50-M35		0,5	1	6	2,08	1	35	80	1	2,5	2	○
PM-2BC05-R0.60-M12		0,6	1,2	6	1,31	1,2	12	60	0,5	2,7	2	○
PM-2BC10-R0.60-M12		0,6	1,2	6	1,47	1,2	12	60	1	2,7	2	○
PM-2BC15-R0.60-M12		0,6	1,2	6	1,63	1,2	12	60	1,5	2,7	2	○
PM-2BC05-R0.60-M24		0,6	1,2	6	1,52	1,2	24	70	0,5	2,7	2	○
PM-2BC10-R0.60-M24		0,6	1,2	6	1,89	1,2	24	70	1	2,7	2	○
PM-2BC15-R0.60-M24		0,6	1,2	6	2,26	1,2	24	70	1,5	2,7	2	○
PM-2BC05-R0.75-M10		0,75	1,5	6	1,57	1,5	10	60	0,5	3	2	○
PM-2BC05-R0.75-M15		0,75	1,5	6	1,65	1,5	15	60	0,5	3	2	○
PM-2BC10-R0.75-M10		0,75	1,5	6	1,69	1,5	10	60	1	3	2	○
PM-2BC10-R0.75-M15		0,75	1,5	6	1,86	1,5	15	60	1	3	2	○
PM-2BC15-R0.75-M10		0,75	1,5	6	1,81	1,5	10	60	1,5	3	2	○
PM-2BC15-R0.75-M15		0,75	1,5	6	2,07	1,5	15	60	1,5	3	2	○
PM-2BC05-R0.75-M30		0,75	1,5	6	1,92	1,5	30	70	0,5	3	2	○
PM-2BC10-R0.75-M20		0,75	1,5	6	2,04	1,5	20	70	1	3	2	○
PM-2BC10-R0.75-M30		0,75	1,5	6	2,39	1,5	30	70	1	3	2	○
PM-2BC15-R0.75-M30		0,75	1,5	6	2,86	1,5	30	70	1,5	3	2	○
PM-2BC05-R1.0-M20		1	2	6	2,18	2	20	60	0,5	4	2	○
PM-2BC10-R1.0-M20		1	2	6	2,46	2	20	60	1	4	2	○
PM-2BC10-R1.0-M25		1	2	6	2,64	2	25	60	1	4	2	○
PM-2BC15-R1.0-M20		1	2	6	2,74	2	20	60	1,5	4	2	○
PM-2BC05-R1.0-M30		1	2	6	2,36	2	30	70	0,5	4	2	○
PM-2BC10-R1.0-M30		1	2	6	2,81	2	30	70	1	4	2	○
PM-2BC15-R1.0-M30		1	2	6	3,27	2	30	70	1,5	4	2	○
PM-2BC20-R1.0-M30		1	2	6	3,72	2	30	70	2	4	2	○
PM-2BC30-R1.0-M30		1	2	6	4,63	2	30	70	3	4	2	○
PM-2BC05-R1.0-M40		1	2	6	2,53	2	40	80	0,5	4	2	○
PM-2BC10-R1.0-M35		1	2	6	2,99	2	35	80	1	4	2	○
PM-2BC10-R1.0-M40		1	2	6	3,16	2	40	80	1	4	2	○
PM-2BC15-R1.0-M40		1	2	6	3,79	2	40	80	1,5	4	2	○
PM-2BC20-R1.0-M40		1	2	6	4,42	2	40	80	2	4	2	○
PM-2BC30-R1.0-M40		1	2	6	5,68	2	40	80	3	4	2	○
PM-2BC10-R1.0-M50		1	2	6	3,51	2	50	90	1	4	2	○
PM-2BC05-R1.5-M30		1,5	3	6	3,32	3	30	70	0,5	6	2	○
PM-2BC10-R1.5-M30		1,5	3	6	3,74	3	30	70	1	6	2	○
PM-2BC15-R1.5-M30		1,5	3	6	4,16	3	30	70	1,5	6	2	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

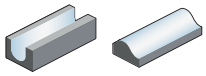
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

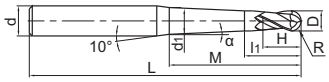
Frese a testa sferica collo conico

Lavorazione ad alte prestazioni

PM-2BC



– Codolo cilindrico
– taglio al centro
– Angolo di inclinazione dell'elica 30°



Articolo	✻	Dimensioni [mm]									Denti	Grado
		R	D	d (h6)	d_1	H	M	L	α	l_1		KMG405
PM-2BC05-R1.5-M40		1,5	3	6	3,5	3	40	80	0,5	6	2	○
PM-2BC10-R1.5-M40		1,5	3	6	4,09	3	40	80	1	6	2	○
PM-2BC15-R1.5-M40		1,5	3	6	4,69	3	40	80	1,5	6	2	○
PM-2BC05-R1.5-M50		1,5	3	6	3,67	3	50	90	0,5	6	2	○
PM-2BC10-R1.5-M50		1,5	3	6	4,44	3	50	90	1	6	2	○
PM-2BC15-R1.5-M50		1,5	3	6	5,21	3	50	90	1,5	6	2	○
PM-2BC05-R2.0-M60		2	4	6	4,83	4	60	110	0,5	7	2	○
PM-2BC10-R2.0-M60		2	4	6	5,76	4	60	110	1	7	2	○

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

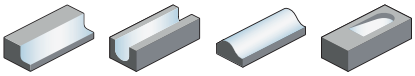
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

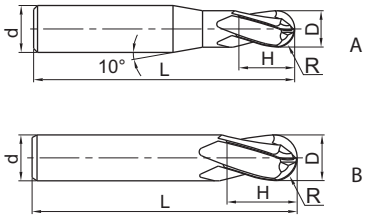
Frese a testa sferica

Lavorazione ad alte prestazioni

PM-4B



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 30°



Articolo	✻	Dimensioni [mm] R	D	d (h6)	H	L	Denti	Geometria	Grado KMG405
PM-4B-R1.5		1,5	3	6	6	50	4	A	●
PM-4B-R2.0		2	4	6	8	50	4	A	●
PM-4B-R2.5		2,5	5	6	10	50	4	A	●
PM-4B-R3.0		3	6	6	12	50	4	B	●
PM-4B-R4.0		4	8	8	16	60	4	B	●
PM-4B-R5.0		5	10	10	20	75	4	B	●
PM-4B-R6.0		6	12	12	24	75	4	B	●
PM-4B-R7.0		7	14	14	28	75	4	B	●
PM-4B-R8.0		8	16	16	32	100	4	B	●
PM-4B-R9.0		9	18	18	36	100	4	B	●
PM-4B-R10.0		10	20	20	40	100	4	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

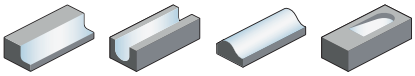
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

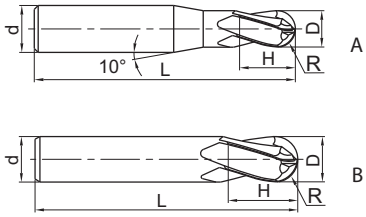
Frese a testa sferica codolo lungo

Lavorazione ad alte prestazioni

PM-4BL



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 30°



Articolo	✻	Dimensioni [mm]					Denti	Geometria	Grado
		R	D	d (h6)	H	L			KMG405
PM-4BL-R1.5		1,5	3	6	6	75	4	A	●
PM-4BL-R2.0		2	4	6	8	75	4	A	●
PM-4BL-R2.5		2,5	5	6	10	75	4	A	●
PM-4BL-R3.0		3	6	6	12	75	4	B	●
PM-4BL-R4.0		4	8	8	16	100	4	B	●
PM-4BL-R5.0		5	10	10	20	100	4	B	●
PM-4BL-R6.0		6	12	12	24	100	4	B	●
PM-4BL-R7.0		7	14	14	28	100	4	B	●
PM-4BL-R8.0		8	16	16	32	150	4	B	●
PM-4BL-R9.0		9	18	18	36	150	4	B	●
PM-4BL-R10.0		10	20	20	40	150	4	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

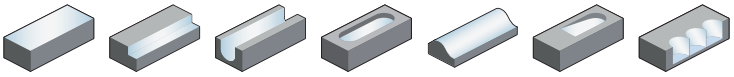
P	M	K	N	S	H
✔	✔	✔			✔

✔ Molto adatto
✔ Adatto

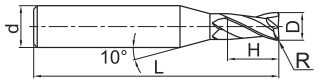
Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

Frese toroidali — Lavorazione ad alte prestazioni

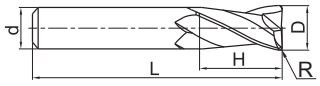
PM-2R



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 30°



A



B

Articolo	✻	Dimensioni [mm] R	D	d (h6)	H	L	Denti	Geometria	Grado KMG405
PM-2R-D1.0R0.2		0,2	1	4	3	50	2	A	●
PM-2R-D1.5R0.2		0,2	1,5	4	4	50	2	A	●
PM-2R-D2.0R0.2		0,2	2	4	6	50	2	A	●
PM-2R-D2.0R0.5		0,5	2	4	6	50	2	A	●
PM-2R-D2.5R0.2		0,2	2,5	4	8	50	2	A	●
PM-2R-D2.5R0.5		0,5	2,5	4	8	50	2	A	●
PM-2R-D3.0R0.2		0,2	3	4	8	50	2	A	●
PM-2R-D3.0R0.3		0,3	3	4	8	50	2	A	○
PM-2R-D3.0R0.5		0,5	3	4	8	50	2	A	●
PM-2R-D4.0R0.2		0,2	4	4	11	50	2	B	●
PM-2R-D4.0R0.3		0,3	4	4	11	50	2	B	●
PM-2R-D4.0R0.5		0,5	4	4	11	50	2	B	●
PM-2R-D4.0R1.0		1	4	4	11	50	2	B	●
PM-2R-D5.0R0.3		0,3	5	6	13	50	2	A	○
PM-2R-D5.0R0.5		0,5	5	6	13	50	2	A	●
PM-2R-D5.0R1.0		1	5	6	13	50	2	A	●
PM-2R-D6.0R0.3		0,3	6	6	16	50	2	B	●
PM-2R-D6.0R0.5		0,5	6	6	16	50	2	B	●
PM-2R-D6.0R1.0		1	6	6	16	50	2	B	●
PM-2R-D8.0R0.3		0,3	8	8	20	60	2	B	○
PM-2R-D8.0R0.5		0,5	8	8	20	60	2	B	●
PM-2R-D8.0R1.0		1	8	8	20	60	2	B	●
PM-2R-D10.0R0.5		0,5	10	10	25	75	2	B	●
PM-2R-D10.0R1.0		1	10	10	25	75	2	B	●
PM-2R-D10.0R1.5		1,5	10	10	25	75	2	B	●
PM-2R-D10.0R2.0		2	10	10	25	75	2	B	●
PM-2R-D12.0R0.5		0,5	12	12	30	75	2	B	●
PM-2R-D12.0R1.0		1	12	12	30	75	2	B	●
PM-2R-D12.0R1.5		1,5	12	12	30	75	2	B	●
PM-2R-D12.0R2.0		2	12	12	30	75	2	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

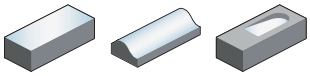
✔ Molto adatto
✔ Adatto

Codice sistema B362 | Dati di taglio B582 | Ordine utensili speciali B633

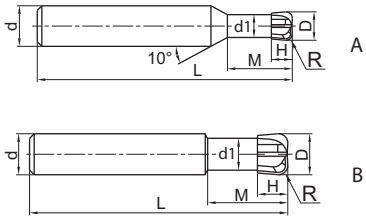
Frese a candela

Lavorazione ad alte prestazioni

PM-4H



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 0°



Articolo	✻	Dimensioni [mm]							Denti	Geometria	Grado
		R	D	d (h6)	d_1	H	M	L			KMG405
PM-4H-D3.0R0.8		0,8	3	6	2,7	1,2	8	50	4	A	●
PM-4H-D4.0R1.0		1	4	6	3,6	1,6	10	50	4	A	●
PM-4H-D5.0R1.2		1,2	5	6	4,5	2	12,5	50	4	A	●
PM-4H-D6.0R1.0		1	6	6	5,4	2,5	12	50	4	B	●
PM-4H-D6.0R1.5		1,5	6	6	5,4	2,5	12	50	4	B	●
PM-4H-D6.0R2.0		2	6	6	5,4	2,5	12	50	4	B	●
PM-4H-D8.0R1.0		1	8	8	7	3,5	16	60	4	B	●
PM-4H-D8.0R2.0		2	8	8	7	3,5	16	60	4	B	●
PM-4H-D10.0R1.0		1	10	10	9	4	20	75	4	B	●
PM-4H-D10.0R2.0		2	10	10	9	4	20	75	4	B	●
PM-4H-D10.0R3.0		3	10	10	9	4	20	75	4	B	●
PM-4H-D12.0R2.0		2	12	12	11	5	24	75	4	B	●
PM-4H-D12.0R3.0		3	12	12	11	5	24	75	4	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

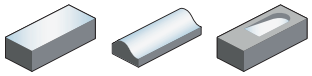
✔ Molto adatto
✔ Adatto

Codice sistema B362 | Dati di taglio B582 | Ordine utensili speciali B633

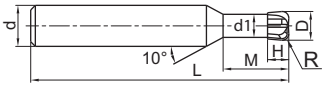
Frese a candela codolo lungo

Lavorazione ad alte prestazioni

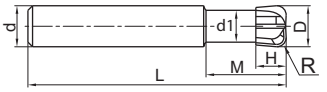
PM-4HL



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 0°



A



B

Articolo	✻	Dimensioni [mm]							Denti	Geometria	Grado
		R	D	d (h6)	d_1	H	M	L			KMG405
PM-4HL-D4.0R1.0		1	4	6	3,6	1,6	10	75	4	A	●
PM-4HL-D5.0R1.2		1,2	5	6	4,5	2	12,5	75	4	A	●
PM-4HL-D6.0R1.0		1	6	6	5,4	2,5	12	75	4	B	●
PM-4HL-D6.0R1.5		1,5	6	6	5,4	2,5	12	75	4	B	●
PM-4HL-D6.0R2.0		2	6	6	5,4	2,5	12	75	4	B	●
PM-4HL-D8.0R1.0		1	8	8	7	3,5	16	100	4	B	●
PM-4HL-D8.0R2.0		2	8	8	7	3,5	16	100	4	B	●
PM-4HL-D10.0R1.0		1	10	10	9	4	20	100	4	B	●
PM-4HL-D10.0R2.0		2	10	10	9	4	20	100	4	B	●
PM-4HL-D10.0R3.0		3	10	10	9	4	20	100	4	B	●
PM-4HL-D12.0R2.0		2	12	12	11	5	24	100	4	B	●
PM-4HL-D12.0R3.0		3	12	12	11	5	24	100	4	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

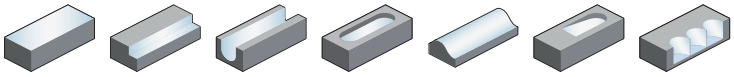
P	M	K	N	S	H
✔✔	✔✔	✔✔			✔

✔✔ Molto adatto
✔ Adatto

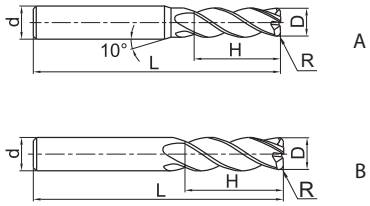
Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

Frese toroidali — Lavorazione ad alte prestazioni

PM-4R



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 30°



Articolo	✻	Dimensioni [mm] R	D	d (h6)	H	L	Denti	Geometria	Grado KMG405
PM-4R-D3.0R0.2		0,2	3	6	8	50	4	A	●
PM-4R-D3.0-R0.5		0,5	3	6	8	50	4	A	●
PM-4R-D4.0R0.3		0,3	4	6	10	50	4	A	●
PM-4R-D4.0R0.5		0,5	4	6	10	50	4	A	●
PM-4R-D5.0R0.5		0,5	5	6	13	50	4	A	●
PM-4R-D5.0R1.0		1	5	6	13	50	4	A	●
PM-4R-D6.0R0.5		0,5	6	6	16	50	4	B	●
PM-4R-D6.0R1.0		1	6	6	16	50	4	B	●
PM-4R-D8.0R0.5		0,5	8	8	20	60	4	B	●
PM-4R-D8.0R1.0		1	8	8	20	60	4	B	●
PM-4R-D10.0R0.5		0,5	10	10	25	75	4	B	●
PM-4R-D10.0R1.0		1	10	10	25	75	4	B	●
PM-4R-D10.0R2.0		2	10	10	25	75	4	B	●
PM-4R-D10.0R3.0		3	10	10	25	75	4	B	●
PM-4R-D12.0R0.5		0,5	12	12	30	75	4	B	●
PM-4R-D12.0R1.0		1	12	12	30	75	4	B	●
PM-4R-D12.0R2.0		2	12	12	30	75	4	B	●
PM-4R-D12.0R3.0		3	12	12	30	75	4	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

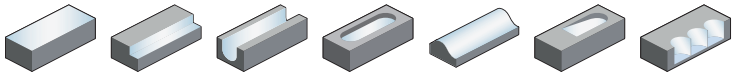
✔ Molto adatto
✔ Adatto

Codice sistema B362 | Dati di taglio B582 | Ordine utensili speciali B633

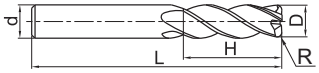
Frese toroidali codolo lungo

Lavorazione ad alte prestazioni

PM-4RL



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 30°



Articolo	✻	Dimensioni [mm]					Denti	Grado
		R	D	d (h6)	H	L		KMG405
PM-4RL-D6.0R0.5		0,5	6	6	16	75	4	●
PM-4RL-D6.0R1.0		1	6	6	16	75	4	●
PM-4RL-D8.0R0.5		0,5	8	8	20	100	4	●
PM-4RL-D8.0R1.0		1	8	8	20	100	4	○
PM-4RL-D10.0R0.5		0,5	10	10	25	100	4	○
PM-4RL-D10.0R1.0		1	10	10	25	100	4	●
PM-4RL-D10.0R2.0		2	10	10	25	100	4	●
PM-4RL-D12.0R0.5		0,5	12	12	30	100	4	●
PM-4RL-D12.0R1.0		1	12	12	30	100	4	●
PM-4RL-D12.0R2.0		2	12	12	30	100	4	●
PM-4RL-D16.0R1.0		1	16	16	45	150	4	●
PM-4RL-D16.0R2.0		2	16	16	45	150	4	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

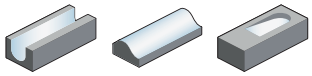
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

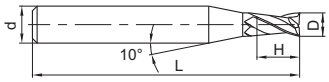
Frese a candela

Lavorazione ad alte prestazioni

PM-2ES



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 35°



Articolo	✻	Dimensioni [mm] D	d (h5)	H	L	Denti	Grado KMG405
PM-2ES-D0.3		0,3	4	0,6	50	2	●
PM-2ES-D0.4		0,4	4	0,8	50	2	●
PM-2ES-D0.5		0,5	4	1	50	2	●
PM-2ES-D0.6		0,6	4	1,2	50	2	●
PM-2ES-D0.7		0,7	4	1,4	50	2	●
PM-2ES-D0.8		0,8	4	1,6	50	2	●
PM-2ES-D0.9		0,9	4	1,8	50	2	○
PM-2ES-D1.0		1	4	2	50	2	●
PM-2ES-D1.1		1,1	4	2	50	2	○
PM-2ES-D1.2		1,2	4	2,5	50	2	●
PM-2ES-D1.3		1,3	4	2,5	50	2	●
PM-2ES-D1.4		1,4	4	3	50	2	●
PM-2ES-D1.5		1,5	4	3	50	2	●
PM-2ES-D1.6		1,6	4	3,5	50	2	●
PM-2ES-D1.7		1,7	4	3,5	50	2	●
PM-2ES-D1.8		1,8	4	4	50	2	●
PM-2ES-D1.9		1,9	4	4	50	2	○
PM-2ES-D2.0		2	4	4	50	2	●
PM-2ES-D2.1		2,1	4	4	50	2	●
PM-2ES-D2.2		2,2	4	4,5	50	2	●
PM-2ES-D2.3		2,3	4	4,5	50	2	●
PM-2ES-D2.4		2,4	4	5	50	2	●
PM-2ES-D2.5		2,5	4	5	50	2	●
PM-2ES-D2.6		2,6	4	5	50	2	○
PM-2ES-D2.7		2,7	4	5,5	50	2	○
PM-2ES-D2.8		2,8	4	5,5	50	2	○
PM-2ES-D2.9		2,9	4	6	50	2	○
PM-2ES-D3.0		3	4	6	50	2	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

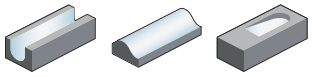
✔ Molto adatto
✔ Adatto

Codice sistema B362 | Dati di taglio B582 | Ordine utensili speciali B633

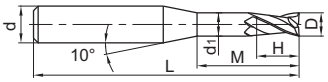
Frese a candela

Lavorazione ad alte prestazioni

PM-2EP



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 35°



Articolo	✻	Dimensioni [mm] D	d (h5)	d_1	H	M	L	Denti	Grado KMG405
PM-2EP-D0.5-M08		0,5	4	0,45	0,7	8	50	2	○
PM-2EP-D0.5-M06		0,5	4	0,45	0,7	6	50	2	●
PM-2EP-D0.5-M04		0,5	4	0,45	0,6	4	50	2	●
PM-2EP-D0.8-M06		0,8	4	0,75	1,2	6	50	2	○
PM-2EP-D0.8-M10		0,8	4	0,75	1,2	10	50	2	○
PM-2EP-D0.8-M04		0,8	4	0,75	1,2	4	50	2	●
PM-2EP-D0.8-M08		0,8	4	0,75	1,2	8	50	2	○
PM-2EP-D1.0-M10		1	4	0,95	1,5	10	50	2	●
PM-2EP-D1.0-M12		1	4	0,95	1,5	12	50	2	●
PM-2EP-D1.0-M04		1	4	0,95	1,5	4	50	2	●
PM-2EP-D1.0-M06		1	4	0,95	1,5	6	50	2	●
PM-2EP-D1.0-M08		1	4	0,95	1,5	8	50	2	●
PM-2EP-D1.0-M20		1	4	0,95	1,5	20	50	2	●
PM-2EP-D1.0-M14		1	4	0,95	1,5	14	50	2	●
PM-2EP-D1.0-M16		1	4	0,95	1,5	16	50	2	●
PM-2EP-D1.2-M16		1,2	4	1,15	1,8	16	50	2	○
PM-2EP-D1.2-M12		1,2	4	1,15	1,8	12	50	2	○
PM-2EP-D1.2-M06		1,2	4	1,15	1,8	6	50	2	●
PM-2EP-D1.2-M10		1,2	4	1,15	1,8	10	50	2	○
PM-2EP-D1.2-M08		1,2	4	1,15	1,8	8	50	2	○
PM-2EP-D1.5-M08		1,5	4	1,45	2,3	8	50	2	●
PM-2EP-D1.5-M16		1,5	4	1,45	2,3	16	50	2	●
PM-2EP-D1.5-M14		1,5	4	1,45	2,3	14	50	2	●
PM-2EP-D1.5-M20		1,5	4	1,45	2,3	20	50	2	●
PM-2EP-D1.5-M06		1,5	4	1,45	2,3	6	50	2	●
PM-2EP-D1.5-M10		1,5	4	1,45	2,3	10	50	2	●
PM-2EP-D1.5-M18		1,5	4	1,45	2,3	18	50	2	●
PM-2EP-D1.5-M12		1,5	4	1,45	2,3	12	50	2	●
PM-2EP-D2.0-M12		2	4	1,95	3	12	50	2	●
PM-2EP-D2.0-M18		2	4	1,95	3	18	50	2	●
PM-2EP-D2.0-M08		2	4	1,95	3	8	50	2	●
PM-2EP-D2.0-M14		2	4	1,95	3	14	50	2	●
PM-2EP-D2.0-M06		2	4	1,95	3	6	50	2	●
PM-2EP-D2.0-M20		2	4	1,95	3	20	50	2	●
PM-2EP-D2.0-M10		2	4	1,95	3	10	50	2	●
PM-2EP-D2.0-M16		2	4	1,95	3	16	50	2	●
PM-2EP-D2.5-M20		2,5	4	2,4	3,7	20	60	2	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

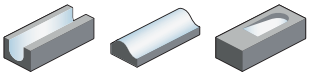
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

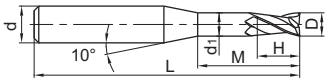
Frese a candela

Lavorazione ad alte prestazioni

PM-2EP



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 35°



Articolo	✻	Dimensioni [mm] D	d (h5)	d_1	H	M	L	Denti	Grado KMG405
PM-2EP-D2.5-M14		2,5	4	2,4	3,7	14	50	2	○
PM-2EP-D2.5-M10		2,5	4	2,4	3,7	10	50	2	○
PM-2EP-D2.5-M18		2,5	4	2,4	3,7	18	60	2	○
PM-2EP-D2.5-M16		2,5	4	2,4	3,7	16	60	2	○
PM-2EP-D2.5-M08		2,5	4	2,4	3,7	8	50	2	●
PM-2EP-D2.5-M12		2,5	4	2,4	3,7	12	50	2	○
PM-2EP-D3.0-M06		3	6	2,85	4,5	6	50	2	○
PM-2EP-D3.0-M16		3	6	2,85	4,5	16	60	2	●
PM-2EP-D3.0-M12		3	6	2,85	4,5	12	50	2	●
PM-2EP-D3.0-M20		3	6	2,85	4,5	20	60	2	●
PM-2EP-D3.0-M14		3	6	2,85	4,5	14	60	2	○
PM-2EP-D3.0-M10		3	6	2,85	4,5	10	50	2	●
PM-2EP-D3.0-M18		3	6	2,85	4,5	18	60	2	○
PM-2EP-D3.0-M08		3	6	2,85	4,5	8	50	2	○
PM-2EP-D4.0-M14		4	6	3,85	6	14	60	2	○
PM-2EP-D4.0-M12		4	6	3,85	6	12	50	2	●
PM-2EP-D4.0-M25		4	6	3,85	6	25	60	2	●
PM-2EP-D4.0-M16		4	6	3,85	6	16	60	2	○
PM-2EP-D4.0-M20		4	6	3,85	6	20	60	2	●
PM-2EP-D5.0-M14		5	6	4,85	7,5	14	60	2	●
PM-2EP-D5.0-M12		5	6	4,85	7,5	12	60	2	●
PM-2EP-D5.0-M16		5	6	4,85	7,5	16	60	2	●
PM-2EP-D5.0-M20		5	6	4,85	7,5	20	70	2	●
PM-2EP-D5.0-M25		5	6	4,85	7,5	25	70	2	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

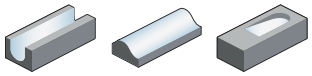
✔ Molto adatto
✔ Adatto

Codice sistema B362 | Dati di taglio B582 | Ordine utensili speciali B633

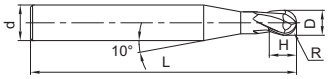
Frese a testa sferica

Lavorazione ad alte prestazioni

PM-2BS



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 35°



Articolo	✻	Dimensioni [mm] R	D	d (h5)	H	L	Denti	Grado KMG405
PM-2BS-R0.15		0,15	0,3	4	0,5	50	2	●
PM-2BS-R0.20		0,2	0,4	4	0,6	50	2	●
PM-2BS-R0.25		0,25	0,5	4	0,8	50	2	●
PM-2BS-R0.30		0,3	0,6	4	0,9	50	2	●
PM-2BS-R0.35		0,35	0,7	4	1	50	2	○
PM-2BS-R0.40		0,4	0,8	4	1,2	50	2	●
PM-2BS-R0.45		0,45	0,9	4	1,3	50	2	○
PM-2BS-R0.50		0,5	1	4	1,5	50	2	●
PM-2BS-R0.60		0,6	1,2	4	1,8	50	2	●
PM-2BS-R0.70		0,7	1,4	4	2	50	2	○
PM-2BS-R0.75		0,75	1,5	4	2,3	50	2	●
PM-2BS-R0.80		0,8	1,6	4	2,5	50	2	○
PM-2BS-R0.90		0,9	1,8	4	2,7	50	2	○
PM-2BS-R1.00		1	2	4	3	50	2	●
PM-2BS-R1.25		1,25	2,5	4	3,7	50	2	○
PM-2BS-R1.50		1,5	3	4	4,5	50	2	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

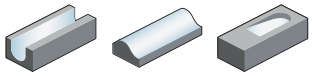
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

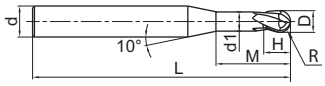
Frese a testa sferica

Lavorazione ad alte prestazioni

PM-2BP



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 35°



Articolo	✻	Dimensioni [mm]							Denti	Grado
		R	D	d (h5)	d_1	H	M	L		KMG405
PM-2BP-R0.25-M04		0,25	0,5	4	0,45	0,7	4	50	2	●
PM-2BP-R0.25-M06		0,25	0,5	4	0,45	0,7	6	50	2	●
PM-2BP-R0.3-M04		0,3	0,6	4	0,55	0,9	4	50	2	●
PM-2BP-R0.3-M06		0,3	0,6	4	0,55	0,9	6	50	2	●
PM-2BP-R0.3-M08		0,3	0,6	4	0,55	0,9	8	50	2	●
PM-2BP-R0.4-M04		0,4	0,8	4	0,75	1,2	4	50	2	●
PM-2BP-R0.4-M06		0,4	0,8	4	0,75	1,2	6	50	2	●
PM-2BP-R0.4-M08		0,4	0,8	4	0,75	1,2	8	50	2	●
PM-2BP-R0.4-M10		0,4	0,8	4	0,75	1,2	10	50	2	●
PM-2BP-R0.5-M04		0,5	1	4	0,95	1,5	4	50	2	●
PM-2BP-R0.5-M06		0,5	1	4	0,95	1,5	6	50	2	●
PM-2BP-R0.5-M08		0,5	1	4	0,95	1,5	8	50	2	●
PM-2BP-R0.5-M10		0,5	1	4	0,95	1,5	10	50	2	●
PM-2BP-R0.5-M12		0,5	1	4	0,95	1,5	12	50	2	●
PM-2BP-R0.5-M15		0,5	1	4	0,95	1,5	15	50	2	○
PM-2BP-R0.6-M06		0,6	1,2	4	1,15	1,8	6	50	2	●
PM-2BP-R0.6-M08		0,6	1,2	4	1,15	1,8	8	50	2	○
PM-2BP-R0.6-M12		0,6	1,2	4	1,15	1,8	12	50	2	○
PM-2BP-R0.6-M16		0,6	1,2	4	1,15	1,8	16	50	2	○
PM-2BP-R0.75-M06		0,75	1,5	4	1,45	2,3	6	50	2	○
PM-2BP-R0.75-M08		0,75	1,5	4	1,45	2,3	8	50	2	●
PM-2BP-R0.75-M12		0,75	1,5	4	1,45	2,3	12	50	2	●
PM-2BP-R0.75-M16		0,75	1,5	4	1,45	2,3	16	50	2	●
PM-2BP-R1.0-M06		1	2	4	1,95	3	6	50	2	●
PM-2BP-R1.0-M08		1	2	4	1,95	3	8	50	2	●
PM-2BP-R1.0-M10		1	2	4	1,95	3	10	50	2	●
PM-2BP-R1.0-M12		1	2	4	1,95	3	12	50	2	●
PM-2BP-R1.0-M16		1	2	4	1,95	3	16	50	2	●
PM-2BP-R1.0-M20		1	2	4	1,95	3	20	50	2	●
PM-2BP-R1.25-M08		1,25	2,5	4	2,4	3,7	8	50	2	○
PM-2BP-R1.25-M10		1,25	2,5	4	2,4	3,7	10	50	2	○
PM-2BP-R1.25-M12		1,25	2,5	4	2,4	3,7	12	50	2	●
PM-2BP-R1.25-M16		1,25	2,5	4	2,4	3,7	16	60	2	○
PM-2BP-R1.25-M20		1,25	2,5	4	2,4	3,7	20	60	2	○
PM-2BP-R1.5-M08		1,5	3	6	2,85	4,5	8	50	2	●
PM-2BP-R1.5-M10		1,5	3	6	2,85	4,5	10	50	2	●
PM-2BP-R1.5-M12		1,5	3	6	2,85	4,5	12	50	2	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

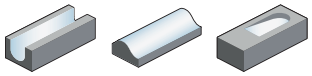
✔ Molto adatto
✔ Adatto

Codice sistema B362 | Dati di taglio B582 | Ordine utensili speciali B633

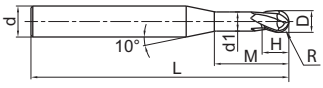
Frese a testa sferica

Lavorazione ad alte prestazioni

PM-2BP



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 35°



Articolo	✻	Dimensioni [mm]							Denti	Grado
		R	D	d (h5)	d_1	H	M	L		KMG405
PM-2BP-R1.5-M16		1,5	3	6	2,85	4,5	16	60	2	●
PM-2BP-R1.5-M20		1,5	3	6	2,85	4,5	20	60	2	●
PM-2BP-R2.0-M10		2	4	6	3,85	6	10	60	2	●
PM-2BP-R2.0-M16		2	4	6	3,85	6	16	60	2	●
PM-2BP-R2.0-M20		2	4	6	3,85	6	20	60	2	●
PM-2BP-R2.0-M25		2	4	6	3,85	6		60	2	○
PM-2BP-R2.5-M16		2,5	5	6	4,85	7,5	16	60	2	●
PM-2BP-R2.5-M25		2,5	5	6	4,85	7,5	25	70	2	●

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Campo di applicazione

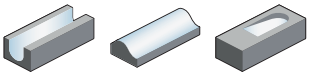
P	M	K	N	S	H
✔	✔	✔			✔

✔ Molto adatto
✔ Adatto

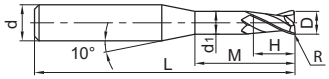
Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

Frese toroidali | Lavorazione ad alte prestazioni

PM-2RP



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 35°



Articolo	✻	Dimensioni [mm] R	D	d (h5)	d_1	H	M	L	Denti	Grado KMG405
PM-2RP-D0.5-R0.05-M04		0,05	0,5	4	0,45	0,6	4	50	2	●
PM-2RP-D0.5-R0.1-M04		0,1	0,5	4	0,45	0,6	4	50	2	●
PM-2RP-D0.5-R0.05-M06		0,05	0,5	4	0,45	0,7	6	50	2	●
PM-2RP-D0.5-R0.1-M06		0,1	0,5	4	0,45	0,7	6	50	2	●
PM-2RP-D0.5-R0.05-M08		0,05	0,5	4	0,45	0,7	8	50	2	○
PM-2RP-D0.5-R0.1-M08		0,1	0,5	4	0,45	0,7	8	50	2	○
PM-2RP-D0.8-R0.1-M04		0,1	0,8	4	0,75	1,2	4	50	2	●
PM-2RP-D0.8-R0.2-M04		0,2	0,8	4	0,75	1,2	4	50	2	●
PM-2RP-D0.8-R0.1-M06		0,1	0,8	4	0,75	1,2	6	50	2	●
PM-2RP-D0.8-R0.2-M06		0,2	0,8	4	0,75	1,2	6	50	2	●
PM-2RP-D0.8-R0.1-M08		0,1	0,8	4	0,75	1,2	8	50	2	●
PM-2RP-D0.8-R0.2-M08		0,2	0,8	4	0,75	1,2	8	50	2	●
PM-2RP-D0.8-R0.1-M10		0,1	0,8	4	0,75	1,2	10	50	2	○
PM-2RP-D0.8-R0.2-M10		0,2	0,8	4	0,75	1,2	10	50	2	○
PM-2RP-D1.0-R0.1-M04		0,1	1	4	0,95	1,5	4	50	2	●
PM-2RP-D1.0-R0.2-M04		0,2	1	4	0,95	1,5	4	50	2	●
PM-2RP-D1.0-R0.3-M04		0,3	1	4	0,95	1,5	4	50	2	●
PM-2RP-D1.0-R0.1-M06		0,1	1	4	0,95	1,5	6	50	2	●
PM-2RP-D1.0-R0.2-M06		0,2	1	4	0,95	1,5	6	50	2	●
PM-2RP-D1.0-R0.3-M06		0,3	1	4	0,95	1,5	6	50	2	●
PM-2RP-D1.0-R0.1-M08		0,1	1	4	0,95	1,5	8	50	2	●
PM-2RP-D1.0-R0.2-M08		0,2	1	4	0,95	1,5	8	50	2	●
PM-2RP-D1.0-R0.3-M08		0,3	1	4	0,95	1,5	8	50	2	●
PM-2RP-D1.0-R0.1-M10		0,1	1	4	0,95	1,5	10	50	2	●
PM-2RP-D1.0-R0.2-M10		0,2	1	4	0,95	1,5	10	50	2	●
PM-2RP-D1.0-R0.3-M10		0,3	1	4	0,95	1,5	10	50	2	●
PM-2RP-D1.0-R0.1-M12		0,1	1	4	0,95	1,5	12	50	2	●
PM-2RP-D1.0-R0.2-M12		0,2	1	4	0,95	1,5	12	50	2	●
PM-2RP-D1.0-R0.3-M12		0,3	1	4	0,95	1,5	12	50	2	●
PM-2RP-D1.0-R0.1-M14		0,1	1	4	0,95	1,5	14	50	2	○
PM-2RP-D1.0-R0.2-M14		0,2	1	4	0,95	1,5	14	50	2	○
PM-2RP-D1.0-R0.1-M16		0,1	1	4	0,95	1,5	16	60	2	●
PM-2RP-D1.0-R0.2-M16		0,2	1	4	0,95	1,5	16	60	2	●
PM-2RP-D1.0-R0.1-M20		0,1	1	4	0,95	1,5	20	60	2	●
PM-2RP-D1.0-R0.2-M20		0,2	1	4	0,95	1,5	20	60	2	●
PM-2RP-D1.2-R0.1-M06		0,1	1,2	4	1,15	1,8	6	50	2	●
PM-2RP-D1.2-R0.2-M06		0,2	1,2	4	1,15	1,8	6	50	2	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

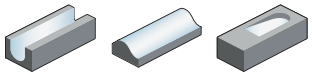
✔ Molto adatto
✔ Adatto

Codice sistema B362 | Dati di taglio B582 | Ordine utensili speciali B633

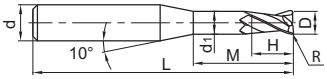
Frese toroidali

Lavorazione ad alte prestazioni

PM-2RP



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 35°



Articolo	✻	Dimensioni [mm] R	D	d (h5)	d_1	H	M	L	Denti	Grado KMG405
PM-2RP-D1.2-R0.1-M08		0,1	1,2	4	1,15	1,8	8	50	2	●
PM-2RP-D1.2-R0.2-M08		0,2	1,2	4	1,15	1,8	8	50	2	●
PM-2RP-D1.2-R0.1-M10		0,1	1,2	4	1,15	1,8	10	50	2	●
PM-2RP-D1.2-R0.2-M10		0,2	1,2	4	1,15	1,8	10	50	2	●
PM-2RP-D1.2-R0.1-M12		0,1	1,2	4	1,15	1,8	12	50	2	●
PM-2RP-D1.2-R0.2-M12		0,2	1,2	4	1,15	1,8	12	50	2	●
PM-2RP-D1.2-R0.1-M16		0,1	1,2	4	1,5	1,8	16	60	2	○
PM-2RP-D1.2-R0.2-M16		0,2	1,2	4	1,5	1,8	16	60	2	○
PM-2RP-D1.5-R0.2-M06		0,2	1,5	4	1,45	2,3	6	50	2	●
PM-2RP-D1.5-R0.3-M06		0,3	1,5	4	1,45	2,3	6	50	2	●
PM-2RP-D1.5-R0.2-M08		0,2	1,5	4	1,45	2,3	8	50	2	●
PM-2RP-D1.5-R0.3-M08		0,3	1,5	4	1,45	2,3	8	50	2	●
PM-2RP-D1.5-R0.2-M10		0,2	1,5	4	1,45	2,3	10	50	2	●
PM-2RP-D1.5-R0.3-M10		0,3	1,5	4	1,45	2,3	10	50	2	●
PM-2RP-D1.5-R0.2-M12		0,2	1,5	4	1,45	2,3	12	50	2	●
PM-2RP-D1.5-R0.3-M12		0,3	1,5	4	1,45	2,3	12	50	2	●
PM-2RP-D1.5-R0.2-M14		0,2	1,5	4	1,45	2,3	14	50	2	○
PM-2RP-D1.5-R0.3-M14		0,3	1,5	4	1,45	2,3	14	50	2	○
PM-2RP-D1.5-R0.2-M16		0,2	1,5	4	1,45	2,3	16	50	2	●
PM-2RP-D1.5-R0.3-M16		0,3	1,5	4	1,45	2,3	16	50	2	●
PM-2RP-D1.5-R0.2-M18		0,2	1,5	4	1,45	2,3	18	50	2	○
PM-2RP-D1.5-R0.3-M18		0,3	1,5	4	1,45	2,3	18	50	2	○
PM-2RP-D1.5-R0.2-M20		0,2	1,5	4	1,45	2,3	20	50	2	○
PM-2RP-D1.5-R0.3-M20		0,3	1,5	4	1,45	2,3	20	50	2	○
PM-2RP-D2.0-R0.2-M06		0,2	2	4	1,95	3	6	50	2	●
PM-2RP-D2.0-R0.5-M06		0,5	2	4	1,95	3	6	50	2	●
PM-2RP-D2.0-R0.2-M08		0,2	2	4	1,95	3	8	50	2	●
PM-2RP-D2.0-R0.5-M08		0,5	2	4	1,95	3	8	50	2	●
PM-2RP-D2.0-R0.2-M10		0,2	2	4	1,95	3	10	50	2	●
PM-2RP-D2.0-R0.5-M10		0,5	2	4	1,95	3	10	50	2	●
PM-2RP-D2.0-R0.2-M12		0,2	2	4	1,95	3	12	50	2	●
PM-2RP-D2.0-R0.5-M12		0,5	2	4	1,95	3	12	50	2	●
PM-2RP-D2.0-R0.2-M14		0,2	2	4	1,95	3	14	50	2	○
PM-2RP-D2.0-R0.5-M14		0,5	2	4	1,95	3	14	50	2	○
PM-2RP-D2.0-R0.2-M16		0,2	2	4	1,95	3	16	50	2	●
PM-2RP-D2.0-R0.5-M16		0,5	2	4	1,95	3	16	50	2	●
PM-2RP-D2.0-R0.2-M18		0,2	2	4	1,96	3	18	50	2	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

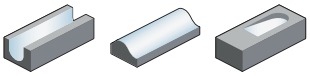
P	M	K	N	S	H
✔	✔	✔			✔

✔ Molto adatto
✔ Adatto

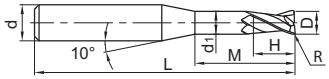
Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

Frese toroidali | Lavorazione ad alte prestazioni

PM-2RP



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 35°



Articolo	✻	Dimensioni [mm] R	D	d (h5)	d_1	H	M	L	Denti	Grado KMG405
PM-2RP-D2.0-R0.5-M18		0,5	2	4	1,96	3	18	50	2	○
PM-2RP-D2.0-R0.2-M20		0,2	2	4	1,97	3	20	50	2	●
PM-2RP-D2.0-R0.5-M20		0,5	2	4	1,97	3	20	50	2	●
PM-2RP-D2.5-R0.2-M08		0,2	2,5	4	2,4	3,7	8	50	2	●
PM-2RP-D2.5-R0.5-M08		0,5	2,5	4	2,4	3,7	8	50	2	●
PM-2RP-D2.5-R0.2-M10		0,2	2,5	4	2,4	3,7	10	50	2	●
PM-2RP-D2.5-R0.5-M10		0,5	2,5	4	2,4	3,7	10	50	2	●
PM-2RP-D2.5-R0.2-M12		0,2	2,5	4	2,4	3,7	12	50	2	○
PM-2RP-D2.5-R0.5-M12		0,5	2,5	4	2,4	3,7	12	50	2	○
PM-2RP-D2.5-R0.2-M14		0,2	2,5	4	2,4	3,7	14	50	2	○
PM-2RP-D2.5-R0.5-M14		0,5	2,5	4	2,4	3,7	14	50	2	○
PM-2RP-D2.5-R0.2-M16		0,2	2,5	4	2,4	3,7	16	60	2	○
PM-2RP-D2.5-R0.5-M16		0,5	2,5	4	2,4	3,7	16	60	2	○
PM-2RP-D2.5-R0.2-M18		0,2	2,5	4	2,4	3,7	18	60	2	○
PM-2RP-D2.5-R0.5-M18		0,5	2,5	4	2,4	3,7	18	60	2	○
PM-2RP-D2.5-R0.2-M20		0,2	2,5	4	2,4	3,7	20	60	2	●
PM-2RP-D2.5-R0.5-M20		0,5	2,5	4	2,4	3,7	20	60	2	●
PM-2RP-D3.0-R0.2-M06		0,2	3	6	2,85	4,5	6	50	2	○
PM-2RP-D3.0-R0.5-M06		0,5	3	6	2,85	4,5	6	50	2	○
PM-2RP-D3.0-R0.2-M08		0,2	3	6	2,85	4,5	8	50	2	●
PM-2RP-D3.0-R0.5-M08		0,5	3	6	2,85	4,5	8	50	2	●
PM-2RP-D3.0-R0.2-M10		0,2	3	6	2,85	4,5	10	50	2	●
PM-2RP-D3.0-R0.5-M10		0,5	3	6	2,85	4,5	10	50	2	●
PM-2RP-D3.0-R0.2-M12		0,2	3	6	2,85	4,5	12	50	2	●
PM-2RP-D3.0-R0.5-M12		0,5	3	6	2,85	4,5	12	50	2	●
PM-2RP-D3.0-R0.2-M14		0,2	3	6	2,85	4,5	14	60	2	○
PM-2RP-D3.0-R0.5-M14		0,5	3	6	2,85	4,5	14	60	2	○
PM-2RP-D3.0-R0.2-M16		0,2	3	6	2,85	4,5	16	60	2	●
PM-2RP-D3.0-R0.5-M16		0,5	3	6	2,85	4,5	16	60	2	●
PM-2RP-D3.0-R0.2-M18		0,2	3	6	2,85	4,5	18	60	2	○
PM-2RP-D3.0-R0.5-M18		0,5	3	6	2,85	4,5	18	60	2	○
PM-2RP-D3.0-R0.2-M20		0,2	3	6	2,85	4,5	20	60	2	●
PM-2RP-D3.0-R0.5-M20		0,5	3	6	2,85	4,5	20	60	2	●
PM-2RP-D4.0-R0.2-M12		0,2	4	6	3,85	6	12	50	2	●
PM-2RP-D4.0-R0.5-M12		0,5	4	6	3,85	6	12	50	2	●
PM-2RP-D4.0-R0.2-M14		0,2	4	6	3,85	6	14	60	2	○
PM-2RP-D4.0-R0.5-M14		0,5	4	6	3,85	6	14	60	2	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

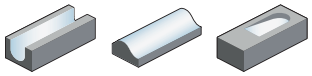
✔ Molto adatto
✔ Adatto

Codice sistema B362 | Dati di taglio B582 | Ordine utensili speciali B633

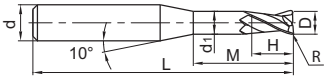
Frese toroidali

Lavorazione ad alte prestazioni

PM-2RP



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 35°



Articolo	✻	Dimensioni [mm] R	D	d (h5)	d_1	H	M	L	Denti	Grado KMG405
PM-2RP-D4.0-R0.2-M16		0,2	4	6	3,85	6	16	60	2	●
PM-2RP-D4.0-R0.5-M16		0,5	4	6	3,85	6	16	60	2	●
PM-2RP-D4.0-R0.2-M20		0,2	4	6	3,85	6	20	60	2	●
PM-2RP-D4.0-R0.5-M20		0,5	4	6	3,85	6	20	60	2	●
PM-2RP-D4.0-R0.2-M25		0,2	4	6	3,85	6	25	60	2	●
PM-2RP-D4.0-R0.5-M25		0,5	4	6	3,85	6	25	60	2	●
PM-2RP-D5.0-R0.5-M12		0,5	5	6	4,85	7,5	12	60	2	●
PM-2RP-D5.0-R1.0-M12		1	5	6	4,85	7,5	12	60	2	●
PM-2RP-D5.0-R0.5-M14		0,5	5	6	4,85	7,5	14	60	2	○
PM-2RP-D5.0-R1.0-M14		1	5	6	4,85	7,5	14	60	2	○
PM-2RP-D5.0-R0.5-M16		0,5	5	6	4,85	7,5	16	60	2	●
PM-2RP-D5.0-R1.0-M16		1	5	6	4,85	7,5	16	60	2	●
PM-2RP-D5.0-R0.5-M20		0,5	5	6	4,85	7,5	20	70	2	●
PM-2RP-D5.0-R1.0-M20		1	5	6	4,85	7,5	20	70	2	●
PM-2RP-D5.0-R0.5-M25		0,5	5	6	4,85	7,5	25	70	2	●
PM-2RP-D5.0-R1.0-M25		1	5	6	4,85	7,5	25	70	2	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

✔ Molto adatto
✔ Adatto

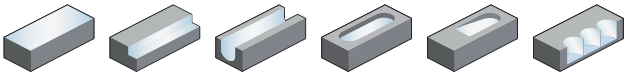
Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

Frese in metallo duro integrale

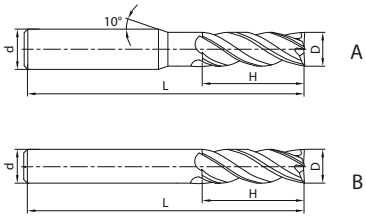
Frese a candela

Lavorazione ad alte prestazioni

VPM-4E



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 36°/38°



Articolo	✻	Dimensioni [mm] D	d (h6)	H	L	Denti	Geometria	Grado KMG406
VPM-4E-D1.0S		1	4	3	50	4	A	○
VPM-4E-D1.5S		1,5	4	4	50	4	A	○
VPM-4E-D2.0S		2	4	6	50	4	A	○
VPM-4E-D2.5S		2,5	4	8	50	4	A	○
VPM-4E-D3.0S		3	4	8	50	4	A	○
VPM-4E-D3.5S		3,5	4	10	50	4	A	○
VPM-4E-D4.0S		4	4	11	50	4	A	○
VPM-4E-D3.0		3	6	8	50	4	A	●
VPM-4E-D3.5		3,5	6	10	50	4	A	○
VPM-4E-D4.0		4	6	11	50	4	A	●
VPM-4E-D4.5		4,5	6	11	50	4	A	○
VPM-4E-D5.0		5	6	13	50	4	A	●
VPM-4E-D5.5		5,5	6	16	50	4	A	○
VPM-4E-D6.0		6	6	16	50	4	B	●
VPM-4E-D7.0		7	8	20	60	4	A	●
VPM-4E-D8.0		8	8	20	60	4	B	●
VPM-4E-D9.0		9	10	22	75	4	A	●
VPM-4E-D10.0		10	10	25	75	4	B	●
VPM-4E-D11.0		11	12	26	75	4	A	●
VPM-4E-D12.0		12	12	30	75	4	B	●
VPM-4E-D14.0		14	14	32	75	4	B	●
VPM-4E-D16.0		16	16	45	100	4	B	●
VPM-4E-D18.0		18	18	45	100	4	B	●
VPM-4E-D20.0		20	20	45	100	4	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

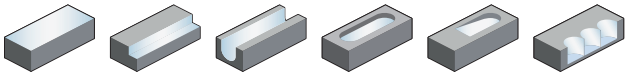
✔ Molto adatto
✔ Adatto

Codice sistema B362 | Dati di taglio B582 | Ordine utensili speciali B633

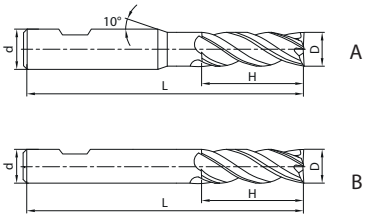
Frese a candela

Lavorazione ad alte prestazioni

VPM-4E-W



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 36°/38°



Articolo	✻	Dimensioni [mm] D	d (h6)	H	L	Denti	Geometria	Grado KMG406
VPM-4E-D5.0-W		5	6	13	50	4	A	○
VPM-4E-D6.0-W		6	6	16	50	4	B	●
VPM-4E-D7.0-W		7	8	20	60	4	A	○
VPM-4E-D8.0-W		8	8	20	60	4	B	●
VPM-4E-D9.0-W		9	10	22	75	4	A	○
VPM-4E-D10.0-W		10	10	25	75	4	B	●
VPM-4E-D11.0-W		11	12	26	75	4	A	○
VPM-4E-D12.0-W		12	12	30	75	4	B	●
VPM-4E-D14.0-W		14	14	32	75	4	B	●
VPM-4E-D16.0-W		16	16	45	100	4	B	●
VPM-4E-D18.0-W		18	18	45	100	4	B	●
VPM-4E-D20.0-W		20	20	45	100	4	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

✔ Molto adatto
✔ Adatto

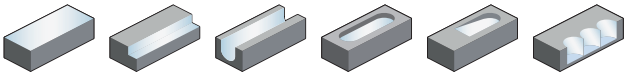
Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

Frese in metallo duro integrale

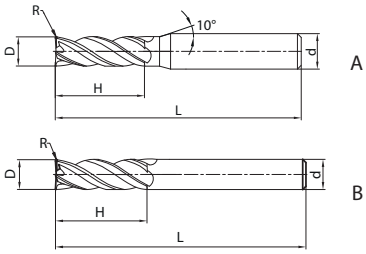
Frese a candela

Lavorazione ad alte prestazioni

VPM-4R



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 36°/38°



Articolo	✻	Dimensioni [mm] R	D	d (h6)	H	L	Denti	Geometria	Grado KMG406
VPM-4R-D3.0R0.2S		0,2	3	4	8	50	4	A	○
VPM-4R-D3.0R0.3S		0,3	3	4	8	50	4	A	○
VPM-4R-D4.0R0.2S		0,2	4	4	11	50	4	A	○
VPM-4R-D4.0R0.3S		0,3	4	4	11	50	4	A	○
VPM-4R-D4.0R0.5S		0,5	4	4	11	50	4	A	○
VPM-4R-D3.0R0.2		0,2	3	6	8	50	4	A	●
VPM-4R-D3.0R0.3		0,3	3	6	8	50	4	A	○
VPM-4R-D3.0R0.5		0,5	3	6	8	50	4	A	●
VPM-4R-D4.0R0.2		0,2	4	6	11	50	4	A	●
VPM-4R-D4.0R0.3		0,3	4	6	11	50	4	A	○
VPM-4R-D4.0R0.5		0,5	4	6	11	50	4	A	●
VPM-4R-D5.0R0.3		0,3	5	6	13	50	4	A	○
VPM-4R-D5.0R0.5		0,5	5	6	13	50	4	A	●
VPM-4R-D5.0R1.0		1	5	6	13	50	4	A	●
VPM-4R-D6.0R0.1		0,1	6	6	16	50	4	B	○
VPM-4R-D6.0R0.2		0,2	6	6	16	50	4	B	○
VPM-4R-D6.0R0.3		0,3	6	6	16	50	4	B	○
VPM-4R-D6.0R0.5		0,5	6	6	16	50	4	B	●
VPM-4R-D6.0R1.0		1	6	6	16	50	4	B	●
VPM-4R-D6.0R1.4		1,4	6	6	16	50	4	B	○
VPM-4R-D6.0R1.5		1,5	6	6	16	50	4	B	○
VPM-4R-D8.0R0.3		0,3	8	8	20	60	4	B	○
VPM-4R-D8.0R0.5		0,5	8	8	20	60	4	B	●
VPM-4R-D8.0R1.0		1	8	8	20	60	4	B	●
VPM-4R-D10.0R0.3		0,3	10	10	25	75	4	B	○
VPM-4R-D10.0R0.5		0,5	10	10	25	75	4	B	●
VPM-4R-D10.0R1.0		1	10	10	25	75	4	B	●
VPM-4R-D10.0R1.5		1,5	10	10	25	75	4	B	○
VPM-4R-D10.0R2.0		2	10	10	25	75	4	B	●
VPM-4R-D12.0R0.3		0,3	12	12	30	75	4	B	○
VPM-4R-D12.0R0.5		0,5	12	12	30	75	4	B	○
VPM-4R-D12.0R1.0		1	12	12	30	75	4	B	●
VPM-4R-D12.0R1.5		1,5	12	12	30	75	4	B	○
VPM-4R-D12.0R2.0		2	12	12	30	75	4	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

✔ Molto adatto
✔ Adatto

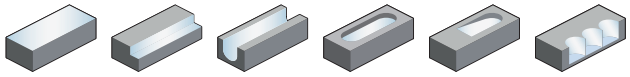
Codice sistema B362 | Dati di taglio B582 | Ordine utensili speciali B633

Note

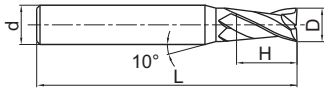
Frese a candela

Lavorazione ad alte prestazioni

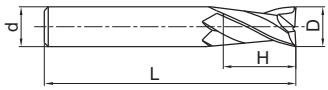
EPM-2E



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 30°



A



B

Articolo	✻	Dimensioni [mm]				Denti	Geometria	Grado
		D	d (h6)	H	L			KMG406
EPM-2E-D3.0		3	6	8	50	2	A	●
EPM-2E-D4.0		4	6	11	50	2	A	●
EPM-2E-D5.0		5	6	13	50	2	A	●
EPM-2E-D6.0		6	6	16	50	2	B	●
EPM-2E-D8.0		8	8	20	60	2	B	●
EPM-2E-D10.0		10	10	25	75	2	B	●
EPM-2E-D12.0		12	12	30	75	2	B	●
EPM-2E-D14.0		14	14	32	75	2	B	●
EPM-2E-D16.0		16	16	45	100	2	B	●
EPM-2E-D18.0		18	18	45	100	2	B	●
EPM-2E-D20.0		20	20	45	100	2	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

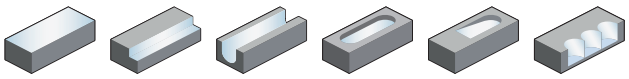
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

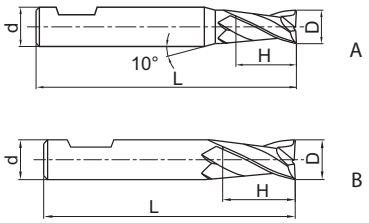
Frese a candela

Lavorazione ad alte prestazioni

EPM-2E-W



– Versione del codolo DIN 6535HB
– taglio al centro
– Angolo di inclinazione dell'elica 30°



Articolo	✻	Dimensioni [mm] D	d (h6)	H	L	Denti	Geometria	Grado KMG406
EPM-2E-D3.0-W		3	6	4	50	2	A	●
EPM-2E-D4.0-W		4	6	5	54	2	A	●
EPM-2E-D5.0-W		5	6	6	54	2	A	●
EPM-2E-D6.0-W		6	6	7	54	2	B	●
EPM-2E-D8.0-W		8	8	9	58	2	B	●
EPM-2E-D10.0-W		10	10	11	66	2	B	●
EPM-2E-D12.0-W		12	12	12	73	2	B	●
EPM-2E-D14.0-W		14	14	14	75	2	B	●
EPM-2E-D16.0-W		16	16	16	82	2	B	●
EPM-2E-D18.0-W		18	18	18	84	2	B	●
EPM-2E-D20.0-W		20	20	20	92	2	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

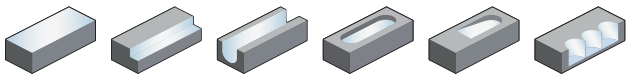
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

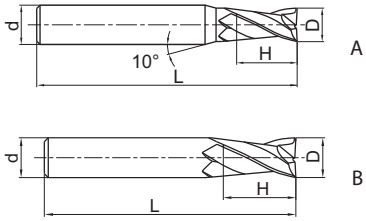
Frese a candela tagliente lungo

Lavorazione ad alte prestazioni

EPM-2EL



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 30°



Articolo	✻	Dimensioni [mm]				Denti	Geometria	Grado
		D	d (h6)	H	L			KMG406
EPM-2EL-D3.0		3	6	12	75	2	A	●
EPM-2EL-D4.0		4	6	15	75	2	A	●
EPM-2EL-D5.0		5	6	20	75	2	A	●
EPM-2EL-D6.0		6	6	20	75	2	B	●
EPM-2EL-D8.0		8	8	25	100	2	B	●
EPM-2EL-D10.0		10	10	30	100	2	B	●
EPM-2EL-D12.0		12	12	35	100	2	B	●
EPM-2EL-D14.0		14	14	40	100	2	B	●
EPM-2EL-D16.0		16	16	50	150	2	B	●
EPM-2EL-D20.0		20	20	55	150	2	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

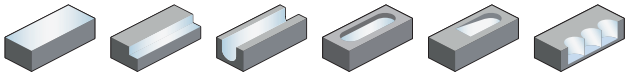
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

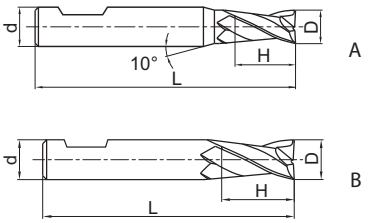
Frese a candela tagliente lungo

Lavorazione ad alte prestazioni

EPM-2EL-W



– Versione del codolo DIN 6535HB
– taglio al centro
– Angolo di inclinazione dell'elica 30°



Articolo	✻	Dimensioni [mm] D	d (h6)	H	L	Denti	Geometria	Grado KMG406
EPM-2EL-D3.0-W		3	6	6	57	2	A	●
EPM-2EL-D4.0-W		4	6	8	57	2	A	●
EPM-2EL-D5.0-W		5	6	10	57	2	A	●
EPM-2EL-D6.0-W		6	6	10	57	2	B	●
EPM-2EL-D8.0-W		8	8	16	63	2	B	●
EPM-2EL-D10.0-W		10	10	19	72	2	B	●
EPM-2EL-D12.0-W		12	12	22	83	2	B	●
EPM-2EL-D14.0-W		14	14	22	83	2	B	●
EPM-2EL-D16.0-W		16	16	26	92	2	B	●
EPM-2EL-D18.0-W		18	18	26	92	2	B	●
EPM-2EL-D20.0-W		20	20	32	104	2	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

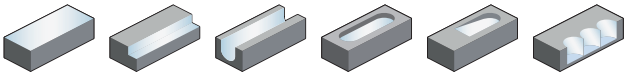
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

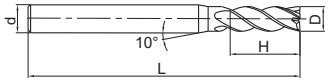
Frese a candela

Lavorazione ad alte prestazioni

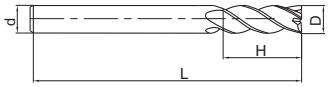
EPM-4E



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 45°



A



B

Articolo	✻	Dimensioni [mm]				Denti	Geometria	Grado
		D	d (h6)	H	L			KMG406
EPM-4E-D3.0		3	6	8	50	4	A	●
EPM-4E-D4.0		4	6	11	50	4	A	●
EPM-4E-D5.0		5	6	13	50	4	A	●
EPM-4E-D6.0		6	6	16	50	4	B	●
EPM-4E-D8.0		8	8	20	60	4	B	●
EPM-4E-D10.0		10	10	25	75	4	B	●
EPM-4E-D12.0		12	12	30	75	4	B	●
EPM-4E-D14.0		14	14	32	75	4	B	●
EPM-4E-D16.0		16	16	45	100	4	B	●
EPM-4E-D18.0		18	18	45	100	4	B	●
EPM-4E-D20.0		20	20	45	100	4	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

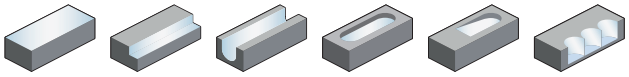
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

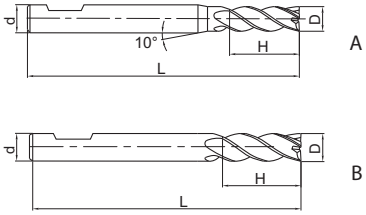
Frese a candela

Lavorazione ad alte prestazioni

EPM-4E-W



– Versione del codolo DIN 6535HB
– taglio al centro
– Angolo di inclinazione dell'elica 45°



Articolo	✻	Dimensioni [mm] D	d (h6)	H	L	Denti	Geometria	Grado KMG406
EPM-4E-D3.0-W		3	6	4	50	4	A	●
EPM-4E-D4.0-W		4	6	5	54	4	A	●
EPM-4E-D5.0-W		5	6	6	54	4	A	●
EPM-4E-D6.0-W		6	6	7	54	4	B	●
EPM-4E-D8.0-W		8	8	9	58	4	B	●
EPM-4E-D10.0-W		10	10	11	66	4	B	●
EPM-4E-D12.0-W		12	12	12	73	4	B	●
EPM-4E-D14.0-W		14	14	14	75	4	B	●
EPM-4E-D16.0-W		16	16	16	82	4	B	●
EPM-4E-D18.0-W		18	18	18	84	4	B	●
EPM-4E-D20.0-W		20	20	20	92	4	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

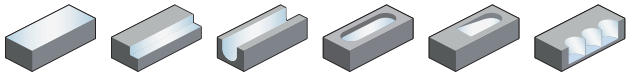
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

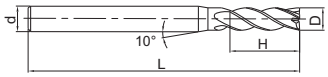
Frese a candela tagliente lungo

Lavorazione ad alte prestazioni

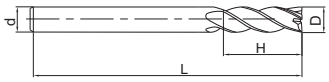
EPM-4EL



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 45°



A



B

Articolo	✻	Dimensioni [mm] D	d (h6)	H	L	Denti	Geometria	Grado KMG406
EPM-4EL-D3.0		3	6	12	75	4	A	●
EPM-4EL-D4.0		4	6	15	75	4	A	●
EPM-4EL-D5.0		5	6	20	75	4	A	●
EPM-4EL-D6.0		6	6	20	75	4	B	●
EPM-4EL-D8.0		8	8	25	100	4	B	●
EPM-4EL-D10.0		10	10	30	100	4	B	●
EPM-4EL-D12.0		12	12	35	100	4	B	●
EPM-4EL-D14.0		14	14	40	100	4	B	●
EPM-4EL-D16.0		16	16	50	150	4	B	●
EPM-4EL-D20.0		20	20	55	150	4	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

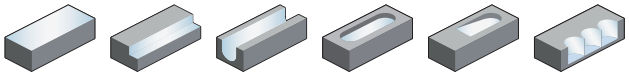
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

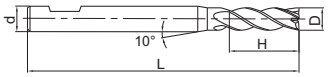
Frese a candela tagliente lungo

Lavorazione ad alte prestazioni

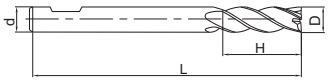
EPM-4EL-W



– Versione del codolo DIN 6535HB
– taglio al centro
– Angolo di inclinazione dell'elica 45°



A



B

Articolo	✻	Dimensioni [mm] D	d (h6)	H	L	Denti	Geometria	Grado KMG406
EPM-4EL-D3.0-W		3	6	8	57	4	A	●
EPM-4EL-D4.0-W		4	6	11	57	4	A	●
EPM-4EL-D5.0-W		5	6	13	57	4	A	●
EPM-4EL-D6.0-W		6	6	13	57	4	B	●
EPM-4EL-D8.0-W		8	8	19	63	4	B	●
EPM-4EL-D10.0-W		10	10	22	72	4	B	●
EPM-4EL-D12.0-W		12	12	26	83	4	B	●
EPM-4EL-D14.0-W		14	14	26	83	4	B	●
EPM-4EL-D16.0-W		16	16	32	92	4	B	●
EPM-4EL-D18.0-W		18	18	32	92	4	B	●
EPM-4EL-D20.0-W		20	20	38	104	4	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

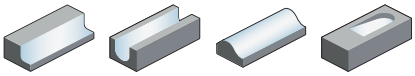
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

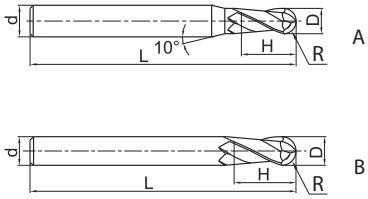
Frese a testa sferica

Lavorazione ad alte prestazioni

EPM-2B



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 30°



Articolo	✻	Dimensioni [mm]					Denti	Geometria	Grado
		R	D	d (h6)	H	L			KMG406
EPM-2B-R1.5		1,5	3	6	6	50	2	A	●
EPM-2B-R2.0		2	4	6	8	50	2	A	●
EPM-2B-R2.5		2,5	5	6	10	50	2	A	●
EPM-2B-R3.0		3	6	6	12	50	2	B	●
EPM-2B-R4.0		4	8	8	16	60	2	B	●
EPM-2B-R5.0		5	10	10	20	75	2	B	●
EPM-2B-R6.0		6	12	12	24	75	2	B	●
EPM-2B-R7.0		7	14	14	28	75	2	B	●
EPM-2B-R8.0		8	16	16	32	100	2	B	●
EPM-2B-R10.0		10	20	20	40	100	2	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

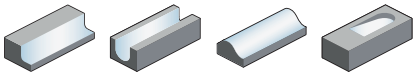
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

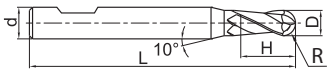
Frese a testa sferica

Lavorazione ad alte prestazioni

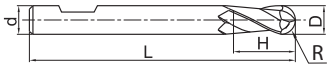
EPM-2B-W



– Versione del codolo DIN 6535HB
– taglio al centro
– Angolo di inclinazione dell'elica 30°



A



B

Articolo	✻	Dimensioni [mm] R	D	d (h6)	H	L	Denti	Geometria	Grado KMG406
EPM-2B-R1.5-W		1,5	3	6	4	50	2	A	●
EPM-2B-R2.0-W		2	4	6	5	54	2	A	●
EPM-2B-R2.5-W		2,5	5	6	6	54	2	A	●
EPM-2B-R3.0-W		3	6	6	7	54	2	B	●
EPM-2B-R4.0-W		4	8	8	9	58	2	B	●
EPM-2B-R5.0-W		5	10	10	11	66	2	B	●
EPM-2B-R6.0-W		6	12	12	12	73	2	B	●
EPM-2B-R8.0-W		8	16	16	16	83	2	B	●
EPM-2B-R10.0-W		10	20	20	20	92	2	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

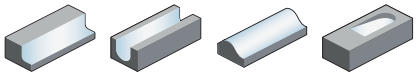
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

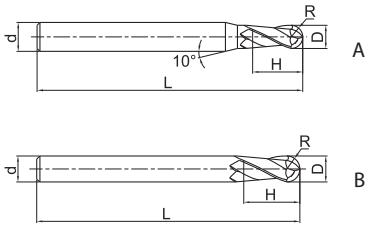
Frese a testa sferica codolo lungo

Lavorazione ad alte prestazioni

EPM-2BL



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 30°



Articolo	✻	Dimensioni [mm]					Denti	Geometria	Grado
		R	D	d (h6)	H	L			KMG406
EPM-2BL-R1.5		1,5	3	6	6	75	2	A	●
EPM-2BL-R2.0		2	4	6	8	75	2	A	●
EPM-2BL-R2.5		2,5	5	6	10	75	2	A	●
EPM-2BL-R3.0		3	6	6	12	75	2	B	●
EPM-2BL-R4.0		4	8	8	16	100	2	B	●
EPM-2BL-R5.0		5	10	10	20	100	2	B	●
EPM-2BL-R6.0		6	12	12	24	100	2	B	●
EPM-2BL-R7.0		7	14	14	28	100	2	B	●
EPM-2BL-R8.0		8	16	16	32	150	2	B	●
EPM-2BL-R10.0		10	20	20	40	150	2	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

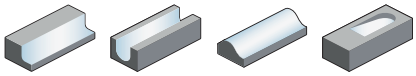
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

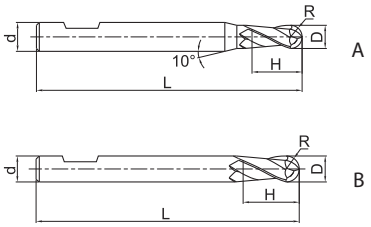
Frese a testa sferica codolo lungo

Lavorazione ad alte prestazioni

EPM-2BL-W



– Versione del codolo DIN 6535HB
– taglio al centro
– Angolo di inclinazione dell'elica 30°



Articolo	✻	Dimensioni [mm] R	D	d (h6)	H	L	Denti	Geometria	Grado KMG406
EPM-2BL-R1.5-W		1,5	3	6	4	57	2	A	●
EPM-2BL-R2.0-W		2	4	6	5	57	2	A	●
EPM-2BL-R2.5-W		2,5	5	6	6	57	2	A	●
EPM-2BL-R3.0-W		3	6	6	7	57	2	B	●
EPM-2BL-R4.0-W		4	8	8	9	63	2	B	●
EPM-2BL-R5.0-W		5	10	10	11	72	2	B	●
EPM-2BL-R6.0-W		6	12	12	12	83	2	B	●
EPM-2BL-R8.0-W		8	16	16	16	92	2	B	●
EPM-2BL-R10.0-W		10	20	20	20	104	2	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

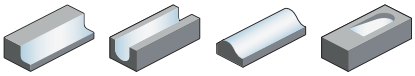
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

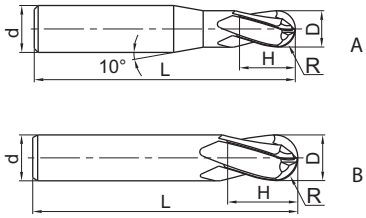
Frese a testa sferica

Lavorazione ad alte prestazioni

EPM-4B



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 30°



Articolo	✻	Dimensioni [mm] R	D	d (h6)	H	L	Denti	Geometria	Grado KMG406
EPM-4B-R1.5		1,5	3	6	6	50	4	A	●
EPM-4B-R2.0		2	4	6	8	50	4	A	●
EPM-4B-R2.5		2,5	5	6	10	50	4	A	●
EPM-4B-R3.0		3	6	6	12	50	4	B	●
EPM-4B-R4.0		4	8	8	16	60	4	B	●
EPM-4B-R5.0		5	10	10	20	75	4	B	●
EPM-4B-R6.0		6	12	12	24	75	4	B	●
EPM-4B-R7.0		7	14	14	28	75	4	B	●
EPM-4B-R8.0		8	16	16	32	100	4	B	●
EPM-4B-R9.0		9	18	18	36	100	4	B	●
EPM-4B-R10.0		10	20	20	40	100	4	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

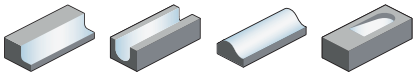
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

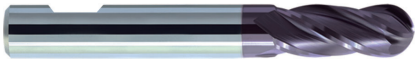
Frese a testa sferica

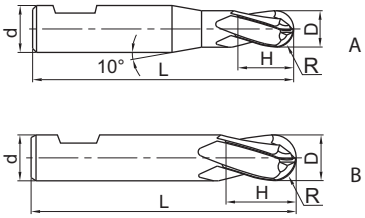
Lavorazione ad alte prestazioni

EPM-4B-W



– Versione del codolo DIN 6535HB
– taglio al centro
– Angolo di inclinazione dell'elica 30°





Articolo	✻	Dimensioni [mm] R	D	d (h6)	H	L	Denti	Geometria	Grado KMG406
EPM-4B-R1.5-W		1,5	3	6	4	50	4	A	●
EPM-4B-R2.0-W		2	4	6	5	54	4	A	●
EPM-4B-R2.5-W		2,5	5	6	6	54	4	A	●
EPM-4B-R3.0-W		3	6	6	7	54	4	B	●
EPM-4B-R4.0-W		4	8	8	9	58	4	B	●
EPM-4B-R5.0-W		5	10	10	11	66	4	B	●
EPM-4B-R6.0-W		6	12	12	12	73	4	B	●
EPM-4B-R7.0-W		7	14	14	14	75	4	B	●
EPM-4B-R8.0-W		8	16	16	16	83	4	B	●
EPM-4B-R9.0-W		9	18	18	18	84	4	B	●
EPM-4B-R10.0-W		10	20	20	20	92	4	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

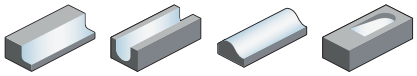
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

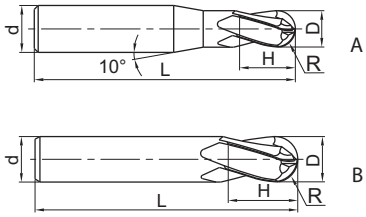
Frese a testa sferica codolo lungo

Lavorazione ad alte prestazioni

EPM-4BL



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 30°



Articolo	✻	Dimensioni [mm]					Denti	Geometria	Grado
		R	D	d (h6)	H	L			KMG406
EPM-4BL-R1.5		1,5	3	6	6	75	4	A	●
EPM-4BL-R2.0		2	4	6	8	75	4	A	●
EPM-4BL-R2.5		2,5	5	6	10	75	4	A	●
EPM-4BL-R3.0		3	6	6	12	75	4	B	●
EPM-4BL-R4.0		4	8	8	16	100	4	B	●
EPM-4BL-R5.0		5	10	10	20	100	4	B	●
EPM-4BL-R6.0		6	12	12	24	100	4	B	●
EPM-4BL-R7.0		7	14	14	28	100	4	B	●
EPM-4BL-R8.0		8	16	16	32	150	4	B	●
EPM-4BL-R10.0		10	20	20	40	150	4	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

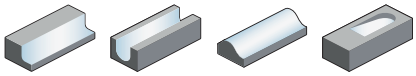
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

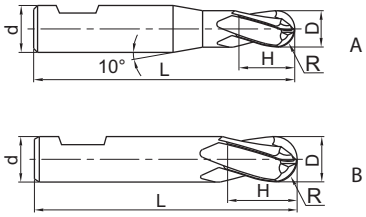
Frese a testa sferica codolo lungo

Lavorazione ad alte prestazioni

EPM-4BL-W



– Versione del codolo DIN 6535HB
– taglio al centro
– Angolo di inclinazione dell'elica 30°



Articolo	✻	Dimensioni [mm] R	D	d (h6)	H	L	Denti	Geometria	Grado KMG406
EPM-4BL-R1.5-W		1,5	3	6	4	57	4	A	●
EPM-4BL-R2.0-W		2	4	6	5	57	4	A	●
EPM-4BL-R2.5-W		2,5	5	6	6	57	4	A	●
EPM-4BL-R3.0-W		3	6	6	7	57	4	B	●
EPM-4BL-R4.0-W		4	8	8	9	63	4	B	●
EPM-4BL-R5.0-W		5	10	10	11	72	4	B	●
EPM-4BL-R6.0-W		6	12	12	12	83	4	B	●
EPM-4BL-R8.0-W		8	16	16	16	92	4	B	●
EPM-4BL-R10.0-W		10	20	20	20	104	4	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

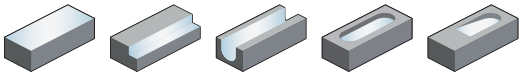
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

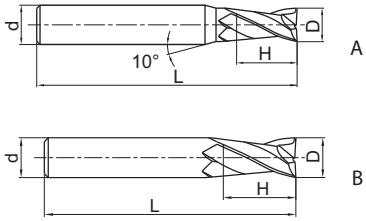
Frese a candela

Lavorazioni di acciai temprati

HM-2E



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 35°



Articolo	✻	Dimensioni [mm] D	d (h6)	H	L	Denti	Geometria	Grado KMG555
HM-2E-D1.0S		1	4	3	50	2	A	●
HM-2E-D1.5S		1,5	4	4	50	2	A	●
HM-2E-D2.0S		2	4	6	50	2	A	●
HM-2E-D2.5S		2,5	4	8	50	2	A	●
HM-2E-D3.0S		3	4	8	50	2	A	●
HM-2E-D4.0S		4	4	11	50	2	B	○
HM-2E-D1.0		1	6	3	50	2	A	●
HM-2E-D1.5		1,5	6	4	50	2	A	●
HM-2E-D2.0		2	6	6	50	2	A	●
HM-2E-D2.5		2,5	6	8	50	2	A	●
HM-2E-D3.0		3	6	8	50	2	A	●
HM-2E-D3.5		3,5	6	10	50	2	A	○
HM-2E-D4.0		4	6	11	50	2	A	●
HM-2E-D4.5		4,5	6	11	50	2	A	○
HM-2E-D5.0		5	6	13	50	2	A	●
HM-2E-D5.5		5,5	6	16	50	2	A	○
HM-2E-D6.0		6	6	16	50	2	B	●
HM-2E-D7.0		7	8	20	60	2	A	○
HM-2E-D8.0		8	8	20	60	2	B	●
HM-2E-D10.0		10	10	25	75	2	B	●
HM-2E-D11.0		11	12	26	75	2	A	○
HM-2E-D12.0		12	12	30	75	2	B	●
HM-2E-D14.0		14	14	32	100	2	B	●
HM-2E-D16.0		16	16	45	100	2	B	○
HM-2E-D18.0		18	18	45	100	2	B	○
HM-2E-D20.0		20	20	45	100	2	B	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
					✔

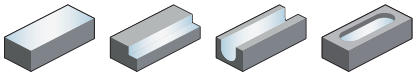
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

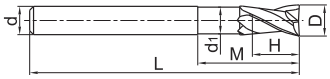
Frese a candela tagliente corto

Lavorazioni di acciai temprati

HM-2EFP



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 35°



Articolo	✻	Dimensioni [mm]						Denti	Grado
		D	d (h6)	d_1	H	M	L		KMG555
HM-2EFP-D6.0		6	6	5,8	9	30	75	2	○
HM-2EFP-D8.0		8	8	7,8	12	40	100	2	○
HM-2EFP-D10.0		10	10	9,6	15	50	100	2	○
HM-2EFP-D12.0		12	12	11,5	18	50	100	2	○
HM-2EFP-D16.0		16	16	15,5	24	50	150	2	○
HM-2EFP-D20.0		20	20	19,5	30	60	150	2	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
					✔

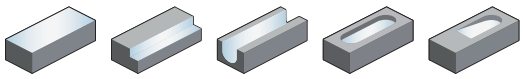
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

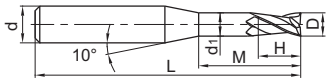
Frese a candela

Lavorazioni di acciai temprati

HM-2EP



– Codolo cilindrico
– taglio al centro
– Angolo di inclinazione dell'elica 35°



Articolo	✻	Dimensioni [mm] D	d (h6)	d_1	H	M	L	Denti	Grado KMG555
HM-2EP-D0.5-M04		0,5	4	0,45	0,7	4	50	2	●
HM-2EP-D0.5-M06		0,5	4	0,45	0,7	6	50	2	●
HM-2EP-D0.5-M08		0,5	4	0,45	0,7	8	50	2	●
HM-2EP-D0.8-M04		0,8	4	0,75	1,2	4	50	2	●
HM-2EP-D0.8-M06		0,8	4	0,75	1,2	6	50	2	●
HM-2EP-D0.8-M08		0,8	4	0,75	1,2	8	50	2	●
HM-2EP-D0.8-M10		0,8	4	0,75	1,2	10	50	2	●
HM-2EP-D1.0-M04		1	4	0,95	1,5	4	50	2	●
HM-2EP-D1.0-M06		1	4	0,95	1,5	6	50	2	●
HM-2EP-D1.0-M08		1	4	0,95	1,5	8	50	2	●
HM-2EP-D1.0-M10		1	4	0,95	1,5	10	50	2	●
HM-2EP-D1.0-M12		1	4	0,95	1,5	12	50	2	●
HM-2EP-D1.0-M14		1	4	0,95	1,5	14	50	2	●
HM-2EP-D1.2-M06		1,2	4	1,15	1,8	6	50	2	○
HM-2EP-D1.2-M08		1,2	4	1,15	1,8	8	50	2	○
HM-2EP-D1.2-M10		1,2	4	1,15	1,8	10	50	2	●
HM-2EP-D1.2-M12		1,2	4	1,15	1,8	12	50	2	○
HM-2EP-D1.5-M06		1,5	4	1,45	2,3	6	50	2	●
HM-2EP-D1.5-M08		1,5	4	1,45	2,3	8	50	2	●
HM-2EP-D1.5-M10		1,5	4	1,45	2,3	10	50	2	●
HM-2EP-D1.5-M12		1,5	4	1,45	2,3	12	50	2	●
HM-2EP-D1.5-M14		1,5	4	1,45	2,3	14	50	2	●
HM-2EP-D2.0-M06		2	4	1,95	3	6	50	2	●
HM-2EP-D2.0-M08		2	4	1,95	3	8	50	2	●
HM-2EP-D2.0-M10		2	4	1,95	3	10	50	2	●
HM-2EP-D2.0-M12		2	4	1,95	3	12	50	2	●
HM-2EP-D2.0-M14		2	4	1,95	3	14	50	2	●
HM-2EP-D2.0-M16		2	4	1,95	3	16	50	2	●
HM-2EP-D2.5-M08		2,5	4	2,4	3,7	8	50	2	●
HM-2EP-D2.5-M10		2,5	4	2,4	3,7	10	50	2	●
HM-2EP-D2.5-M12		2,5	4	2,4	3,7	12	50	2	●
HM-2EP-D2.5-M14		2,5	4	2,4	3,7	14	50	2	○
HM-2EP-D2.5-M16		2,5	4	2,4	3,7	16	60	2	○
HM-2EP-D2.5-M18		2,5	4	2,4	3,7	18	60	2	●
HM-2EP-D2.5-M20		2,5	4	2,4	3,7	20	60	2	●
HM-2EP-D3.0-M06		3	6	2,85	4,5	6	50	2	○
HM-2EP-D3.0-M08		3	6	2,85	4,5	8	50	2	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
					✔

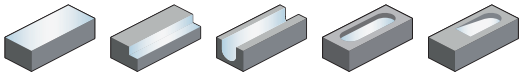
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

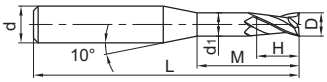
Frese a candela

Lavorazioni di acciai temprati

HM-2EP



– Codolo cilindrico
– taglio al centro
– Angolo di inclinazione dell'elica 35°



Articolo	✻	Dimensioni [mm] D	d (h6)	d_1	H	M	L	Denti	Grado KMG555
HM-2EP-D3.0-M10		3	6	2,85	4,5	10	50	2	●
HM-2EP-D3.0-M12		3	6	2,85	4,5	12	50	2	●
HM-2EP-D3.0-M14		3	6	2,85	4,5	14	60	2	○
HM-2EP-D3.0-M16		3	6	2,85	4,5	16	60	2	●
HM-2EP-D3.0-M18		3	6	2,85	4,5	18	60	2	○
HM-2EP-D3.0-M20		3	6	2,85	4,5	20	60	2	●
HM-2EP-D4.0-M12		4	6	3,85	6	12	60	2	●
HM-2EP-D4.0-M16		4	6	3,85	6	16	60	2	●
HM-2EP-D4.0-M20		4	6	3,85	6	20	60	2	●
HM-2EP-D4.0-M25		4	6	3,85	6	25	60	2	●
HM-2EP-D5.0-M16		5	6	4,85	7,5	16	60	2	●
HM-2EP-D5.0-M25		5	6	4,85	7,5	25	70	2	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
					✔

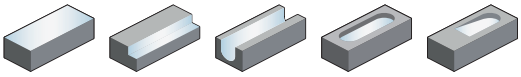
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

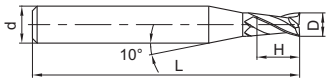
Frese a candela

Lavorazioni di acciai temprati

HM-2ES



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 35°



Articolo	✻	Dimensioni [mm]				Denti	Grado
		D	d (h6)	H	L		KMG555
HM-2ES-D0.3		0,3	4	0,6	50	2	●
HM-2ES-D0.4		0,4	4	0,8	50	2	○
HM-2ES-D0.5		0,5	4	1	50	2	●
HM-2ES-D0.6		0,6	4	1,2	50	2	○
HM-2ES-D0.7		0,7	4	1,4	50	2	○
HM-2ES-D0.8		0,8	4	1,6	50	2	●
HM-2ES-D0.9		0,9	4	1,8	50	2	○
HM-2ES-D1.0		1	4	2	50	2	○
HM-2ES-D1.1		1,1	4	2	50	2	○
HM-2ES-D1.2		1,2	4	2,5	50	2	○
HM-2ES-D1.3		1,3	4	2,5	50	2	○
HM-2ES-D1.4		1,4	4	3	50	2	○
HM-2ES-D1.5		1,5	4	3	50	2	○
HM-2ES-D1.6		1,6	4	3,5	50	2	○
HM-2ES-D1.7		1,7	4	3,5	50	2	○
HM-2ES-D1.8		1,8	4	4	50	2	○
HM-2ES-D1.9		1,9	4	4	50	2	○
HM-2ES-D2.0		2	4	4	50	2	○
HM-2ES-D2.1		2,1	4	4	50	2	○
HM-2ES-D2.2		2,2	4	4,5	50	2	○
HM-2ES-D2.3		2,3	4	4,5	50	2	○
HM-2ES-D2.4		2,4	4	5	50	2	○
HM-2ES-D2.5		2,5	4	5	50	2	○
HM-2ES-D2.6		2,6	4	5	50	2	○
HM-2ES-D2.7		2,7	4	5,5	50	2	○
HM-2ES-D2.8		2,8	4	5,5	50	2	○
HM-2ES-D2.9		2,9	4	6	50	2	○
HM-2ES-D3.0		3	4	6	50	2	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
					✔

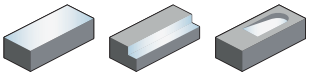
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

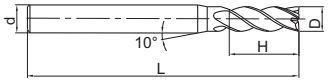
Frese a candela

Lavorazioni di acciai temprati

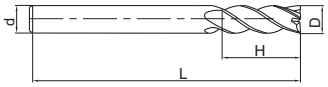
HM-4E



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 45°



A



B

Articolo	✻	Dimensioni [mm] D	d (h6)	H	L	Denti	Geometria	Grado KMG555
HM-4E-D1.0S		1	4	3	50	4	A	●
HM-4E-D1.5S		1,5	4	4	50	4	A	●
HM-4E-D2.0S		2	4	6	50	4	A	●
HM-4E-D2.5S		2,5	4	8	50	4	A	●
HM-4E-D3.0S		3	4	8	50	4	A	●
HM-4E-D4.0S		4	4	11	50	4	B	●
HM-4E-D1.0		1	6	3	50	4	A	●
HM-4E-D1.5		1,5	6	4	50	4	A	●
HM-4E-D2.0		2	6	6	50	4	A	●
HM-4E-D2.5		2,5	6	8	50	4	A	●
HM-4E-D3.0		3	6	8	50	4	A	●
HM-4E-D3.5		3,5	6	10	50	4	A	●
HM-4E-D4.0		4	6	11	50	4	A	●
HM-4E-D4.5		4,5	6	11	50	4	A	●
HM-4E-D5.0		5	6	13	50	4	A	●
HM-4E-D5.5		5,5	6	16	50	4	A	●
HM-4E-D6.0		6	6	16	50	4	B	●
HM-4E-D7.0		7	8	20	60	4	A	●
HM-4E-D8.0		8	8	20	60	4	B	●
HM-4E-D9.0		9	10	22	75	4	A	●
HM-4E-D10.0		10	10	25	75	4	B	●
HM-4E-D11.0		11	12	26	75	4	A	●
HM-4E-D12.0		12	12	30	75	4	B	●
HM-4E-D14.0		14	14	32	75	4	B	●
HM-4E-D16.0		16	16	45	100	4	B	●
HM-4E-D18.0		18	18	45	100	4	B	●
HM-4E-D20.0		20	20	45	100	4	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
					✔

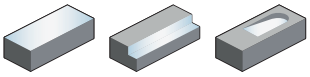
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

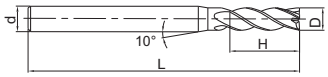
Frese a candela codolo lungo

Lavorazioni di acciai temprati

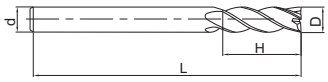
HM-4EL



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 45°



A



B

Articolo	✻	Dimensioni [mm] D	d (h6)	H	L	Denti	Geometria	Grado KMG555
HM-4EL-D3.0		3	6	12	75	4	A	●
HM-4EL-D4.0		4	6	15	75	4	A	●
HM-4EL-D5.0		5	6	20	75	4	A	●
HM-4EL-D6.0		6	6	20	75	4	B	●
HM-4EL-D8.0		8	8	25	100	4	B	●
HM-4EL-D10.0		10	10	30	100	4	B	●
HM-4EL-D12.0		12	12	35	100	4	B	●
HM-4EL-D14.0		14	14	40	100	4	B	●
HM-4EL-D16.0		16	16	50	150	4	B	●
HM-4EL-D20.0		20	20	55	150	4	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
					✔

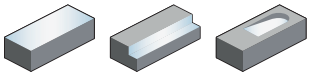
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

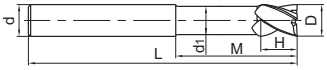
Frese a candela tagliente corto

Lavorazioni di acciai temprati

HM-4EFP



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 45°



Articolo	✻	Dimensioni [mm] D	d (h6)	d_1	H	M	L	Denti	Grado KMG555
HM-4EFP-D6.0		6	6	5,8	9	30	75	4	●
HM-4EFP-D8.0		8	8	7,8	12	40	100	4	●
HM-4EFP-D10.0		10	10	9,6	15	50	100	4	●
HM-4EFP-D12.0		12	12	11,5	18	50	100	4	●
HM-4EFP-D16.0		16	16	15,5	24	50	150	4	●
HM-4EFP-D20.0		20	20	19,5	30	60	150	4	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
					✔

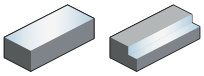
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

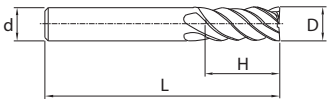
Frese a candela tagliente lungo

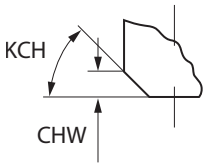
Lavorazioni ad alta velocità ad elevata durezza

5502R55MHH



– Versione del codolo DIN 6535HA
– taglio non oltre il centro
– Angolo di inclinazione dell'elica 55°





Articolo	✻	Dimensioni [mm]						Denti	Grado	
		D	d (h6)	H	L	KCH	CHW		KMG405	KMG555
5502R55MHH-0300		3	6	8	57	0	0	4	○	○
5502R55MHH-0400		4	6	11	57	0	0	4	○	○
5502R55MHH-0500		5	6	13	57	0	0	5	○	○
5502R55MHH-0600		6	6	13	57	45	0,1	6	○	○
5502R55MHH-0800		8	8	19	63	45	0,1	6	○	○
5502R55MHH-1000		10	10	22	72	45	0,1	6	○	○
5502R55MHH-1200		12	12	26	83	45	0,1	6	○	○
5502R55MHH-1600		16	16	32	92	45	0,1	6	○	○
5502R55MHH-2000		20	20	38	104	45	0,1	8	○	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
					✔

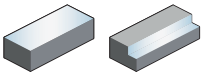
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

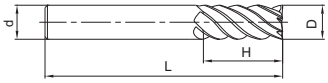
Frese a candela

Lavorazioni di acciai temprati

HM-6E



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio non oltre il centro
– Angolo di inclinazione dell'elica 45°



Articolo	✻	Dimensioni [mm]				Denti	Grado
		D	d (h6)	H	L		KMG555
HM-6E-D6.0		6	6	18	60	6	○
HM-6E-D8.0		8	8	20	60	6	○
HM-6E-D10.0		10	10	30	75	6	○
HM-6E-D12.0		12	12	32	75	6	○
HM-6E-D16.0		16	16	40	100	6	○
HM-6E-D20.0		20	20	45	100	6	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
					✔

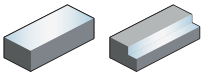
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

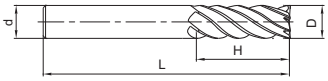
Frese a candela codolo lungo

Lavorazioni di acciai temprati

HM-6EL



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio non oltre il centro
– Angolo di inclinazione dell'elica 45°



Articolo	✻	Dimensioni [mm]				Denti	Grado
		D	d (h6)	H	L		KMG555
HM-6EL-D6.0		6	6	24	75	6	●
HM-6EL-D8.0		8	8	32	75	6	●
HM-6EL-D10.0		10	10	40	100	6	●
HM-6EL-D12.0		12	12	45	100	6	●
HM-6EL-D16.0		16	16	64	150	6	●
HM-6EL-D20.0		20	20	75	150	6	●
HM-6EL-D25.0		25	25	92	180	6	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
					✔

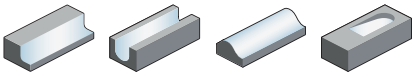
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

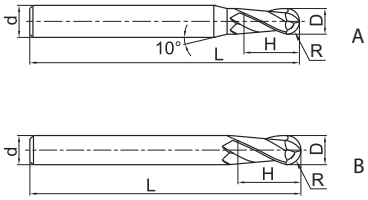
Frese a testa sferica

Lavorazioni di acciai temprati

HM-2B



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 35°



Articolo	✻	Dimensioni [mm] R	D	d (h6)	H	L	Denti	Geometria	Grado KMG555
HM-2B-R0.5S		0,5	1	4	2	50	2	A	●
HM-2B-R0.75S		0,75	1,5	4	3	50	2	A	●
HM-2B-R1.0S		1	2	4	4	50	2	A	●
HM-2B-R1.25S		1,25	2,5	4	5	50	2	A	○
HM-2B-R1.5S		1,5	3	4	6	50	2	A	○
HM-2B-R2.0S		2	4	4	8	50	2	B	●
HM-2B-R0.5		0,5	1	6	2	50	2	A	●
HM-2B-R0.75		0,75	1,5	6	3	50	2	A	●
HM-2B-R1.0		1	2	6	4	50	2	A	●
HM-2B-R1.25		1,25	2,5	6	5	50	2	A	○
HM-2B-R1.5		1,5	3	6	6	50	2	A	●
HM-2B-R1.75		1,75	3,5	6	8	50	2	A	●
HM-2B-R2.0		2	4	6	8	50	2	A	●
HM-2B-R2.5		2,5	5	6	10	50	2	A	●
HM-2B-R2.75		2,75	5,5	6	12	50	2	A	●
HM-2B-R3.0		3	6	6	12	50	2	B	●
HM-2B-R3.5		3,5	7	8	14	60	2	A	○
HM-2B-R4.0		4	8	8	16	60	2	B	●
HM-2B-R4.5		4,5	9	10	18	75	2	A	○
HM-2B-R5.0		5	10	10	20	75	2	B	●
HM-2B-R6.0		6	12	12	24	75	2	B	●
HM-2B-R7.0		7	14	14	28	75	2	B	○
HM-2B-R8.0		8	16	16	32	100	2	B	●
HM-2B-R10.0		10	20	20	40	100	2	B	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
					✔

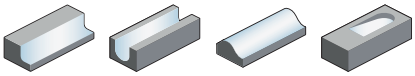
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

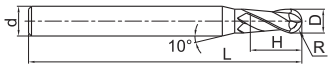
Frese a testa sferica codolo lungo

Lavorazioni di acciai temprati

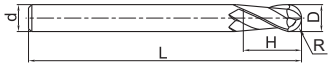
HM-2BL



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 35°



A



B

Articolo	✻	Dimensioni [mm] R	D	d (h6)	H	L	Denti	Geometria	Grado KMG555
HM-2BL-R1.0		1	2	6	4	75	2	A	●
HM-2BL-R1.25		1,25	2,5	6	6	75	2	A	●
HM-2BL-R1.5		1,5	3	6	6	75	2	A	●
HM-2BL-R1.75		1,75	3,5	6	8	75	2	A	●
HM-2BL-R2.0		2	4	6	8	75	2	A	●
HM-2BL-R2.5		2,5	5	6	10	75	2	A	●
HM-2BL-R2.75		2,75	5,5	6	12	75	2	A	○
HM-2BL-R3.0		3	6	6	12	75	2	B	●
HM-2BL-R3.5		3,5	7	8	14	75	2	A	●
HM-2BL-R4.0		4	8	8	16	100	2	B	●
HM-2BL-R4.5		4,5	9	10	18	100	2	A	○
HM-2BL-R5.0		5	10	10	20	100	2	B	●
HM-2BL-R6.0		6	12	12	24	100	2	B	●
HM-2BL-R7.0		7	14	14	28	100	2	B	○
HM-2BL-R8.0		8	16	16	32	150	2	B	○
HM-2BL-R10.0		10	20	20	40	150	2	B	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
					✔

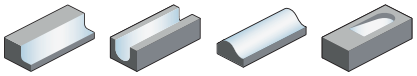
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

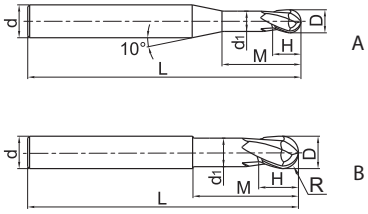
Frese a testa sferica tagliente corto

Lavorazioni di acciai temprati

HM-2BFP



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 35°



Articolo	✻	Dimensioni [mm]							Denti	Geometria	Grado
		R	D	d (h6)	d_1	H	M	L			KMG555
HM-2BFP-R0.5		0,5	1	6	0,95	1	2,5	75	2	A	●
HM-2BFP-R0.75		0,75	1,5	6	1,45	1,5	3	75	2	A	●
HM-2BFP-R1.0		1	2	6	1,95	2	4	75	2	A	●
HM-2BFP-R1.5		1,5	3	6	2,85	3	6	75	2	A	●
HM-2BFP-R2.0		2	4	6	3,85	4	8	75	2	A	●
HM-2BFP-R2.5		2,5	5	6	4,85	5	10	75	2	A	●
HM-2BFP-R3.0		3	6	6	5,8	6	12	75	2	B	●
HM-2BFP-R4.0		4	8	8	7,8	8	16	100	2	B	●
HM-2BFP-R5.0		5	10	10	9,6	10	20	100	2	B	●
HM-2BFP-R6.0		6	12	12	11,5	12	24	100	2	B	●
HM-2BFP-R8.0		8	16	16	15,5	16	32	150	2	B	●
HM-2BFP-R10.0		10	20	20	19,5	20	40	150	2	B	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
					✔

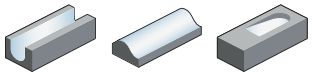
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

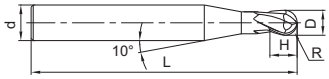
Frese a testa sferica

Lavorazioni di acciai temprati

HM-2BS



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 35°



Articolo	✻	Dimensioni [mm]					Denti	Grado
		R	D	d (h6)	H	L		KMG555
HM-2BS-R0.15		0,15	0,3	4	0,5	50	2	●
HM-2BS-R0.20		0,2	0,4	4	0,6	50	2	●
HM-2BS-R0.25		0,25	0,5	4	0,8	50	2	●
HM-2BS-R0.30		0,3	0,6	4	0,9	50	2	●
HM-2BS-R0.35		0,35	0,7	4	1	50	2	○
HM-2BS-R0.40		0,4	0,8	4	1,2	50	2	●
HM-2BS-R0.45		0,45	0,9	4	1,3	50	2	●
HM-2BS-R0.50		0,5	1	4	1,5	50	2	●
HM-2BS-R0.60		0,6	1,2	4	1,8	50	2	●
HM-2BS-R0.70		0,7	1,4	4	2	50	2	○
HM-2BS-R0.75		0,75	1,5	4	2,3	50	2	●
HM-2BS-R0.80		0,8	1,6	4	2,5	50	2	○
HM-2BS-R0.90		0,9	1,8	4	2,7	50	2	●
HM-2BS-R1.00		1	2	4	3	50	2	●
HM-2BS-R1.25		1,25	2,5	4	3,7	50	2	●
HM-2BS-R1.50		1,5	3	4	4,5	50	2	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
					✔

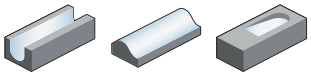
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

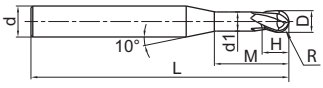
Frese a testa sferica

Lavorazioni di acciai temprati

HM-2BP



– Codolo cilindrico
– taglio al centro
– Angolo di inclinazione dell'elica 35°



Articolo	✻	Dimensioni [mm] R	D	d (h6)	d_1	H	M	L	Denti	Grado KMG555
HM-2BP-R0.25-M04		0,25	0,5	4	0,45	0,7	4	50	2	●
HM-2BP-R0.25-M06		0,25	0,5	4	0,45	0,7	6	50	2	●
HM-2BP-R0.3-M04		0,3	0,6	4	0,55	0,9	4	50	2	●
HM-2BP-R0.3-M06		0,3	0,6	4	0,55	0,9	6	50	2	●
HM-2BP-R0.3-M08		0,3	0,6	4	0,55	0,9	8	50	2	●
HM-2BP-R0.4-M04		0,4	0,8	4	0,75	1,2	4	50	2	●
HM-2BP-R0.4-M06		0,4	0,8	4	0,75	1,2	6	50	2	●
HM-2BP-R0.4-M08		0,4	0,8	4	0,75	1,2	8	50	2	●
HM-2BP-R0.4-M10		0,4	0,8	4	0,75	1,2	10	50	2	○
HM-2BP-R0.5-M04		0,5	1	4	0,95	1,5	4	50	2	●
HM-2BP-R0.5-M06		0,5	1	4	0,95	1,5	6	50	2	●
HM-2BP-R0.5-M08		0,5	1	4	0,95	1,5	8	50	2	●
HM-2BP-R0.5-M10		0,5	1	4	0,95	1,5	10	50	2	●
HM-2BP-R0.5-M12		0,5	1	4	0,95	1,5	12	50	2	●
HM-2BP-R0.6-M06		0,6	1,2	4	1,15	1,8	6	50	2	●
HM-2BP-R0.6-M08		0,6	1,2	4	1,15	1,8	8	50	2	●
HM-2BP-R0.6-M12		0,6	1,2	4	1,15	1,8	12	50	2	●
HM-2BP-R0.6-M16		0,6	1,2	4	1,15	1,8	16	50	2	○
HM-2BP-R0.75-M08		0,75	1,5	4	1,45	2,3	8	50	2	●
HM-2BP-R0.75-M12		0,75	1,5	4	1,45	2,3	12	50	2	●
HM-2BP-R0.75-M16		0,75	1,5	4	1,45	2,3	16	50	2	●
HM-2BP-R1.0-M06		1	2	4	1,95	3	6	50	2	●
HM-2BP-R1.0-M08		1	2	4	1,95	3	8	50	2	●
HM-2BP-R1.0-M10		1	2	4	1,95	3	10	50	2	●
HM-2BP-R1.0-M12		1	2	4	1,95	3	12	50	2	●
HM-2BP-R1.0-M16		1	2	4	1,95	3	16	50	2	●
HM-2BP-R1.0-M20		1	2	4	1,95	3	20	50	2	●
HM-2BP-R1.25-M08		1,25	2,5	4	2,4	3,7	8	50	2	●
HM-2BP-R1.25-M12		1,25	2,5	4	2,4	3,7	12	50	2	○
HM-2BP-R1.25-M16		1,25	2,5	4	2,4	3,7	16	60	2	●
HM-2BP-R1.25-M20		1,25	2,5	4	2,4	3,7	20	60	2	○
HM-2BP-R1.5-M08		1,5	3	6	2,85	4,5	8	50	2	●
HM-2BP-R1.5-M10		1,5	3	6	2,85	4,5	10	50	2	●
HM-2BP-R1.5-M12		1,5	3	6	2,85	4,5	12	50	2	●
HM-2BP-R1.5-M16		1,5	3	6	2,85	4,5	16	60	2	●
HM-2BP-R1.5-M20		1,5	3	6	2,85	4,5	20	60	2	●
HM-2BP-R2.0-M10		2	4	6	3,85	6	10	60	2	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
					✔

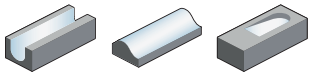
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

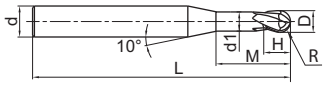
Frese a testa sferica

Lavorazioni di acciai temprati

HM-2BP



– Codolo cilindrico
– taglio al centro
– Angolo di inclinazione dell'elica 35°



Articolo	✻	Dimensioni [mm]							Denti	Grado
		R	D	d (h6)	d_1	H	M	L		KMG555
HM-2BP-R2.0-M16		2	4	6	3,85	6	16	60	2	●
HM-2BP-R2.0-M20		2	4	6	3,85	6	20	60	2	●
HM-2BP-R2.0-M25		2	4	6	3,85	6	25	60	2	●
HM-2BP-R2.5-M16		2,5	5	6	4,85	7,5	16	60	2	●
HM-2BP-R2.5-M25		2,5	5	6	4,85	7,5	25	70	2	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
					✔

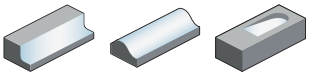
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

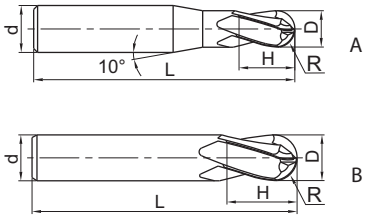
Frese a testa sferica

Lavorazioni di acciai temprati

HM-4B



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 35°



Articolo	✻	Dimensioni [mm] R	D	d (h6)	H	L	Denti	Geometria	Grado KMG555
HM-4B-R1.0		1	2	6	4	50	4	A	●
HM-4B-R1.5		1,5	3	6	6	50	4	A	●
HM-4B-R2.0		2	4	6	8	50	4	A	●
HM-4B-R2.5		2,5	5	6	10	50	4	A	●
HM-4B-R3.0		3	6	6	12	50	4	B	●
HM-4B-R4.0		4	8	8	16	60	4	B	●
HM-4B-R5.0		5	10	10	20	75	4	B	●
HM-4B-R6.0		6	12	12	24	75	4	B	●
HM-4B-R7.0		7	14	14	28	75	4	B	●
HM-4B-R8.0		8	16	16	32	100	4	B	●
HM-4B-R9.0		9	18	18	36	100	4	B	○
HM-4B-R10.0		10	20	20	40	100	4	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
					✔

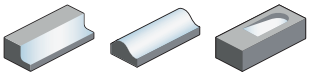
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

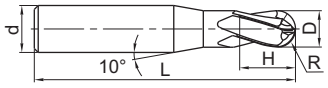
Frese a testa sferica codolo lungo

Lavorazioni di acciai temprati

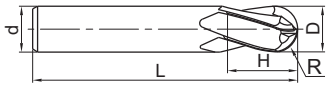
HM-4BL



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 35°



A



B

Articolo	✻	Dimensioni [mm]					Denti	Geometria	Grado
		R	D	d (h6)	H	L			KMG555
HM-4BL-R1.5		1,5	3	6	6	75	4	A	●
HM-4BL-R2.0		2	4	6	8	75	4	A	●
HM-4BL-R2.5		2,5	5	6	10	75	4	A	●
HM-4BL-R3.0		3	6	6	12	75	4	B	●
HM-4BL-R4.0		4	8	8	16	100	4	B	●
HM-4BL-R5.0		5	10	10	20	100	4	B	●
HM-4BL-R6.0		6	12	12	24	100	4	B	●
HM-4BL-R7.0		7	14	14	28	100	4	B	○
HM-4BL-R8.0		8	16	16	32	150	4	B	●
HM-4BL-R9.0		9	18	18	36	150	4	B	○
HM-4BL-R10.0		10	20	20	40	150	4	B	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
					✔

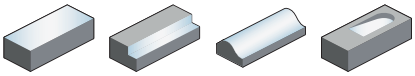
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

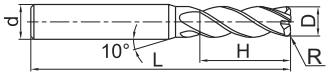
Frese toroidali

Lavorazioni di acciai temprati

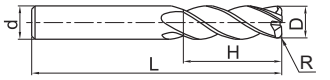
HM-4R



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 35°



A



B

Articolo	✻	Dimensioni [mm] R	D	d (h6)	H	L	Denti	Geometria	Grado KMG555
HM-4R-D3.0R0.2		0,2	3	4	8	50	4	A	●
HM-4R-D4.0R0.1		0,1	4	4	10	50	4	B	○
HM-4R-D4.0R0.2		0,2	4	4	10	50	4	B	○
HM-4R-D4.0R0.3		0,3	4	4	10	50	4	B	●
HM-4R-D4.0R0.5		0,5	4	4	10	50	4	B	●
HM-4R-D5.0R0.5		0,5	5	6	13	50	4	A	●
HM-4R-D5.0R1.0		1	5	6	13	50	4	A	●
HM-4R-D6.0R0.2		0,2	6	6	16	50	4	B	○
HM-4R-D6.0R0.5		0,5	6	6	16	50	4	B	●
HM-4R-D6.0R1.0		1	6	6	16	50	4	B	●
HM-4R-D8.0R0.5		0,5	8	8	20	60	4	B	●
HM-4R-D8.0R1.0		1	8	8	20	60	4	B	●
HM-4R-D10.0R0.5		0,5	10	10	25	75	4	B	●
HM-4R-D10.0R1.0		1	10	10	25	75	4	B	●
HM-4R-D10.0R2.0		2	10	10	25	75	4	B	●
HM-4R-D10.0R3.0		3	10	10	25	75	4	B	●
HM-4R-D12.0R0.5		0,5	12	12	30	75	4	B	●
HM-4R-D12.0R1.0		1	12	12	30	75	4	B	●
HM-4R-D12.0R2.0		2	12	12	30	75	4	B	●
HM-4R-D12.0R3.0		3	12	12	30	75	4	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
					✔

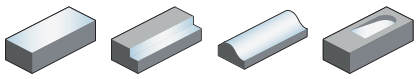
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

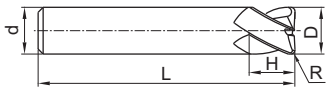
Frese toroidali tagliente corto

Lavorazioni di acciai temprati

HM-4RF



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 35°



Articolo	✻	Dimensioni [mm]					Denti	Grado
		R	D	d (h6)	H	L		KMG555
HM-4RF-D6.0R0.5		0,5	6	6	6	50	4	○
HM-4RF-D6.0R1.0		1	6	6	6	50	4	○
HM-4RF-D8.0R0.5		0,5	8	8	8	60	4	○
HM-4RF-D8.0R1.0		1	8	8	8	60	4	○
HM-4RF-D10.0R0.5		0,5	10	10	10	75	4	○
HM-4RF-D10.0R1.0		1	10	10	10	75	4	○
HM-4RF-D10.0R2.0		2	10	10	10	75	4	○
HM-4RF-D12.0R0.5		0,5	12	12	12	75	4	○
HM-4RF-D12.0R1.0		1	12	12	12	75	4	○
HM-4RF-D12.0R2.0		2	12	12	12	75	4	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
					✔

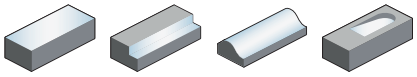
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

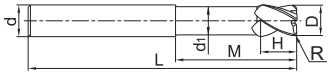
Frese toroidali codolo lungo

Lavorazioni di acciai temprati

HM-4RP



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 35°



Articolo	✻	Dimensioni [mm] R	D	d (h6)	d_1	H	M	L	Denti	Grado KMG555
HM-4RP-D3.0R0.5		0,5	3	6	2,8	3	25	75	4	○
HM-4RP-D4.0R0.5		0,5	4	6	3,8	4	30	75	4	○
HM-4RP-D4.0R1.0		1	4	6	3,8	4	30	75	4	○
HM-4RP-D5.0R0.5		0,5	5	6	4,8	5	30	75	4	○
HM-4RP-D6.0R0.5		0,5	6	6	5,8	6	18	75	4	○
HM-4RP-D6.0R1.0		1	6	6	5,8	6	18	75	4	○
HM-4RP-D8.0R0.5		0,5	8	8	7,8	8	24	100	4	○
HM-4RP-D8.0R1.0		1	8	8	7,8	8	24	100	4	○
HM-4RP-D10.0R0.5		0,5	10	10	9,6	10	30	100	4	○
HM-4RP-D10.0R1.0		1	10	10	9,6	10	30	100	4	○
HM-4RP-D10.0R2.0		2	10	10	9,6	10	30	100	4	○
HM-4RP-D12.0R0.5		0,5	12	12	11,5	12	36	100	4	○
HM-4RP-D12.0R1.0		1	12	12	11,5	12	36	100	4	○
HM-4RP-D12.0R2.0		2	12	12	11,5	12	36	100	4	○
HM-4RP-D16.0R1.0		1	16	16	15,5	16	40	150	4	●
HM-4RP-D16.0R2.0		2	16	16	15,5	16	40	150	4	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
					✔

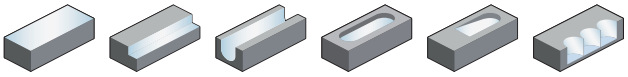
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

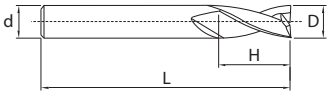
Frese a candela

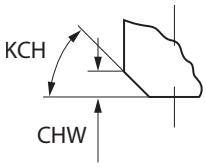
Lavorazione generica di materiali non ferrosi

5502R402NM



– Versione del codolo DIN 6535HA
– taglio al centro
– Angolo di inclinazione dell'elica 40°





Articolo	✻	Dimensioni [mm]						Denti	Grado
		D	d (h6)	H	L	KCH	CHW		YK30F
5502R402NM-0300		3	6	8	57	0	0	2	●
5502R402NM-0400		4	6	11	57	0	0	2	●
5502R402NM-0500		5	6	13	57	0	0	2	●
5502R402NM-0600		6	6	13	57	45	0,1	2	●
5502R402NM-0800		8	8	19	63	45	0,1	2	●
5502R402NM-1000		10	10	22	72	45	0,1	2	●
5502R402NM-1200		12	12	26	83	45	0,1	2	●
5502R402NM-1400		14	14	26	83	45	0,15	2	●
5502R402NM-1600		16	16	32	92	45	0,15	2	●
5502R402NM-1800		18	18	32	92	45	0,15	2	●
5502R402NM-2000		20	20	38	104	45	0,15	2	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
			✔		

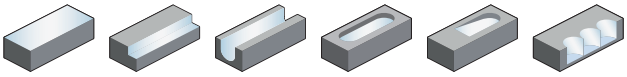
✔ Molto adatto
✔ Adatto

Codice sistema B362 | Dati di taglio B582 | Ordine utensili speciali B633

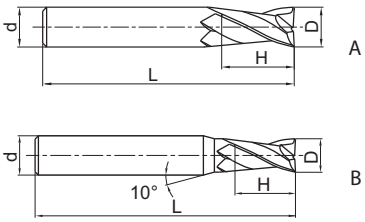
Frese a candela

Lavorazione generica di materiali non ferrosi

NM-2E



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 35°



Articolo	✻	Dimensioni [mm]				Denti	Geometria	Grado
		D	d (h6)	H	L			KMG309
NM-2E-D1.0		1	4	3	50	2	A	●
NM-2E-D2.0		2	4	6	50	2	A	●
NM-2E-D3.0		3	6	8	50	2	A	●
NM-2E-D4.0		4	6	11	50	2	A	●
NM-2E-D5.0		5	6	13	50	2	A	●
NM-2E-D6.0		6	6	16	50	2	B	●
NM-2E-D8.0		8	8	20	60	2	B	●
NM-2E-D10.0		10	10	25	75	2	B	●
NM-2E-D12.0		12	12	30	75	2	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
			✔		

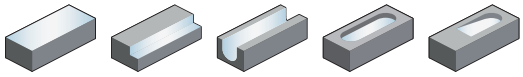
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

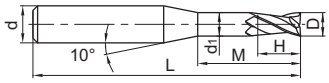
Frese a candela

Lavorazione generica di materiali non ferrosi

NM-2EP



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 35°



Articolo	✻	Dimensioni [mm] D	d (h6)	d_1	H	M	L	Denti	Grado KMG309
NM-2EP-D0.5-M04		0,5	4	0,45	0,7	4	50	2	●
NM-2EP-D0.5-M06		0,5	4	0,45	0,7	6	50	2	●
NM-2EP-D0.5-M08		0,5	4	0,45	0,7	8	50	2	●
NM-2EP-D0.8-M04		0,8	4	0,75	1,2	4	50	2	●
NM-2EP-D0.8-M06		0,8	4	0,75	1,2	6	50	2	●
NM-2EP-D0.8-M08		0,8	4	0,75	1,2	8	50	2	●
NM-2EP-D0.8-M10		0,8	4	0,75	1,2	10	50	2	●
NM-2EP-D1.0-M04		1	4	0,95	1,5	4	50	2	●
NM-2EP-D1.0-M06		1	4	0,95	1,5	6	50	2	●
NM-2EP-D1.0-M08		1	4	0,95	1,5	8	50	2	●
NM-2EP-D1.0-M10		1	4	0,95	1,5	10	50	2	●
NM-2EP-D1.0-M12		1	4	0,95	1,5	12	50	2	●
NM-2EP-D1.0-M14		1	4	0,95	1,5	14	50	2	●
NM-2EP-D1.5-M08		1,5	4	1,45	2,3	8	50	2	●
NM-2EP-D1.5-M16		1,5	4	1,45	2,3	16	50	2	●
NM-2EP-D2.0-M06		2	4	1,95	3	6	50	2	●
NM-2EP-D2.0-M08		2	4	1,95	3	8	50	2	●
NM-2EP-D2.0-M10		2	4	1,95	3	10	50	2	●
NM-2EP-D2.0-M12		2	4	1,95	3	12	50	2	●
NM-2EP-D2.0-M14		2	4	1,95	3	14	50	2	●
NM-2EP-D2.0-M16		2	4	1,95	3	16	50	2	●
NM-2EP-D2.5-M10		2,5	4	2,4	3,7	10	50	2	●
NM-2EP-D2.5-M20		2,5	4	2,4	3,7	20	60	2	●
NM-2EP-D3.0-M10		3	6	2,85	4,5	10	50	2	●
NM-2EP-D3.0-M20		3	6	2,85	4,5	20	60	2	●
NM-2EP-D4.0-M16		4	6	3,85	6	16	60	2	●
NM-2EP-D4.0-M25		4	6	3,85	6	25	60	2	●
NM-2EP-D5.0-M16		5	6	4,85	7,5	16	60	2	●
NM-2EP-D5.0-M25		5	6	4,85	7,5	25	70	2	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
			✔		

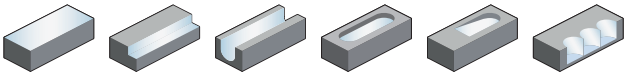
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

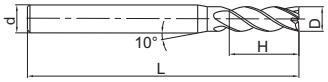
Frese a candela

Lavorazione generica di materiali non ferrosi

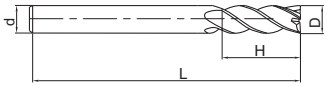
NM-4E



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 35°



A



B

Articolo	✻	Dimensioni [mm] D	d (h6)	H	L	Denti	Geometria	Grado KMG309
NM-4E-D3.0		3	6	8	50	4	A	●
NM-4E-D4.0		4	6	11	50	4	A	●
NM-4E-D5.0		5	6	13	50	4	A	●
NM-4E-D6.0		6	6	16	50	4	B	●
NM-4E-D8.0		8	8	20	60	4	B	●
NM-4E-D10.0		10	10	25	75	4	B	●
NM-4E-D12.0		12	12	30	75	4	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
			✔		

✔ Molto adatto
✔ Adatto

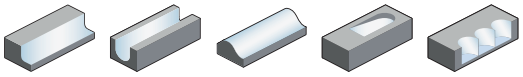
Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

Frese in metallo duro integrale

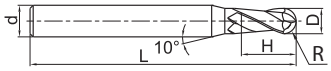
Frese a testa sferica

Lavorazione generica di materiali non ferrosi

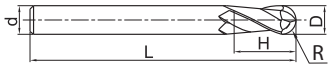
NM-2B



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 35°



A



B

Articolo	✻	Dimensioni [mm]					Denti	Geometria	Grado
		R	D	d (h6)	H	L			KMG309
NM-2B-R0.5		0,5	1	4	2	50	2	A	●
NM-2B-R0.75		0,75	1,5	4	3	50	2	A	●
NM-2B-R1.0		1	2	4	4	50	2	A	●
NM-2B-R1.25		1,25	2,5	4	5	50	2	A	●
NM-2B-R1.5		1,5	3	6	6	50	2	A	●
NM-2B-R1.75		1,75	3,5	6	8	50	2	A	●
NM-2B-R2.0		2	4	6	8	50	2	A	●
NM-2B-R2.5		2,5	5	6	10	50	2	A	●
NM-2B-R3.0		3	6	6	12	50	2	B	●
NM-2B-R4.0		4	8	8	16	60	2	B	●
NM-2B-R5.0		5	10	10	20	75	2	B	●
NM-2B-R6.0		6	12	12	24	75	2	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
			✔		

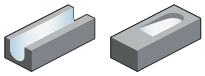
✔ Molto adatto
✔ Adatto

Codice sistema B362 | Dati di taglio B582 | Ordine utensili speciali B633

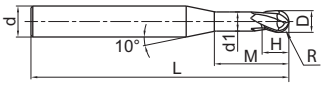
Frese a testa sferica

Lavorazione generica di materiali non ferrosi

NM-2BP



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 35°



Articolo	✻	Dimensioni [mm]							Denti	Grado
		R	D	d (h6)	d_1	H	M	L		KMG309
NM-2BP-R0.25-M04		0,25	0,5	4	0,45	0,7	4	50	2	●
NM-2BP-R0.25-M06		0,25	0,5	4	0,45	0,7	6	50	2	●
NM-2BP-R0.3-M04		0,3	0,6	4	0,55	0,9	4	50	2	●
NM-2BP-R0.3-M06		0,3	0,6	4	0,55	0,9	6	50	2	●
NM-2BP-R0.3-M08		0,3	0,6	4	0,55	0,9	8	50	2	●
NM-2BP-R0.4-M04		0,4	0,8	4	0,75	1,2	4	50	2	●
NM-2BP-R0.4-M06		0,4	0,8	4	0,75	1,2	6	50	2	●
NM-2BP-R0.4-M08		0,4	0,8	4	0,75	1,2	8	50	2	●
NM-2BP-R0.4-M10		0,4	0,8	4	0,75	1,2	10	50	2	●
NM-2BP-R0.5-M04		0,5	1	4	0,95	1,5	4	50	2	●
NM-2BP-R0.5-M06		0,5	1	4	0,95	1,5	6	50	2	●
NM-2BP-R0.5-M08		0,5	1	4	0,95	1,5	8	50	2	●
NM-2BP-R0.5-M10		0,5	1	4	0,95	1,5	10	50	2	●
NM-2BP-R0.5-M12		0,5	1	4	0,95	1,5	12	50	2	●
NM-2BP-R0.75-M08		0,75	1,5	4	1,45	2,3	8	50	2	●
NM-2BP-R0.75-M16		0,75	1,5	4	1,45	2,3	16	50	2	●
NM-2BP-R1.0-M06		1	2	4	1,95	3	6	50	2	●
NM-2BP-R1.0-M08		1	2	4	1,95	3	8	50	2	●
NM-2BP-R1.0-M10		1	2	4	1,95	3	10	50	2	●
NM-2BP-R1.0-M12		1	2	4	1,95	3	12	50	2	●
NM-2BP-R1.0-M16		1	2	4	1,95	3	16	50	2	●
NM-2BP-R1.0-M20		1	2	4	1,95	3	20	60	2	●
NM-2BP-R1.5-M10		1,5	3	6	2,85	4,5	10	50	2	●
NM-2BP-R1.5-M20		1,5	3	6	2,85	4,5	20	60	2	●
NM-2BP-R2.0-M10		2	4	6	3,85	6	10	60	2	●
NM-2BP-R2.0-M16		2	4	6	3,85	6	16	60	2	●
NM-2BP-R2.0-M20		2	4	6	3,85	6	20	60	2	●
NM-2BP-R2.0-M25		2	4	6	3,85	6	25	60	2	●
NM-2BP-R2.5-M16		2,5	5	6	4,85	7,5	16	60	2	●
NM-2BP-R2.5-M25		2,5	5	6	4,85	7,5	25	70	2	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
			✔		

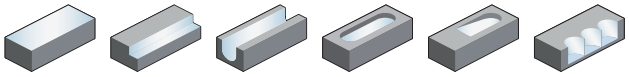
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

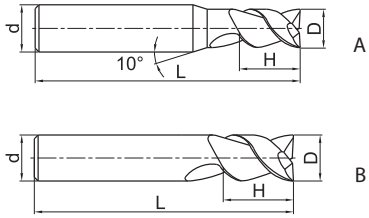
Frese a candela

Lavorazione generica di Al. e leghe di alluminio

AL-2E



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 55°



Articolo	✻	Dimensioni [mm] D	d (h6)	H	L	Denti	Geometria	Grado YK30F
AL-2E-D1.0		1	4	3	50	2	A	●
AL-2E-D1.5		1,5	4	4	50	2	A	●
AL-2E-D2.0		2	4	6	50	2	A	●
AL-2E-D2.5		2,5	4	7	50	2	A	●
AL-2E-D3.0		3	6	9	50	2	A	●
AL-2E-D4.0		4	6	12	50	2	A	●
AL-2E-D5.0		5	6	15	50	2	A	●
AL-2E-D6.0		6	6	18	60	2	B	●
AL-2E-D8.0		8	8	20	60	2	B	●
AL-2E-D10.0		10	10	30	75	2	B	●
AL-2E-D12.0		12	12	32	75	2	B	●
AL-2E-D16.0		16	16	45	100	2	B	●
AL-2E-D20.0		20	20	45	100	2	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
			✔		

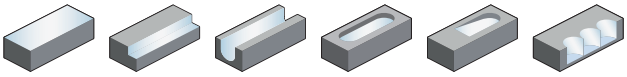
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

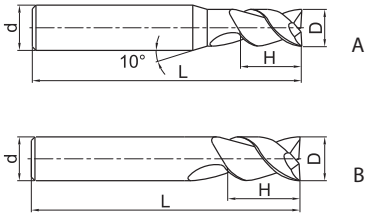
Frese a candela tagliente lungo

Lavorazione generica di Al. e leghe di alluminio

AL-2EL



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 55°



Articolo	✻	Dimensioni [mm]				Denti	Geometria	Grado
		D	d (h6)	H	L			YK30F
AL-2EL-D3.0		3	6	12	60	2	A	●
AL-2EL-D4.0		4	6	16	60	2	A	●
AL-2EL-D5.0		5	6	20	60	2	A	●
AL-2EL-D6.0		6	6	25	75	2	B	●
AL-2EL-D8.0		8	8	32	75	2	B	○
AL-2EL-D10.0		10	10	45	100	2	B	●
AL-2EL-D12.0		12	12	45	100	2	B	●
AL-2EL-D16.0		16	16	65	150	2	B	●
AL-2EL-D20.0		20	20	75	150	2	B	●

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
			✔		

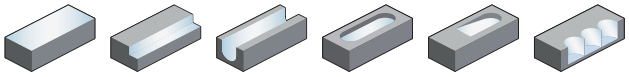
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

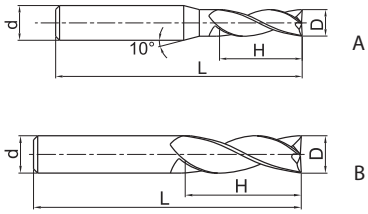
Frese a candela

Lavorazione generica di Al. e leghe di alluminio

AL-3E



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 45°



Articolo	✻	Dimensioni [mm]				Denti	Geometria	Grado
		D	d (h6)	H	L			YK30F
AL-3E-D1.0		1	4	3	50	3	A	●
AL-3E-D1.5		1,5	4	4	50	3	A	●
AL-3E-D2.0		2	4	6	50	3	A	●
AL-3E-D2.5		2,5	4	7	50	3	A	●
AL-3E-D3.0		3	6	9	50	3	A	●
AL-3E-D4.0		4	6	12	50	3	A	●
AL-3E-D5.0		5	6	15	50	3	A	●
AL-3E-D6.0		6	6	18	60	3	B	●
AL-3E-D8.0		8	8	20	60	3	B	●
AL-3E-D10.0		10	10	30	75	3	B	●
AL-3E-D12.0		12	12	32	75	3	B	●
AL-3E-D16.0		16	16	45	100	3	B	●
AL-3E-D20.0		20	20	45	100	3	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
			✔		

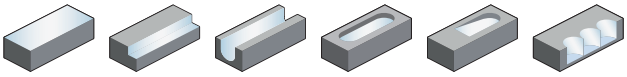
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

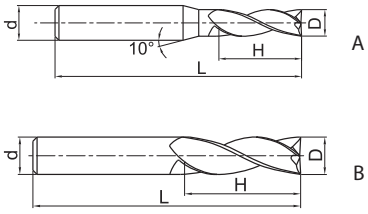
Frese a candela tagliente lungo

Lavorazione generica di Al. e leghe di alluminio

AL-3EL



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 45°



Articolo	✻	Dimensioni [mm]				Denti	Geometria	Grado
		D	d (h6)	H	L			YK30F
AL-3EL-D3.0		3	6	12	60	3	A	●
AL-3EL-D4.0		4	6	16	60	3	A	●
AL-3EL-D5.0		5	6	20	60	3	A	●
AL-3EL-D6.0		6	6	25	75	3	B	●
AL-3EL-D8.0		8	8	32	75	3	B	●
AL-3EL-D10.0		10	10	45	100	3	B	●
AL-3EL-D12.0		12	12	45	100	3	B	●
AL-3EL-D16.0		16	16	65	150	3	B	●
AL-3EL-D20.0		20	20	75	150	3	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
			✔		

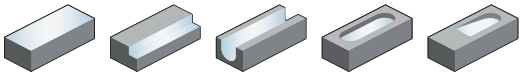
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

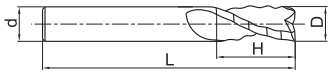
Frese a candela per sgrossatura

Lavorazione generica di Al. e leghe di alluminio

AL-3W



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 30°



Articolo	✻	Dimensioni [mm]				Denti	Grado
		D	d (h6)	H	L		YK30F
AL-3W-D6.0		6	6	16	50	3	●
AL-3W-D8.0		8	8	20	60	3	●
AL-3W-D10.0		10	10	25	75	3	●
AL-3W-D12.0		12	12	30	75	3	●
AL-3W-D16.0		16	16	45	100	3	●
AL-3W-D18.0		18	18	45	100	3	○
AL-3W-D20.0		20	20	45	100	3	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
			✔		

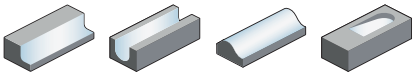
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

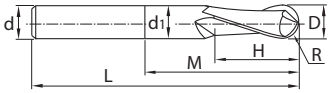
Frese a testa sferica

Lavorazione ad alte prestazioni di materiali non ferrosi

5565R302NH



– Versione del codolo DIN 6535HA
– taglio al centro
– Angolo di inclinazione dell'elica 30°



Articolo	✻	Dimensioni [mm] D	R	d (h6)	d_1	H	M	L	Denti	Grado YK40F
5565R302NH-0300		3	1,5	6	2,8	6	9	57	2	●
5565R302NH-0400		4	2	6	3,7	8	12	57	2	●
5565R302NH-0500		5	2,5	6	4,6	10	15	57	2	●
5565R302NH-0600		6	3	6	5,5	12	20	57	2	●
5565R302NH-0800		8	4	8	7,4	16	26	63	2	●
5565R302NH-1000		10	5	10	9,2	20	31	72	2	●
5565R302NH-1200		12	6	12	11	24	37	83	2	●
5565R302NH-1600		16	8	16	15	32	43	92	2	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
			✔		

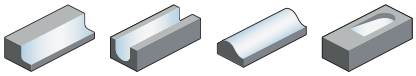
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

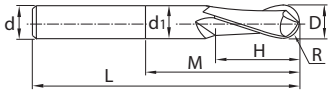
Frese a testa sferica codolo lungo

Lavorazione ad alte prestazioni di materiali non ferrosi

5566R302NH



– Versione del codolo DIN 6535HA
– taglio al centro
– Angolo di inclinazione dell'elica 30°



Articolo	✻	Dimensioni [mm]							Denti	Grado
		D	R	d (h6)	d_1	H	M	L		YK40F
5566R302NH-0300		3	1,5	6	2,8	6	9	75	2	●
5566R302NH-0400		4	2	6	3,7	8	12	75	2	●
5566R302NH-0500		5	2,5	6	4,6	10	15	80	2	●
5566R302NH-0600		6	3	6	5,5	12	20	80	2	●
5566R302NH-0800		8	4	8	7,4	16	26	90	2	●
5566R302NH-1000		10	5	10	9,2	20	31	100	2	●
5566R302NH-1200		12	6	12	11	24	37	120	2	●
5566R302NH-1600		16	8	16	15	32	43	140	2	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
			✔		

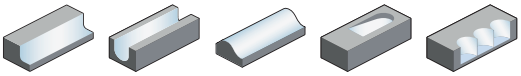
✔ Molto adatto
✔ Adatto

Codice sistema B362 | Dati di taglio B582 | Ordine utensili speciali B633

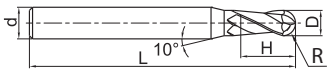
Frese a testa sferica

Lavorazione generica di Al. e leghe di alluminio

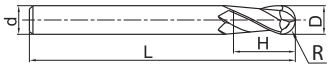
AL-2B



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 35°



A



B

Articolo	✻	Dimensioni [mm] R	D	d (h6)	H	L	Denti	Geometria	Grado YK30F
AL-2B-R1.0		1	2	6	4	60	2	A	○
AL-2B-R1.5		1,5	3	6	6	60	2	A	○
AL-2B-R2.0		2	4	6	8	60	2	A	○
AL-2B-R2.5		2,5	5	6	10	60	2	A	○
AL-2B-R3.0		3	6	6	12	60	2	B	○
AL-2B-R4.0		4	8	8	16	75	2	B	○
AL-2B-R5.0		5	10	10	20	75	2	B	○
AL-2B-R6.0		6	12	12	24	75	2	B	○

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
			✔		

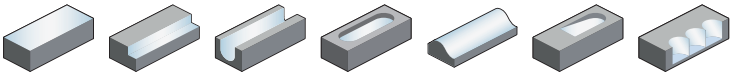
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

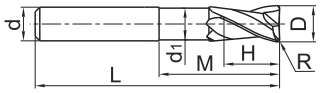
Frese toroidali

Lavorazione generica di Al. e leghe di alluminio

AL-2R-AIR



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 30°



Articolo	✻	Dimensioni [mm] R	D	d (h6)	d_1	H	M	L	Denti	Grado YK40F
AL-2R-D6.0R1.0-AIR		1	6	6	5,5	7	20	57	2	●
AL-2R-D8.0R1.0-AIR		1	8	8	7,4	9	26	63	2	●
AL-2R-D10.0R1.0-AIR		1	10	10	9,2	11	31	72	2	○
AL-2R-D10.0R2.0-AIR		2	10	10	9,2	11	31	72	2	○
AL-2R-D12.0R1.0-AIR		1	12	12	11	12	37	83	2	●
AL-2R-D12.0R2.0-AIR		2	12	12	11	12	37	83	2	○
AL-2R-D12.0R3.0-AIR		3	12	12	11	12	37	83	2	○
AL-2R-D16.0R1.0-AIR		1	16	16	15	16	43	92	2	○
AL-2R-D16.0R2.0-AIR		2	16	16	15	16	43	92	2	○
AL-2R-D16.0R3.0-AIR		3	16	16	15	16	43	92	2	○
AL-2R-D16.0R4.0-AIR		4	16	16	15	16	43	92	2	○
AL-2R-D20.0R1.0-AIR		1	20	20	19	20	53	104	2	●
AL-2R-D20.0R2.0-AIR		2	20	20	19	20	53	104	2	○
AL-2R-D20.0R3.0-AIR		3	20	20	19	20	53	104	2	○
AL-2R-D20.0R4.0-AIR		4	20	20	19	20	53	104	2	○
AL-2R-D20.0R5.0-AIR		5	20	20	19	20	53	104	2	●
AL-2R-D20.0R6.0-AIR		6	20	20	19	20	53	104	2	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
			✔		

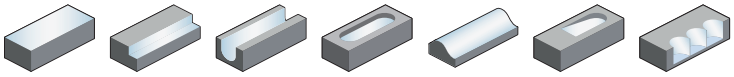
✔ Molto adatto
✔ Adatto

Codice sistema B362 | Dati di taglio B582 | Ordine utensili speciali B633

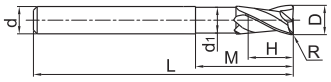
Frese toroidali codolo lungo

Lavorazione generica di Al. e leghe di alluminio

AL-2RL-AIR



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 30°



Articolo	✻	Dimensioni [mm]							Denti	Grado
		R	D	d (h6)	d_1	H	M	L		YK40F
AL-2RL-D6.0R1.0-AIR		1	6	6	5,5	7	43	80	2	●
AL-2RL-D8.0R1.0-AIR		1	8	8	7,4	9	53	90	2	●
AL-2RL-D10.0R1.0-AIR		1	10	10	9,2	11	59	100	2	●
AL-2RL-D10.0R2.0-AIR		2	10	10	9,2	11	59	100	2	●
AL-2RL-D12.0R1.0-AIR		1	12	12	11	12	74	120	2	●
AL-2RL-D12.0R2.0-AIR		2	12	12	11	12	74	120	2	●
AL-2RL-D12.0R3.0-AIR		3	12	12	11	12	74	120	2	●
AL-2RL-D16.0R1.0-AIR		1	16	16	15	16	84	140	2	●
AL-2RL-D16.0R2.0-AIR		2	16	16	15	16	84	140	2	●
AL-2RL-D16.0R3.0-AIR		3	16	16	15	16	84	140	2	●
AL-2RL-D16.0R4.0-AIR		4	16	16	15	16	84	140	2	●
AL-2RL-D20.0R1.0-AIR		1	20	20	19	20	89	140	2	○
AL-2RL-D20.0R2.0-AIR		2	20	20	19	20	89	140	2	●
AL-2RL-D20.0R3.0-AIR		3	20	20	19	20	89	140	2	●
AL-2RL-D20.0R4.0-AIR		4	20	20	19	20	89	140	2	●
AL-2RL-D20.0R5.0-AIR		5	20	20	19	20	89	140	2	○
AL-2RL-D20.0R6.0-AIR		6	20	20	19	20	89	140	2	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
			✔		

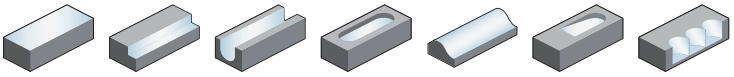
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

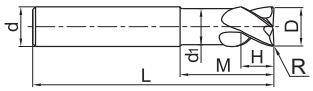
Frese toroidali

Lavorazione generica di Al. e leghe di alluminio

AL-3R-AIR



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 30°



Articolo	✻	Dimensioni [mm]							Denti	Grado
		R	D	d (h6)	d_1	H	M	L		YK40F
AL-3R-D12.0R1.0-AIR		1	12	12	11	12	37	83	3	●
AL-3R-D12.0R2.0-AIR		2	12	12	11	12	37	83	3	●
AL-3R-D12.0R3.0-AIR		3	12	12	11	12	37	83	3	●
AL-3R-D16.0R1.0-AIR		1	16	16	15	16	43	92	3	●
AL-3R-D16.0R2.0-AIR		2	16	16	15	16	43	92	3	●
AL-3R-D16.0R3.0-AIR		3	16	16	15	16	43	92	3	●
AL-3R-D16.0R4.0-AIR		4	16	16	15	16	43	92	3	●
AL-3R-D20.0R1.0-AIR		1	20	20	19	20	53	104	3	●
AL-3R-D20.0R2.0-AIR		2	20	20	19	20	53	104	3	○
AL-3R-D20.0R3.0-AIR		3	20	20	19	20	53	104	3	○
AL-3R-D20.0R4.0-AIR		4	20	20	19	20	53	104	3	○
AL-3R-D20.0R5.0-AIR		5	20	20	19	20	53	104	3	●
AL-3R-D20.0R6.0-AIR		6	20	20	19	20	53	104	3	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
			✔		

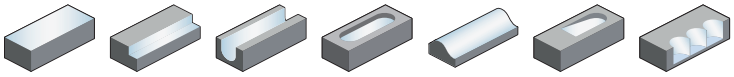
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

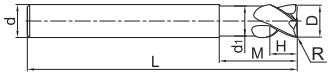
Frese toroidali codolo lungo

Lavorazione generica di Al. e leghe di alluminio

AL-3RL-AIR



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 30°



Articolo	✻	Dimensioni [mm]							Denti	Grado
		R	D	d (h6)	d_1	H	M	L		YK40F
AL-3RL-D12.0R1.0-AIR		1	12	12	11	12	74	120	3	●
AL-3RL-D12.0R2.0-AIR		2	12	12	11	12	74	120	3	●
AL-3RL-D12.0R3.0-AIR		3	12	12	11	12	74	120	3	●
AL-3RL-D16.0R1.0-AIR		1	16	16	15	16	84	140	3	●
AL-3RL-D16.0R2.0-AIR		2	16	16	15	16	84	140	3	○
AL-3RL-D16.0R3.0-AIR		3	16	16	15	16	84	140	3	●
AL-3RL-D16.0R4.0-AIR		4	16	16	15	16	84	140	3	●
AL-3RL-D20.0R1.0-AIR		1	20	20	19	20	89	140	3	●
AL-3RL-D20.0R2.0-AIR		2	20	20	19	20	89	140	3	○
AL-3RL-D20.0R3.0-AIR		3	20	20	19	20	89	140	3	○
AL-3RL-D20.0R4.0-AIR		4	20	20	19	20	89	140	3	○
AL-3RL-D20.0R5.0-AIR		5	20	20	19	20	89	140	3	○
AL-3RL-D20.0R6.0-AIR		6	20	20	19	20	89	140	3	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
			✔		

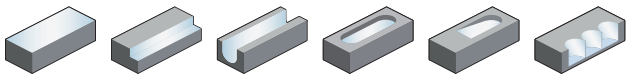
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

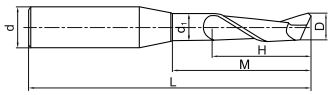
Frese a candela

Lavorazione ad alte prestazioni di Al. e leghe di alluminio

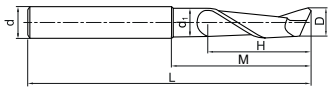
ALP-1EP



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 23°



A



B

Articolo	✻	Dimensioni [mm]						Denti	Geometria	Grado	
		D	d (h6)	d_1	H	M	L			KMD401	YK40F
ALP-1EP-D2.0-M08S		2	4	1,8	6	8	45	1	A	○	
ALP-1EP-D2.0-M12S		2	4	1,8	6	12	45	1	A	○	○
ALP-1EP-D3.0-M12S		3	4	2,8	8	12	45	1	A	○	○
ALP-1EP-D3.0-M18S		3	4	2,8	8	18	45	1	A	○	○
ALP-1EP-D4.0-M16S		4	4	3,8	10	16	45	1	B	○	○
ALP-1EP-D4.0-M24S		4	4	3,8	10	24	45	1	B	○	○
ALP-1EP-D2.0-M08		2	6	1,8	6	8	45	1	A	●	●
ALP-1EP-D2.0-M12		2	6	1,8	6	12	45	1	A	●	●
ALP-1EP-D3.0-M12		3	6	2,8	8	12	45	1	A	●	●
ALP-1EP-D3.0-M18		3	6	2,8	8	18	45	1	A	●	●
ALP-1EP-D4.0-M16		4	6	3,8	10	16	45	1	A	●	●
ALP-1EP-D4.0-M24		4	6	3,8	10	24	55	1	A	●	●
ALP-1EP-D5.0-M20		5	6	4,8	13	20	55	1	A	●	●
ALP-1EP-D5.0-M30		5	6	4,8	13	30	65	1	A	●	●
ALP-1EP-D6.0-M24		6	6	5,8	16	24	55	1	B	●	●
ALP-1EP-D6.0-M36		6	6	5,8	16	36	75	1	B	●	●
ALP-1EP-D8.0-M32		8	8	7,7	22	32	75	1	B	●	●
ALP-1EP-D8.0-M48		8	8	7,7	22	48	90	1	B	●	●
ALP-1EP-D10.0-M40		10	10	9,6	27	40	80	1	B	●	●
ALP-1EP-D10.0-M60		10	10	9,6	27	60	100	1	B	●	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
			✔		

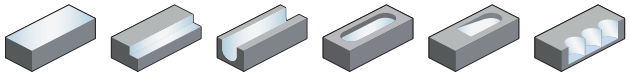
✔ Molto adatto
✔ Adatto

Codice sistema B362 | Dati di taglio B582 | Ordine utensili speciali B633

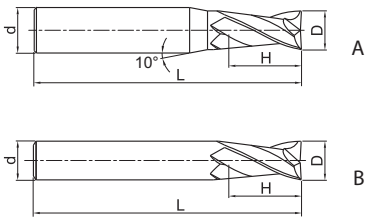
Frese a candela

Lavorazione generica di Al. e leghe di alluminio

ALG-2E



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 30°



Articolo	✻	Dimensioni [mm] D	d (h6)	H	L	Denti	Geometria	Grado YK40F
ALG-2E-D1.0		1	4	3	50	2	A	●
ALG-2E-D1.5		1,5	4	4	50	2	A	○
ALG-2E-D2.0		2	4	6	50	2	A	●
ALG-2E-D2.5		2,5	4	8	50	2	A	○
ALG-2E-D3.0S		3	4	8	50	2	A	●
ALG-2E-D3.5S		3,5	4	10	50	2	A	○
ALG-2E-D4.0S		4	4	11	50	2	B	○
ALG-2E-D3.0		3	6	8	50	2	A	●
ALG-2E-D3.5		3,5	6	10	50	2	A	○
ALG-2E-D4.0		4	6	11	50	2	A	●
ALG-2E-D4.5		4,5	6	11	50	2	A	○
ALG-2E-D5.0		5	6	13	50	2	A	●
ALG-2E-D5.5		5,5	6	16	50	2	A	○
ALG-2E-D6.0		6	6	16	50	2	B	●
ALG-2E-D7.0		7	8	20	60	2	A	○
ALG-2E-D8.0		8	8	20	60	2	B	●
ALG-2E-D9.0		9	10	22	75	2	A	○
ALG-2E-D10.0		10	10	25	75	2	B	●
ALG-2E-D11.0		11	12	26	75	2	A	○
ALG-2E-D12.0		12	12	30	75	2	B	●
ALG-2E-D14.0		14	14	32	75	2	B	●
ALG-2E-D16.0		16	16	45	100	2	B	●
ALG-2E-D18.0		18	18	45	100	2	B	○
ALG-2E-D20.0		20	20	45	100	2	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
			✔		

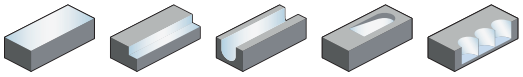
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

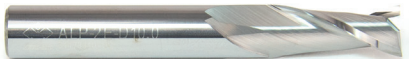
Frese a candela

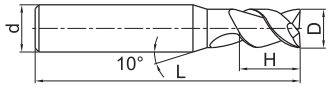
Lavorazione ad alte prestazioni di Al. e leghe di alluminio

ALP-2E

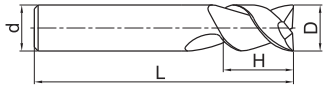


– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 35°





A



B

Articolo	✻	Dimensioni [mm] D	d (h6)	H	L	Denti	Geometria	Grado YK40F
ALP-2E-D1.0		1	4	3	50	2	A	●
ALP-2E-D1.5		1,5	4	4	50	2	A	●
ALP-2E-D2.0		2	4	6	50	2	A	●
ALP-2E-D2.5		2,5	4	8	50	2	A	●
ALP-2E-D3.0S		3	4	8	50	2	A	●
ALP-2E-D3.5S		3,5	4	10	50	2	A	○
ALP-2E-D4.0S		4	4	11	50	2	B	●
ALP-2E-D3.0		3	6	8	50	2	A	●
ALP-2E-D3.5		3,5	6	10	50	2	A	○
ALP-2E-D4.0		4	6	11	50	2	A	●
ALP-2E-D4.5		4,5	6	11	50	2	A	○
ALP-2E-D5.0		5	6	13	50	2	A	●
ALP-2E-D5.5		5,5	6	16	50	2	A	○
ALP-2E-D6.0		6	6	16	50	2	B	●
ALP-2E-D7.0		7	8	20	60	2	A	●
ALP-2E-D8.0		8	8	20	60	2	B	●
ALP-2E-D9.0		9	10	22	75	2	A	●
ALP-2E-D10.0		10	10	25	75	2	B	●
ALP-2E-D11.0		11	12	26	75	2	A	●
ALP-2E-D12.0		12	12	30	75	2	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
			✔		

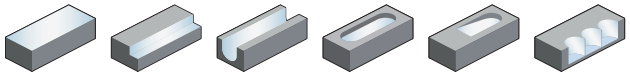
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

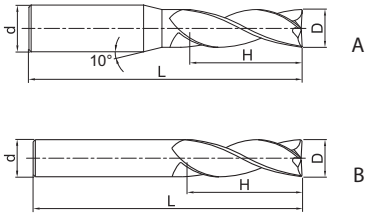
Frese a candela

Lavorazione generica di Al. e leghe di alluminio

ALG-3E



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 45°



Articolo	✻	Dimensioni [mm] D	d (h6)	H	L	Denti	Geometria	Grado KMD401	YK40F
ALG-3E-D1.0		1	4	3	50	3	A	○	●
ALG-3E-D1.5		1,5	4	4	50	3	A	○	●
ALG-3E-D2.0		2	4	6	50	3	A	○	●
ALG-3E-D2.5		2,5	4	8	50	3	A	○	○
ALG-3E-D3.0S		3	4	8	50	3	A	○	●
ALG-3E-D3.5S		3,5	4	10	50	3	A	○	○
ALG-3E-D4.0S		4	4	11	50	3	B	○	●
ALG-3E-D3.0		3	6	8	50	3	A	●	●
ALG-3E-D3.5		3,5	6	10	50	3	A	●	○
ALG-3E-D4.0		4	6	11	50	3	A	●	●
ALG-3E-D4.5		4,5	6	11	50	3	A	●	○
ALG-3E-D5.0		5	6	13	50	3	A	●	●
ALG-3E-D5.5		5,5	6	16	50	3	A	●	○
ALG-3E-D6.0		6	6	16	50	3	B	●	●
ALG-3E-D7.0		7	8	20	60	3	A	●	○
ALG-3E-D8.0		8	8	20	60	3	B	●	●
ALG-3E-D9.0		9	10	22	75	3	A	●	○
ALG-3E-D10.0		10	10	25	75	3	B	●	●
ALG-3E-D11.0		11	12	26	75	3	A	●	○
ALG-3E-D12.0		12	12	30	75	3	B	●	●
ALG-3E-D14.0		14	14	32	75	3	B	●	●
ALG-3E-D16.0		16	16	45	100	3	B	●	●
ALG-3E-D18.0		18	18	45	100	3	B	●	○
ALG-3E-D20.0		20	20	45	100	3	B	○	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
			✔		

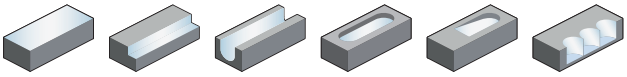
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

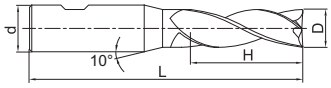
Frese a candela

Lavorazione generica di Al. e leghe di alluminio

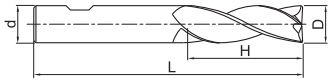
ALG-3E-W



– Codolo cilindrico standard di fabbrica ZCC-CT attacco Weldon
– taglio al centro
– Angolo di inclinazione dell'elica 45°



A



B

Articolo	✻	Dimensioni [mm] D	d (h6)	H	L	Denti	Geometria	Grado KMD401
ALG-3E-D3.0-W		3	6	8	50	3	A	●
ALG-3E-D3.5-W		3,5	6	10	50	3	A	●
ALG-3E-D4.0-W		4	6	11	50	3	A	●
ALG-3E-D4.5-W		4,5	6	11	50	3	A	●
ALG-3E-D5.0-W		5	6	13	50	3	A	●
ALG-3E-D5.5-W		5,5	6	16	50	3	A	●
ALG-3E-D6.0-W		6	6	16	50	3	B	●
ALG-3E-D7.0-W		7	8	20	60	3	A	●
ALG-3E-D8.0-W		8	8	20	60	3	B	●
ALG-3E-D9.0-W		9	10	22	75	3	A	●
ALG-3E-D10.0-W		10	10	25	75	3	B	●
ALG-3E-D11.0-W		11	12	26	75	3	A	●
ALG-3E-D12.0-W		12	12	30	75	3	B	●
ALG-3E-D14.0-W		14	14	32	75	3	B	●
ALG-3E-D16.0-W		16	16	45	100	3	B	●
ALG-3E-D18.0-W		18	18	45	100	3	B	●
ALG-3E-D20.0-W		20	20	45	100	3	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
			✔		

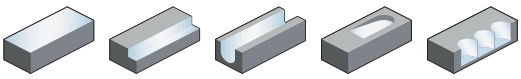
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

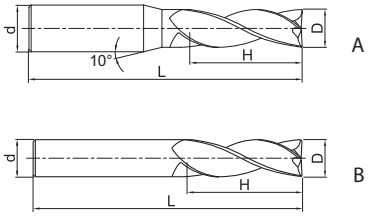
Frese a candela

Lavorazione ad alte prestazioni di Al. e leghe di alluminio

ALP-3E



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 35°



Articolo	✻	Dimensioni [mm] D	d (h6)	H	L	Denti	Geometria	Grado KMD401	YK40F
ALP-3E-D1.0		1	4	3	50	3	A	○	○
ALP-3E-D1.5		1,5	4	4	50	3	A	○	●
ALP-3E-D2.0		2	4	6	50	3	A	○	●
ALP-3E-D2.5		2,5	4	8	50	3	A	○	○
ALP-3E-D3.0S		3	4	8	50	3	A	○	●
ALP-3E-D4.0S		4	4	11	50	3	B	○	●
ALP-3E-D3.0		3	6	8	50	3	A	●	●
ALP-3E-D4.0		4	6	11	50	3	A	●	●
ALP-3E-D4.5		4,5	6	11	50	3	A	●	○
ALP-3E-D5.0		5	6	13	50	3	A	●	●
ALP-3E-D5.5		5,5	6	16	50	3	A	●	○
ALP-3E-D6.0		6	6	16	50	3	B	●	●
ALP-3E-D7.0		7	8	20	60	3	A	●	○
ALP-3E-D8.0		8	8	20	60	3	B	●	●
ALP-3E-D9.0		9	10	22	75	3	A	●	○
ALP-3E-D10.0		10	10	25	75	3	B	●	●
ALP-3E-D11.0		11	12	26	75	3	A	●	●
ALP-3E-D12.0		12	12	30	75	3	B	●	●
ALP-3E-D14.0		14	14	32	75	3	B	●	●
ALP-3E-D16.0		16	16	45	100	3	B	●	●
ALP-3E-D20.0		20	20	45	100	3	B	●	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
			✔		

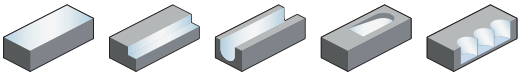
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

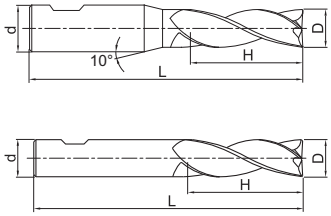
Frese a candela

Lavorazione ad alte prestazioni di Al. e leghe di alluminio

ALP-3E-W



– Codolo cilindrico standard di fabbrica ZCC-CT attacco Weldon
– taglio al centro
– Angolo di inclinazione dell'elica 35°



Articolo	✻	Dimensioni [mm]				Denti	Geometria	Grado
		D	d (h6)	H	L			KMD401
ALP-3E-D3.0-W		3	6	8	50	3	A	●
ALP-3E-D4.0-W		4	6	11	50	3	A	●
ALP-3E-D4.5-W		4,5	6	11	50	3	A	●
ALP-3E-D5.0-W		5	6	13	50	3	A	●
ALP-3E-D5.5-W		5,5	6	16	50	3	A	●
ALP-3E-D6.0-W		6	6	16	50	3	B	●
ALP-3E-D7.0-W		7	8	20	60	3	B	●
ALP-3E-D8.0-W		8	8	20	60	3	B	●
ALP-3E-D9.0-W		9	10	22	75	3	B	●
ALP-3E-D10.0-W		10	10	25	75	3	B	●
ALP-3E-D11.0-W		11	12	26	75	3	B	●
ALP-3E-D12.0-W		12	12	30	75	3	B	●
ALP-3E-D14.0-W		14	14	32	75	3	B	●
ALP-3E-D16.0-W		16	16	45	100	3	B	●
ALP-3E-D20.0-W		20	20	45	100	3	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
			✔		

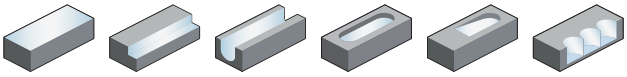
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

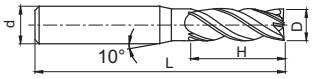
Frese a candela

Lavorazione ad alte prestazioni di Al. e leghe di alluminio

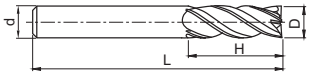
ALP-4E



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 38°



A



B

Articolo	✻	Dimensioni [mm] D	d (h6)	H	L	Denti	Geometria	Grado KMD401	YK40F
ALP-4E-D3.0S		3	4	9	50	4	A	○	●
ALP-4E-D4.0S		4	4	11	50	4	B	○	●
ALP-4E-D3.0		3	6	9	50	4	A	●	●
ALP-4E-D4.0		4	6	11	50	4	A	●	●
ALP-4E-D5.0		5	6	13	50	4	A	●	●
ALP-4E-D6.0		6	6	16	50	4	B	●	●
ALP-4E-D8.0		8	8	20	60	4	B	●	●
ALP-4E-D10.0		10	10	25	75	4	B	●	●
ALP-4E-D12.0		12	12	30	75	4	B	●	●
ALP-4E-D16.0		16	16	45	100	4	B	●	●
ALP-4E-D18.0		18	18	45	100	4	B	●	○
ALP-4E-D20.0		20	20	45	100	4	B	●	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
			✔		

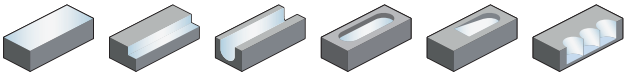
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

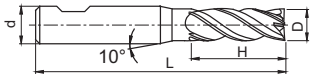
Frese a candela

Lavorazione ad alte prestazioni di Al. e leghe di alluminio

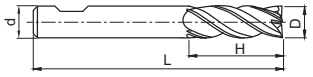
ALP-4E-W



– Codolo cilindrico standard di fabbrica ZCC-CT attacco Weldon
– taglio al centro
– Angolo di inclinazione dell'elica 38°



A



B

Articolo	✻	Dimensioni [mm] D	d (h6)	H	L	Denti	Geometria	Grado KMD401
ALP-4E-D3.0-W		3	6	9	50	4	A	●
ALP-4E-D4.0-W		4	6	11	50	4	A	●
ALP-4E-D5.0-W		5	6	13	50	4	A	●
ALP-4E-D6.0-W		6	6	16	50	4	B	●
ALP-4E-D8.0-W		8	8	20	60	4	B	●
ALP-4E-D10.0-W		10	10	25	75	4	B	●
ALP-4E-D12.0-W		12	12	30	75	4	B	●
ALP-4E-D16.0-W		16	16	45	100	4	B	●
ALP-4E-D18.0-W		18	18	45	100	4	B	●
ALP-4E-D20.0-W		20	20	45	100	4	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
			✔		

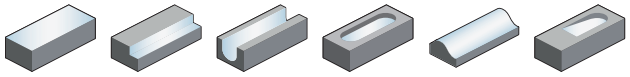
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

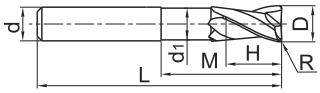
Frese toroidali

Lavorazione generica di Al. e leghe di alluminio

ALG-2R



– Codolo cilindrico
– taglio al centro
– Angolo di inclinazione dell'elica 30°



Articolo	✻	Dimensioni [mm] R	D	d (h6)	d_1	H	M	L	Denti	Grado KMD401	YK40F
ALG-2R-D6.0R0.3		0,3	6	6	5,7	8	29	75	2	●	●
ALG-2R-D6.0R0.5		0,5	6	6	5,7	8	29	75	2	●	●
ALG-2R-D6.0R1.0		1	6	6	5,7	8	29	75	2	●	●
ALG-2R-D8.0R0.3		0,3	8	8	7,4	10	29	75	2	●	●
ALG-2R-D8.0R0.5		0,5	8	8	7,4	10	29	75	2	●	●
ALG-2R-D8.0R1.0		1	8	8	7,4	10	29	75	2	●	●
ALG-2R-D10.0R0.5		0,5	10	10	9,4	12	50	100	2	●	●
ALG-2R-D10.0R1.0		1	10	10	9,4	12	50	100	2	●	●
ALG-2R-D10.0R1.6		1,6	10	10	9,4	12	50	100	2	●	●
ALG-2R-D10.0R2.5		2,5	10	10	9,4	12	50	100	2	●	●
ALG-2R-D12.0R0.5		0,5	12	12	11,4	15	50	100	2	●	●
ALG-2R-D12.0R1.0		1	12	12	11,4	15	50	100	2	●	●
ALG-2R-D12.0R1.6		1,6	12	12	11,4	15	50	100	2	●	●
ALG-2R-D12.0R2.5		2,5	12	12	11,4	15	50	100	2	●	●
ALG-2R-D12.0R3.2		3,2	12	12	11,4	15	50	100	2	●	●
ALG-2R-D12.0R4.0		4	12	12	11,4	15	50	100	2	●	●
ALG-2R-D16.0R1.0		1	16	16	15,4	15	67	125	2	●	●
ALG-2R-D16.0R1.6		1,6	16	16	15,4	15	67	125	2	●	●
ALG-2R-D16.0R2.5		2,5	16	16	15,4	15	67	125	2	●	●
ALG-2R-D16.0R3.2		3,2	16	16	15,4	15	67	125	2	●	●
ALG-2R-D16.0R4.0		4	16	16	15,4	15	67	125	2	●	●
ALG-2R-D16.0R6.3		6,3	16	16	15,4	15	67	125	2	○	○
ALG-2R-D20.0R1.0		1	20	20	18	20	65	125	2	●	●
ALG-2R-D20.0R1.6		1,6	20	20	18	20	65	125	2	●	●
ALG-2R-D20.0R2.5		2,5	20	20	18	20	65	125	2	●	●
ALG-2R-D20.0R3.2		3,2	20	20	18	20	65	125	2	●	●
ALG-2R-D20.0R4.0		4	20	20	18	20	65	125	2	●	●
ALG-2R-D20.0R6.3		6,3	20	20	18	20	65	125	2	○	○
ALG-2R-D25.0R6.3		6,3	25	25	23	25	75	150	2	○	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
			✔		

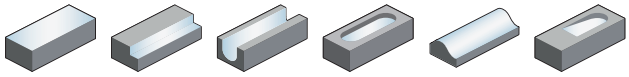
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

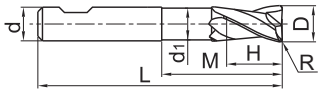
Frese toroidali

Lavorazione generica di Al. e leghe di alluminio

ALG-2R-W



– Codolo cilindrico standard di fabbrica ZCC-CT attacco Weldon
– taglio al centro
– Angolo di inclinazione dell'elica 30°



Articolo	✻	Dimensioni [mm] R	D	d (h6)	d_1	H	M	L	Denti	Grado KMD401
ALG-2R-D6.0R0.3-W		0,3	6	6	5,7	8	29	75	2	●
ALG-2R-D6.0R0.5-W		0,5	6	6	5,7	8	29	75	2	●
ALG-2R-D6.0R1.0-W		1	6	6	5,7	8	29	75	2	●
ALG-2R-D8.0R0.3-W		0,3	8	8	7,4	10	29	75	2	●
ALG-2R-D8.0R0.5-W		0,5	8	8	7,4	10	29	75	2	●
ALG-2R-D8.0R1.0-W		1	8	8	7,4	10	29	75	2	●
ALG-2R-D10.0R0.5-W		0,5	10	10	9,4	12	50	100	2	●
ALG-2R-D10.0R1.0-W		1	10	10	9,4	12	50	100	2	●
ALG-2R-D10.0R1.6-W		1,6	10	10	9,4	12	50	100	2	●
ALG-2R-D10.0R2.5-W		2,5	10	10	9,4	12	50	100	2	●
ALG-2R-D12.0R0.5-W		0,5	12	12	11,4	15	50	100	2	●
ALG-2R-D12.0R1.0-W		1	12	12	11,4	15	50	100	2	●
ALG-2R-D12.0R1.6-W		1,6	12	12	11,4	15	50	100	2	●
ALG-2R-D12.0R2.5-W		2,5	12	12	11,4	15	50	100	2	●
ALG-2R-D12.0R3.2-W		3,2	12	12	11,4	15	50	100	2	●
ALG-2R-D12.0R4.0-W		4	12	12	11,4	15	50	100	2	●
ALG-2R-D16.0R1.0-W		1	16	16	15,4	15	67	125	2	●
ALG-2R-D16.0R1.6-W		1,6	16	16	15,4	15	67	125	2	●
ALG-2R-D16.0R2.5-W		2,5	16	16	15,4	15	67	125	2	●
ALG-2R-D16.0R3.2-W		3,2	16	16	15,4	15	67	125	2	●
ALG-2R-D16.0R4.0-W		4	16	16	15,4	15	67	125	2	●
ALG-2R-D16.0R6.3-W		6,3	16	16	15,4	15	67	125	2	○
ALG-2R-D20.0R1.0-W		1	20	20	18	20	65	125	2	●
ALG-2R-D20.0R1.6-W		1,6	20	20	18	20	65	125	2	●
ALG-2R-D20.0R2.5-W		2,5	20	20	18	20	65	125	2	●
ALG-2R-D20.0R3.2-W		3,2	20	20	18	20	65	125	2	●
ALG-2R-D20.0R4.0-W		4	20	20	18	20	65	125	2	●
ALG-2R-D20.0R6.3-W		6,3	20	20	18	20	65	125	2	○
ALG-2R-D25.0R6.3-W		6,3	25	25	23	25	75	150	2	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
			✔		

✔ Molto adatto
✔ Adatto

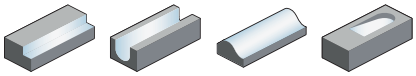
Codice sistema B362 | Dati di taglio B582 | Ordine utensili speciali B633

Note

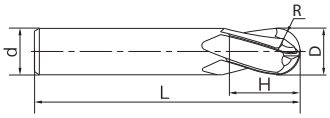
Frese a testa sferica

Lavorazione ad alte prestazioni

TM-4B



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 38°



Articolo	✻	Dimensioni [mm]					Denti	Grado
		R	D	d (h6)	H	L		KMS405
TM-4B-R3.0		3	6	6	9	50	4	●
TM-4B-R4.0		4	8	8	12	60	4	●
TM-4B-R5.0		5	10	10	15	75	4	●
TM-4B-R6.0		6	12	12	18	75	4	●
TM-4B-R7.0		7	14	14	21	85	4	○
TM-4B-R8.0		8	16	16	24	85	4	●
TM-4B-R10.0		10	20	20	30	100	4	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
	✔			✔	

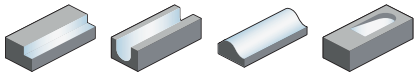
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

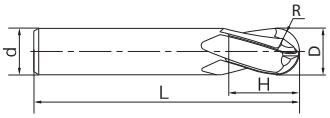
Frese a testa sferica

Lavorazione ad alte prestazioni

TM-4BL



– Versione del codolo DIN 6535HA
– taglio al centro
– Angolo di inclinazione dell'elica 38°



Articolo	✻	Dimensioni [mm] R	D	d (h6)	H	L	Denti	Grado KMS405
TM-4BL-R3.0		3	6	6	16	57	4	●
TM-4BL-R4.0		4	8	8	20	63	4	●
TM-4BL-R5.0		5	10	10	22	72	4	●
TM-4BL-R6.0		6	12	12	25	83	4	●
TM-4BL-R8.0		8	16	16	32	92	4	●
TM-4BL-R10.0		10	20	20	38	104	4	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
	✔			✔	

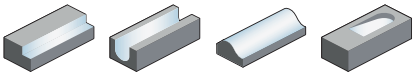
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

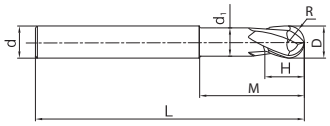
Frese a testa sferica

Lavorazione ad alte prestazioni

TM-4BP



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 38°



Articolo	✻	Dimensioni [mm]							Denti	Grado
		R	D	d (h6)	d_1	H	M	L		KMS405
TM-4BP-R3.0		3	6	6	5,5	9	18	60	4	●
TM-4BP-R4.0		4	8	8	7,4	12	24	75	4	●
TM-4BP-R5.0		5	10	10	9,4	15	30	75	4	●
TM-4BP-R6.0		6	12	12	11,4	18	35	90	4	●
TM-4BP-R8.0		8	16	16	15,4	24	40	90	4	●
TM-4BP-R10.0		10	20	20	19,4	35	50	110	4	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
	✔			✔	

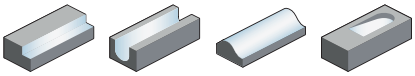
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

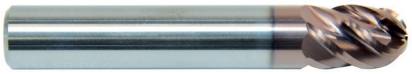
Frese a testa sferica

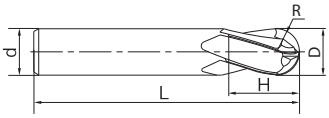
Lavorazione ad alte prestazioni

TM-5B



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– Angolo di inclinazione dell'elica 38°





Articolo	✻	Dimensioni [mm] R	D	d (h6)	H	L	Denti	Grado KMS405
TM-5B-R3.0		3	6	6	9	50	5	●
TM-5B-R4.0		4	8	8	12	60	5	●
TM-5B-R5.0		5	10	10	15	75	5	●
TM-5B-R6.0		6	12	12	18	75	5	●
TM-5B-R7.0		7	14	14	21	85	5	○
TM-5B-R8.0		8	16	16	24	85	5	●
TM-5B-R10.0		10	20	20	35	100	5	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
	✔			✔	

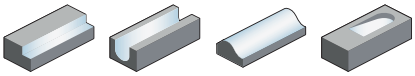
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

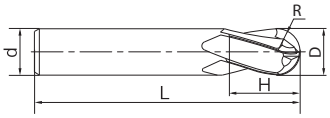
Frese a testa sferica

Lavorazione ad alte prestazioni

TM-5BL



– Versione del codolo DIN 6535HA
– Angolo di inclinazione dell'elica 38°



Articolo	✻	Dimensioni [mm]					Denti	Grado
		R	D	d (h6)	H	L		KMS405
TM-5BL-R3.0		3	6	6	16	57	5	●
TM-5BL-R4.0		4	8	8	20	63	5	●
TM-5BL-R5.0		5	10	10	22	72	5	●
TM-5BL-R6.0		6	12	12	25	83	5	●
TM-5BL-R8.0		8	16	16	32	92	5	●
TM-5BL-R10.0		10	20	20	38	104	5	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
	✔			✔	

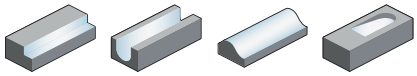
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

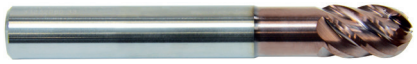
Frese a testa sferica

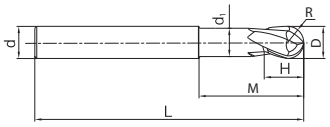
Lavorazione ad alte prestazioni

TM-5BP



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– Angolo di inclinazione dell'elica 38°





Articolo	✻	Dimensioni [mm]							Denti	Grado
		R	D	d (h6)	d_1	H	M	L		KMS405
TM-5BP-R3.0		3	6	6	5,5	9	18	60	5	●
TM-5BP-R4.0		4	8	8	7,4	12	24	75	5	●
TM-5BP-R5.0		5	10	10	9,4	15	30	75	5	●
TM-5BP-R6.0		6	12	12	11,4	18	35	90	5	●
TM-5BP-R8.0		8	16	16	15,4	24	40	90	5	●
TM-5BP-R10.0		10	20	20	19,4	35	50	110	5	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
	✔			✔	

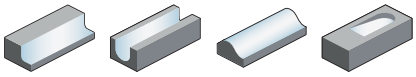
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

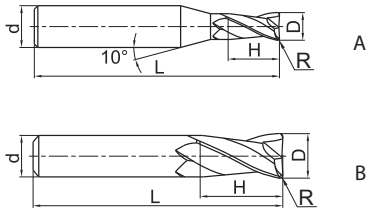
Frese toroidali

Lavorazione ad alte prestazioni

TM-2R



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 40°



Articolo	✻	Dimensioni [mm]					Denti	Geometria	Grado
		R	D	d (h5)	H	L			KMS405
TM-2R-D1.0R0.05		0,05	1	4	3	50	2	A	●
TM-2R-D1.0R0.30		0,3	1	4	3	50	2	A	●
TM-2R-D2.0R0.05		0,05	2	4	6	50	2	A	●
TM-2R-D2.0R0.30		0,3	2	4	6	50	2	A	●
TM-2R-D2.5R0.05		0,05	2,5	4	8	50	2	A	○
TM-2R-D2.5R0.30		0,3	2,5	4	8	50	2	A	○
TM-2R-D3.0R0.05		0,05	3	4	8	50	2	A	●
TM-2R-D3.0R0.30		0,3	3	4	8	50	2	A	○
TM-2R-D4.0R0.10		0,1	4	4	11	50	2	B	●
TM-2R-D4.0R0.30		0,3	4	4	11	50	2	B	○
TM-2R-D4.0R0.50		0,5	4	4	11	50	2	B	○
TM-2R-D5.0R0.10		0,1	5	6	13	50	2	A	●
TM-2R-D5.0R0.30		0,3	5	6	13	50	2	A	○
TM-2R-D5.0R0.50		0,5	5	6	13	50	2	A	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
	✔			✔	

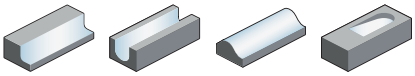
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

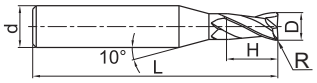
Frese toroidali

Lavorazione ad alte prestazioni

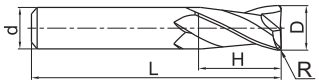
TM-3R



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 40°



A



B

Articolo	✻	Dimensioni [mm]					Denti	Geometria	Grado
		R	D	d (h5)	H	L			KMS405
TM-3R-D3.0R0.1		0,1	3	4	8	50	2	A	●
TM-3R-D3.0R0.3		0,3	3	4	8	50	2	A	○
TM-3R-D3.0R0.5		0,5	3	4	8	50	2	A	●
TM-3R-D4.0R0.1		0,1	4	4	11	50	2	B	●
TM-3R-D4.0R0.3		0,3	4	4	11	50	2	B	○
TM-3R-D4.0R0.5		0,5	4	4	11	50	2	B	●
TM-3R-D5.0R0.1		0,1	5	6	13	50	2	A	●
TM-3R-D5.0R0.3		0,3	5	6	13	50	2	A	○
TM-3R-D5.0R0.5		0,5	5	6	13	50	2	A	●

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Campo di applicazione

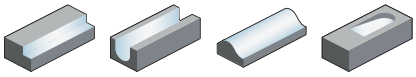
P	M	K	N	S	H
	✔			✔	

✔ Molto adatto
✔ Adatto

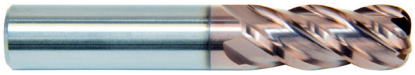
Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

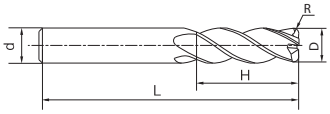
Frese toroidali | Lavorazione ad alte prestazioni

TM-4R



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 38°





Articolo	✻	Dimensioni [mm] R	D	d (h6)	H	L	Denti	Grado KMS405
TM-4R-D6.0R0.2		0,2	6	6	16	50	4	○
TM-4R-D6R0.3		0,3	6	6	16	50	4	●
TM-4R-D6R0.5		0,5	6	6	16	50	4	●
TM-4R-D6R 0.75		0,75	6	6	16	50	4	○
TM-4R-D6R1.0		1	6	6	16	50	4	●
TM-4R-D8.0R0.2		0,2	8	8	20	60	4	○
TM-4R-D8R0.3		0,3	8	8	20	60	4	●
TM-4R-D8R0.5		0,5	8	8	20	60	4	●
TM-4R-D8R0.75		0,75	8	8	20	60	4	○
TM-4R-D8R1.0		1	8	8	20	60	4	●
TM-4R-D10.0R0.2		0,2	10	10	25	75	4	○
TM-4R-D10R0.5		0,5	10	10	25	75	4	●
TM-4R-D10R1.0		1	10	10	25	75	4	●
TM-4R-D10R1.5		1,5	10	10	25	75	4	●
TM-4R-D10R1.6		1,6	10	10	25	75	4	●
TM-4R-D10R2.0		2	10	10	25	75	4	●
TM-4R-D10R2.5		2,5	10	10	25	75	4	○
TM-4R-D10R3.0		3	10	10	25	75	4	●
TM-4R-D12.0R0.2		0,2	12	12	30	75	4	○
TM-4R-D12R0.5		0,5	12	12	30	75	4	●
TM-4R-D12R0.75		0,75	12	12	30	75	4	○
TM-4R-D12R1.0		1	12	12	30	75	4	●
TM-4R-D12R1.25		1,25	12	12	30	75	4	○
TM-4R-D12R1.5		1,5	12	12	30	75	4	●
TM-4R-D12R1.6		1,6	12	12	30	75	4	●
TM-4R-D12R2.0		2	12	12	30	75	4	●
TM-4R-D12R2.5		2,5	12	12	30	75	4	●
TM-4R-D12R3.0		3	12	12	30	75	4	●
TM-4R-D12R3.2		3,2	12	12	30	75	4	●
TM-4R-D12R4.0		4	12	12	30	75	4	●
TM-4R-D16.0R0.2		0,2	16	16	35	90	4	○
TM-4R-D16R1.0		1	16	16	35	90	4	●
TM-4R-D16R1.25		1,25	16	16	35	90	4	●
TM-4R-D16R1.5		1,5	16	16	35	90	4	●
TM-4R-D16R1.6		1,6	16	16	35	90	4	●
TM-4R-D16R2.0		2	16	16	35	90	4	●
TM-4R-D16R2.5		2,5	16	16	35	90	4	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
	✔			✔	

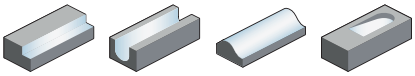
✔ Molto adatto
✔ Adatto

Codice sistema B362 | Dati di taglio B582 | Ordine utensili speciali B633

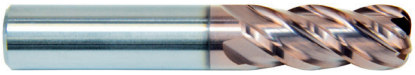
Frese toroidali

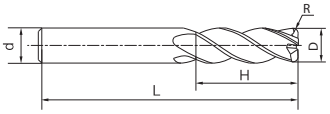
Lavorazione ad alte prestazioni

TM-4R



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 38°





Articolo	✻	Dimensioni [mm] R	D	d (h6)	H	L	Denti	Grado KMS405
TM-4R-D16R3.0		3	16	16	35	90	4	●
TM-4R-D16R3.2		3,2	16	16	35	90	4	●
TM-4R-D16R4.0		4	16	16	35	90	4	●
TM-4R-D16R5.0		5	16	16	35	90	4	●
TM-4R-D16R6.3		6,3	16	16	35	90	4	○
TM-4R-D20.0R0.2		0,2	20	20	45	100	4	○
TM-4R-D20R1.0		1	20	20	45	100	4	●
TM-4R-D20R1.5		1,5	20	20	45	100	4	●
TM-4R-D20R1.6		1,6	20	20	45	100	4	●
TM-4R-D20R2.0		2	20	20	45	100	4	●
TM-4R-D20R2.5		2,5	20	20	45	100	4	●
TM-4R-D20R3.0		3	20	20	45	100	4	●
TM-4R-D20R3.2		3,2	20	20	45	100	4	●
TM-4R-D20R4.0		4	20	20	45	100	4	●
TM-4R-D20R5.0		5	20	20	45	100	4	●
TM-4R-D20R6.3		6,3	20	20	45	100	4	●
TM-4R-D20R1.25		1,25	21	20	45	100	4	●
TM-4R-D25.0R0.2		0,2	25	25	50	110	4	○
TM-4R-D25R1.0		1	25	25	50	110	4	●
TM-4R-D25R1.25		1,25	25	25	50	110	4	○
TM-4R-D25R1.5		1,5	25	25	50	110	4	●
TM-4R-D25R1.6		1,6	25	25	50	110	4	●
TM-4R-D25R2.0		2	25	25	50	110	4	●
TM-4R-D25R2.5		2,5	25	25	50	110	4	○
TM-4R-D25R3.0		3	25	25	50	110	4	●
TM-4R-D25R3.2		3,2	25	25	50	110	4	●
TM-4R-D25R4.0		4	25	25	50	110	4	●
TM-4R-D25R5.0		5	25	25	50	110	4	●
TM-4R-D25R6.3		6,3	25	25	50	110	4	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

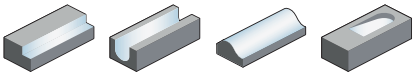
P	M	K	N	S	H
	✔			✔	

✔ Molto adatto
✔ Adatto

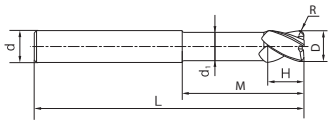
Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

Frese toroidali | Lavorazione ad alte prestazioni

TM-4RP



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 38°



Articolo	✻	Dimensioni [mm] R	D	d (h6)	d_1	H	M	L	Denti	Grado KMS405
TM-4RP-D8R0.3		0,3	8	8	7,4	16	25	75	4	●
TM-4RP-D8R0.5		0,5	8	8	7,4	16	25	75	4	●
TM-4RP-D8R0.75		0,75	8	8	7,4	16	25	75	4	○
TM-4RP-D8R1.0		1	8	8	7,4	16	25	75	4	●
TM-4RP-D10R0.5		0,5	10	10	9,4	20	32	75	4	●
TM-4RP-D10R0.75		0,75	10	10	9,4	20	32	75	4	○
TM-4RP-D10R1.0		1	10	10	9,4	20	32	75	4	●
TM-4RP-D10R1.25		1,25	10	10	9,4	20	32	75	4	●
TM-4RP-D10R1.5		1,5	10	10	9,4	20	32	75	4	●
TM-4RP-D10R1.6		1,6	10	10	9,4	20	32	75	4	●
TM-4RP-D10R2.0		2	10	10	9,4	20	32	75	4	●
TM-4RP-D10R2.5		2,5	10	10	9,4	20	32	75	4	○
TM-4RP-D10R3.0		3	10	10	9,4	20	32	75	4	●
TM-4RP-D12R0.5		0,5	12	12	11,4	24	40	90	4	●
TM-4RP-D12R0.75		0,75	12	12	11,4	24	40	90	4	○
TM-4RP-D12R1.0		1	12	12	11,4	24	40	90	4	●
TM-4RP-D12R1.25		1,25	12	12	11,4	24	40	90	4	●
TM-4RP-D12R1.5		1,5	12	12	11,4	24	40	90	4	●
TM-4RP-D12R1.6		1,6	12	12	11,4	24	40	90	4	●
TM-4RP-D12R2.0		2	12	12	11,4	24	40	90	4	●
TM-4RP-D12R2.5		2,5	12	12	11,4	24	40	90	4	○
TM-4RP-D12R3.0		3	12	12	11,4	24	40	90	4	●
TM-4RP-D12R3.2		3,2	12	12	11,4	24	40	90	4	●
TM-4RP-D12R4.0		4	12	12	11,4	24	40	90	4	●
TM-4RP-D16R1.0		1	16	16	15	32	50	100	4	●
TM-4RP-D16R1.25		1,25	16	16	15	32	50	100	4	●
TM-4RP-D16R1.5		1,5	16	16	15	32	50	100	4	●
TM-4RP-D16R1.6		1,6	16	16	15	32	50	100	4	●
TM-4RP-D16R2.0		2	16	16	15	32	50	100	4	●
TM-4RP-D16R2.5		2,5	16	16	15	32	50	100	4	○
TM-4RP-D16R3.0		3	16	16	14	32	50	100	4	●
TM-4RP-D16R3.2		3,2	16	16	15	32	50	100	4	●
TM-4RP-D16R4.0		4	16	16	15	32	50	100	4	●
TM-4RP-D16R5.0		5	16	16	15	32	50	100	4	●
TM-4RP-D16R6.3		6,3	16	16	15	32	50	100	4	○
TM-4RP-D20R1.0		1	20	20	19	35	60	110	4	●
TM-4RP-D20R1.25		1,25	20	20	19	35	60	110	4	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

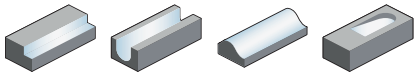
P	M	K	N	S	H
	✔			✔	

✔ Molto adatto
✔ Adatto

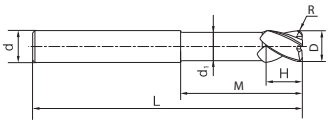
Codice sistema B362 | Dati di taglio B582 | Ordine utensili speciali B633

Frese toroidali — Lavorazione ad alte prestazioni

TM-4RP



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 38°



Articolo	✻	Dimensioni [mm] R	D	d (h6)	d_1	H	M	L	Denti	Grado KMS405
TM-4RP-D20R1.5		1,5	20	20	19	35	60	110	4	●
TM-4RP-D20R1.6		1,6	20	20	19	35	60	110	4	●
TM-4RP-D20R2.0		2	20	20	19	35	60	110	4	●
TM-4RP-D20R2.5		2,5	20	20	19	35	60	110	4	○
TM-4RP-D20R3.0		3	20	20	19	35	60	110	4	●
TM-4RP-D20R3.2		3,2	20	20	19	35	60	110	4	●
TM-4RP-D20R4.0		4	20	20	19	35	60	110	4	●
TM-4RP-D20R5.0		5	20	20	19	35	60	110	4	●
TM-4RP-D20R6.3		6,3	20	20	19	35	60	110	4	●
TM-4RP-D25R1.0		1	25	25	24	45	75	150	4	●
TM-4RP-D25R1.25		1,25	25	25	24	45	75	150	4	○
TM-4RP-D25R1.5		1,5	25	25	24	45	75	150	4	●
TM-4RP-D25R1.6		1,6	25	25	24	45	75	150	4	●
TM-4RP-D25R2.0		2	25	25	24	45	75	150	4	●
TM-4RP-D25R2.5		2,5	25	25	24	45	75	150	4	●
TM-4RP-D25R3.0		3	25	25	24	45	75	150	4	●
TM-4RP-D25R3.2		3,2	25	25	24	45	75	150	4	●
TM-4RP-D25R4.0		4	25	25	24	45	75	150	4	●
TM-4RP-D25R5.0		5	25	25	24	45	75	150	4	●
TM-4RP-D25R6.3		6,3	25	25	24	45	75	150	4	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

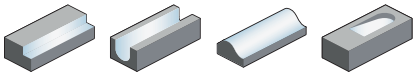
P	M	K	N	S	H
	✔			✔	

✔ Molto adatto
✔ Adatto

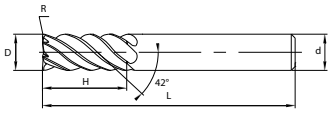
Codice sistema B362 | Dati di taglio B582 | Ordine utensili speciali B633

Frese toroidali | Lavorazione ad alte prestazioni

TM-5R



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– Angolo di inclinazione dell'elica 42°



Articolo	✻	Dimensioni [mm]					Denti	Grado
		R	D	d (h6)	H	L		KMS405
TM-5R-D6R0.3		0,3	6	6	16	50	5	●
TM-5R-D6R0.5		0,5	6	6	16	50	5	●
TM-5R-D6R0.75		0,75	6	6	16	50	5	○
TM-5R-D6R1.0		1	6	6	16	50	5	●
TM-5R-D8R0.3		0,3	8	8	20	60	5	●
TM-5R-D8R0.5		0,5	8	8	20	60	5	●
TM-5R-D8R0.75		0,75	8	8	20	60	5	○
TM-5R-D8R1.0		1	8	8	20	60	5	●
TM-5R-D10R0.5		0,5	10	10	25	75	5	●
TM-5R-D10R0.75		0,75	10	10	25	75	5	○
TM-5R-D10R1.0		1	10	10	25	75	5	●
TM-5R-D10R1.25		1,25	10	10	25	75	5	○
TM-5R-D10R1.5		1,5	10	10	25	75	5	●
TM-5R-D10R1.6		1,6	10	10	25	75	5	●
TM-5R-D10R2.0		2	10	10	25	75	5	●
TM-5R-D10R2.5		2,5	10	10	25	75	5	○
TM-5R-D10R3.0		3	10	10	25	75	5	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
	✔			✔	

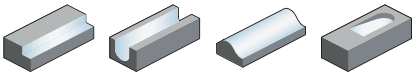
✔ Molto adatto
✔ Adatto

Codice sistema B362 | Dati di taglio B582 | Ordine utensili speciali B633

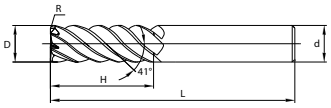
Frese toroidali

Lavorazione ad alte prestazioni

TM-7R



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– Angolo di inclinazione dell'elica 41°



Articolo	✻	Dimensioni [mm] R	D	d (h6)	H	L	Denti	Grado KMS405
TM-7R-D12R0.5		0,5	12	12	30	75	7	●
TM-7R-D12R0.75		0,75	12	12	30	75	7	○
TM-7R-D12R1.0		1	12	12	30	75	7	●
TM-7R-D12R1.25		1,25	12	12	30	75	7	○
TM-7R-D12R1.5		1,5	12	12	30	75	7	●
TM-7R-D12R1.6		1,6	12	12	30	75	7	●
TM-7R-D12R2.0		2	12	12	30	75	7	●
TM-7R-D12R2.5		2,5	12	12	30	75	7	●
TM-7R-D12R3.0		3	12	12	30	75	7	●
TM-7R-D12R3.2		3,2	12	12	30	75	7	●
TM-7R-D12R4.0		4	12	12	30	75	7	●
TM-7R-D16R1.0		1	16	16	35	90	7	●
TM-7R-D16R1.25		1,25	16	16	35	90	7	○
TM-7R-D16R1.5		1,5	16	16	35	90	7	●
TM-7R-D16R1.6		1,6	16	16	35	90	7	●
TM-7R-D16R2.0		2	16	16	35	90	7	●
TM-7R-D16R2.5		2,5	16	16	35	90	7	●
TM-7R-D16R3.0		3	16	16	35	90	7	●
TM-7R-D16R3.2		3,2	16	16	35	90	7	●
TM-7R-D16R4.0		4	16	16	35	90	7	●
TM-7R-D16R5.0		5	16	16	35	90	7	●
TM-7R-D16R6.3		6,3	16	16	35	90	7	○
TM-7R-D20R1.0		1	20	20	45	100	7	●
TM-7R-D20R1.5		1,5	20	20	45	100	7	●
TM-7R-D20R1.6		1,6	20	20	45	100	7	●
TM-7R-D20R2.0		2	20	20	45	100	7	●
TM-7R-D20R2.5		2,5	20	20	45	100	7	●
TM-7R-D20R3.0		3	20	20	45	100	7	●
TM-7R-D20R3.2		3,2	20	20	45	100	7	●
TM-7R-D20R4.0		4	20	20	45	100	7	●
TM-7R-D20R5.0		5	20	20	45	100	7	●
TM-7R-D20R6.3		6,3	20	20	45	100	7	●
TM-7R-D20R1.25		1,25	21	20	45	100	7	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

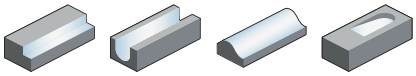
P	M	K	N	S	H
	✔			✔	

✔ Molto adatto
✔ Adatto

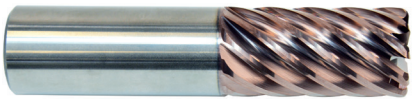
Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

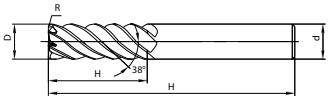
Frese toroidali Lavorazione ad alte prestazioni

TM-9R



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– Angolo di inclinazione dell'elica 38°





Articolo	✻	Dimensioni [mm]					Denti	Grado
		R	D	d (h6)	H	L		KMS405
TM-9R-D25R1.0		1	25	25	50	110	9	●
TM-9R-D25R1.25		1,25	25	25	50	110	9	○
TM-9R-D25R1.5		1,5	25	25	50	110	9	●
TM-9R-D25R1.6		1,6	25	25	50	110	9	●
TM-9R-D25R2.0		2	25	25	50	110	9	●
TM-9R-D25R2.5		2,5	25	25	50	110	9	○
TM-9R-D25R3.0		3	25	25	50	110	9	●
TM-9R-D25R3.2		3,2	25	25	50	110	9	●
TM-9R-D25R4.0		4	25	25	50	110	9	●
TM-9R-D25R5.0		5	25	25	50	110	9	●
TM-9R-D25R6.3		6,3	25	25	50	110	9	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
	✔			✔	

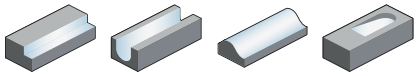
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

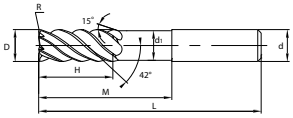
Frese toroidali

Lavorazione ad alte prestazioni

TM-5RP



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– Angolo di inclinazione dell'elica 42°



Articolo	✻	Dimensioni [mm] R	D	d (h6)	d_1	H	M	L	Denti	Grado KMS405
TM-5RP-D8R0.3		0,3	8	8	7,4	16	25	75	5	●
TM-5RP-D8R0.5		0,5	8	8	7,4	16	25	75	5	●
TM-5RP-D8R0.75		0,75	8	8	7,4	16	25	75	5	○
TM-5RP-D8R1.0		1	8	8	7,4	16	25	75	5	●
TM-5RP-D10R0.5		0,5	10	10	9,4	20	32	75	5	●
TM-5RP-D10R0.75		0,75	10	10	9,4	20	32	75	5	○
TM-5RP-D10R1.0		1	10	10	9,4	20	32	75	5	●
TM-5RP-D10R1.25		1,25	10	10	9,4	20	32	75	5	○
TM-5RP-D10R1.5		1,5	10	10	9,4	20	32	75	5	●
TM-5RP-D10R1.6		1,6	10	10	9,4	20	32	75	5	●
TM-5RP-D10R2.0		2	10	10	9,4	20	32	75	5	●
TM-5RP-D10R2.5		2,5	10	10	9,4	20	32	75	5	●
TM-5RP-D10R3.0		3	10	10	9,4	20	32	75	5	●
TM-5RP-D12.0-R1.0		1	12	12	11,4	24	40	90	5	○
TM-5RP-D16.0-R1.0		1	16	16	15	32	50	100	5	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

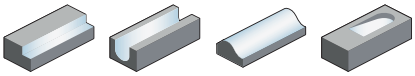
P	M	K	N	S	H
	✔			✔	

✔ Molto adatto
✔ Adatto

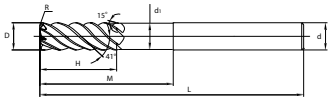
Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

Frese toroidali | Lavorazione ad alte prestazioni

TM-7RP



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– Angolo di inclinazione dell'elica 41°



Articolo	✻	Dimensioni [mm] R	D	d (h6)	d_1	H	M	L	Denti	Grado KMS405
TM-7RP-D12R0.5		0,5	12	12	11,4	24	40	90	7	●
TM-7RP-D12R0.75		0,75	12	12	11,4	24	40	90	7	○
TM-7RP-D12R1.0		1	12	12	11,4	24	40	90	7	●
TM-7RP-D12R1.25		1,25	12	12	11,4	24	40	90	7	○
TM-7RP-D12R1.5		1,5	12	12	11,4	24	40	90	7	●
TM-7RP-D12R1.6		1,6	12	12	11,4	24	40	90	7	●
TM-7RP-D12R2.0		2	12	12	11,4	24	40	90	7	●
TM-7RP-D12R2.5		2,5	12	12	11,4	24	40	90	7	●
TM-7RP-D12R3.0		3	12	12	11,4	24	40	90	7	●
TM-7RP-D12R3.2		3,2	12	12	11,4	24	40	90	7	●
TM-7RP-D12R4.0		4	12	12	11,4	24	40	90	7	●
TM-7RP-D16R1.0		1	16	16	15	32	50	100	7	●
TM-7RP-D16R1.25		1,25	16	16	15	32	50	100	7	○
TM-7RP-D16R1.5		1,5	16	16	15	32	50	100	7	●
TM-7RP-D16R1.6		1,6	16	16	15	32	50	100	7	●
TM-7RP-D16R2.0		2	16	16	15	32	50	100	7	●
TM-7RP-D16R2.5		2,5	16	16	15	32	50	100	7	●
TM-7RP-D16R3.0		3	16	16	15	32	50	100	7	●
TM-7RP-D16R3.2		3,2	16	16	15	32	50	100	7	●
TM-7RP-D16R4.0		4	16	16	15	32	50	100	7	●
TM-7RP-D16R5.0		5	16	16	15	32	50	100	7	●
TM-7RP-D16R6.3		6,3	16	16	15	32	50	100	7	○
TM-7RP-D20R1.0		1	20	20	19	35	60	110	7	●
TM-7RP-D20R1.25		1,25	20	20	19	35	60	110	7	○
TM-7RP-D20R1.5		1,5	20	20	19	35	60	110	7	●
TM-7RP-D20R1.6		1,6	20	20	19	35	60	110	7	●
TM-7RP-D20R2.0		2	20	20	19	35	60	110	7	●
TM-7RP-D20R2.5		2,5	20	20	19	35	60	110	7	●
TM-7RP-D20R3.0		3	20	20	19	35	60	110	7	●
TM-7RP-D20R3.2		3,2	20	20	19	35	60	110	7	●
TM-7RP-D20R4.0		4	20	20	19	35	60	110	7	●
TM-7RP-D20R5.0		5	20	20	19	35	60	110	7	●
TM-7RP-D20R6.3		6,3	20	20	19	35	60	110	7	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

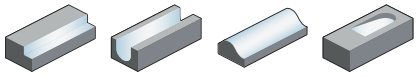
P	M	K	N	S	H
	✔			✔	

✔ Molto adatto
✔ Adatto

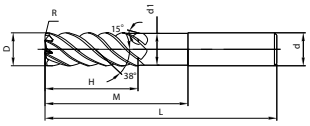
Codice sistema B362 | Dati di taglio B582 | Ordine utensili speciali B633

Frese toroidali Lavorazione ad alte prestazioni

TM-9RP



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– Angolo di inclinazione dell'elica 38°



Articolo	✻	Dimensioni [mm] R	D	d (h6)	d_1	H	M	L	Denti	Grado KMS405
TM-9RP-D25R1.0		1	25	25	24	45	75	150	9	●
TM-9RP-D25R1.25		1,25	25	25	24	45	75	150	9	○
TM-9RP-D25R1.5		1,5	25	25	24	45	75	150	9	●
TM-9RP-D25R1.6		1,6	25	25	24	45	75	150	9	●
TM-9RP-D25R2.0		2	25	25	24	45	75	150	9	●
TM-9RP-D25R2.5		2,5	25	25	24	45	75	150	9	●
TM-9RP-D25R3.0		3	25	25	24	45	75	150	9	●
TM-9RP-D25R3.2		3,2	25	25	24	45	75	150	9	●
TM-9RP-D25R4.0		4	25	25	24	45	75	150	9	●
TM-9RP-D25R5.0		5	25	25	24	45	75	150	9	●
TM-9RP-D25R6.3		6,3	25	25	24	45	75	150	9	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
	✔			✔	

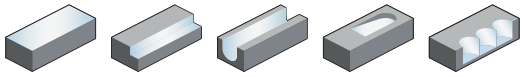
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

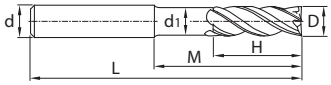
Frese a candela

Lavorazione HSC/HPC

5501R38414GM



– Versione del codolo DIN 6535HA
– taglio al centro
– Angolo di inclinazione dell'elica 38°/41°



Articolo	✻	Dimensioni [mm] D	d (h6)	d_1	H	M	L	Denti	Grado KMG405
5501R38414GM-0300		3	6	2,7	5	12	54	4	○
5501R38414GM-0400		4	6	3,7	8	16	54	4	●
5501R38414GM-0500		5	6	4,7	9	17	54	4	●
5501R38414GM-0600		6	6	5,7	10	18	54	4	●
5501R38414GM-0800		8	8	7,7	12	22	58	4	●
5501R38414GM-1000		10	10	9,5	14	26	66	4	●
5501R38414GM-1200		12	12	11,5	16	28	73	4	●
5501R38414GM-1400		14	14	13,5	18	30	75	4	●
5501R38414GM-1600		16	16	15,5	22	34	82	4	●
5501R38414GM-1800		18	18	17,5	24	36	84	4	●
5501R38414GM-2000		20	20	19,5	26	42	92	4	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

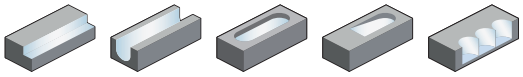
✔ Molto adatto
✔ Adatto

Codice sistema B362 | Dati di taglio B582 | Ordine utensili speciali B633

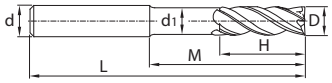
Frese a candela tagliente lungo

Lavorazione HSC/HPC

5502R38414GM



– Versione del codolo DIN 6535HA
– taglio al centro
– Angolo di inclinazione dell'elica 38°/41°



Articolo	✻	Dimensioni [mm]						Denti	Grado	
		D	d (h6)	d_1	H	M	L		KMG405	KMG406
5502R38414GM-0300		3	6	2,7	7	12	57	4	○	●
5502R38414GM-0400		4	6	3,7	11	19	57	4	●	●
5502R38414GM-0500		5	6	4,7	13	21	57	4	●	●
5502R38414GM-0600		6	6	5,7	13	21	57	4	●	●
5502R38414GM-0800		8	8	7,7	19	27	63	4	●	●
5502R38414GM-1000		10	10	9,5	22	32	72	4	●	●
5502R38414GM-1200		12	12	11,5	26	38	83	4	●	●
5502R38414GM-1400		14	14	13,5	26	38	83	4	●	●
5502R38414GM-1600		16	16	15,5	32	44	92	4	●	●
5502R38414GM-1800		18	18	17,5	32	44	92	4	●	●
5502R38414GM-2000		20	20	19,5	38	54	104	4	●	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

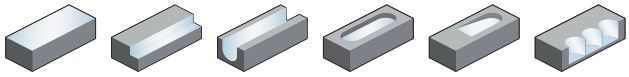
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

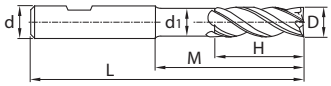
Frese a candela

Lavorazione HSC/HPC

5601R38414GM



– Versione del codolo DIN 6535HB
– taglio al centro
– Angolo di inclinazione dell'elica 38°/41°



Articolo	✻	Dimensioni [mm]						Denti	Grado
		D	d (h6)	d_1	H	M	L		KMG405
5601R38414GM-0400		4	6	3,7	8	16	54	4	●
5601R38414GM-0500		5	6	4,7	9	17	54	4	●
5601R38414GM-0600		6	6	5,7	10	18	54	4	●
5601R38414GM-0800		8	8	7,7	12	22	58	4	●
5601R38414GM-1000		10	10	9,5	14	26	66	4	●
5601R38414GM-1200		12	12	11,5	16	28	73	4	●
5601R38414GM-1400		14	14	13,5	18	30	75	4	●
5601R38414GM-1600		16	16	15,5	22	34	82	4	●
5601R38414GM-1800		18	18	17,5	24	36	84	4	●
5601R38414GM-2000		20	20	19,5	26	42	92	4	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

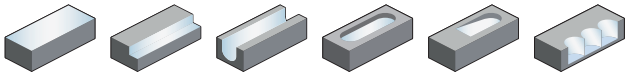
✔ Molto adatto
✔ Adatto

Codice sistema B362 | Dati di taglio B582 | Ordine utensili speciali B633

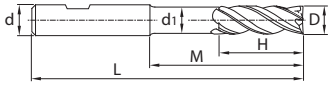
Frese a candela tagliente lungo

Lavorazione HSC/HPC

5602R38414GM



– Versione del codolo DIN 6535HB
– taglio al centro
– Angolo di inclinazione dell'elica 38°/41°



Articolo	✻	Dimensioni [mm] D	d (h6)	d_1	H	M	L	Denti	Grado KMG405	KMG406
5602R38414GM-0300		3	6	2,7	7	12	57	4	○	●
5602R38414GM-0300L		3	6	2,7	6,5	15	58	4	○	○
5602R38414GM-0400L		4	6	3,7	8,5	20	62	4	○	○
5602R38414GM-0400		4	6	3,7	11	19	57	4	●	●
5602R38414GM-0500		5	6	4,7	13	21	57	4	●	●
5602R38414GM-0500L		5	6	4,7	10,5	25	70	4	○	○
5602R38414GM-0600L		6	6	5,7	13	30	70	4	○	○
5602R38414GM-0600		6	6	5,7	13	21	57	4	●	●
5602R38414GM-0800L		8	8	7,7	17	40	80	4	○	○
5602R38414GM-0800		8	8	7,7	19	27	63	4	●	●
5602R38414GM-1000		10	10	9,5	22	32	72	4	●	●
5602R38414GM-1000L		10	10	9,5	21	50	94	4	○	○
5602R38414GM-1200		12	12	11,5	26	38	83	4	●	●
5602R38414GM-1200L		12	12	11,5	25	60	109	4	○	○
5602R38414GM-1400		14	14	13,5	26	38	83	4	●	●
5602R38414GM-1600		16	16	15,5	32	44	92	4	●	●
5602R38414GM-1600L		16	16	15,5	33	80	132	4	○	○
5602R38414GM-1800		18	18	17,5	32	44	92	4	●	●
5602R38414GM-2000		20	20	19,5	38	54	104	4	●	●
5602R38414GM-2500		25	25	24	52	62	121	4	○	

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

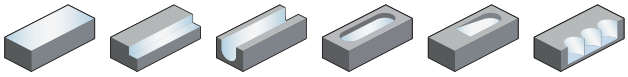
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

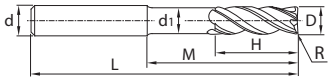
Frese toroidali con tagliente lungo

Lavorazione HSC/HPC

5502R38414GM-R



– Versione del codolo DIN 6535HA
– taglio al centro
– Angolo di inclinazione dell'elica 38°/41°



Articolo	✻	Dimensioni [mm] D	R	d (h6)	d_1	H	M	L	Denti	Grado KMG405
5502R38414GM-R02-0400		4	0,2	6	3,7	11	19	57	4	●
5502R38414GM-R05-0400		4	0,5	6	3,7	11	19	57	4	●
5502R38414GM-R02-0500		5	0,2	6	4,7	13	21	57	4	●
5502R38414GM-R05-0500		5	0,5	6	4,7	13	21	57	4	●
5502R38414GM-R02-0600		6	0,2	6	5,7	13	21	57	4	●
5502R38414GM-R05-0600		6	0,5	6	5,7	13	21	57	4	●
5502R38414GM-R10-0600		6	1	6	5,7	13	21	57	4	●
5502R38414GM-R02-0800		8	0,2	8	7,7	19	27	63	4	●
5502R38414GM-R05-0800		8	0,5	8	7,7	19	27	63	4	●
5502R38414GM-R10-0800		8	1	8	7,7	19	27	63	4	●
5502R38414GM-R15-0800		8	1,5	8	7,7	19	27	63	4	●
5502R38414GM-R20-0800		8	2	8	7,7	19	27	63	4	●
5502R38414GM-R02-1000		10	0,2	10	9,5	22	32	72	4	●
5502R38414GM-R05-1000		10	0,5	10	9,5	22	32	72	4	●
5502R38414GM-R10-1000		10	1	10	9,5	22	32	72	4	●
5502R38414GM-R15-1000		10	1,5	10	9,5	22	32	72	4	●
5502R38414GM-R20-1000		10	2	10	9,5	22	32	72	4	●
5502R38414GM-R05-1200		12	0,5	12	11,5	26	38	83	4	●
5502R38414GM-R10-1200		12	1	12	11,5	26	38	83	4	●
5502R38414GM-R15-1200		12	1,5	12	11,5	26	38	83	4	●
5502R38414GM-R20-1200		12	2	12	11,5	26	38	83	4	●
5502R38414GM-R10-1600		16	1	16	15,5	32	44	92	4	●
5502R38414GM-R15-1600		16	1,5	16	15,5	32	44	92	4	●
5502R38414GM-R20-1600		16	2	16	15,5	32	44	92	4	●
5502R38414GM-R30-1600		16	3	16	15,5	32	44	92	4	●
5502R38414GM-R10-2000		20	1	20	19,5	38	54	104	4	●
5502R38414GM-R15-2000		20	1,5	20	19,5	38	54	104	4	●
5502R38414GM-R20-2000		20	2	20	19,5	38	54	104	4	●
5502R38414GM-R30-2000		20	3	20	19,5	38	54	104	4	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

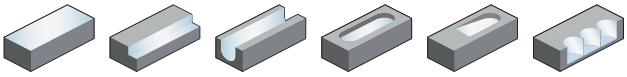
✔ Molto adatto
✔ Adatto

Codice sistema B362 | Dati di taglio B582 | Ordine utensili speciali B633

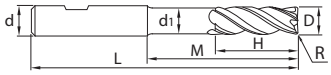
Frese toroidali con tagliente lungo

Lavorazione HSC/HPC

5602R38414GM-R



– Versione del codolo DIN 6535HB
– taglio al centro
– Angolo di inclinazione dell'elica 38°/41°



Articolo	✻	Dimensioni [mm] D	R	d (h6)	d_1	H	M	L	Denti	Grado KMG405
5602R38414GM-R02-0400		4	0,2	6	3,7	11	19	57	4	●
5602R38414GM-R05-0400		4	0,5	6	3,7	11	19	57	4	●
5602R38414GM-R02-0500		5	0,2	6	4,7	13	21	57	4	●
5602R38414GM-R05-0500		5	0,5	6	4,7	13	21	57	4	●
5602R38414GM-R02-0600		6	0,2	6	5,7	13	21	57	4	●
5602R38414GM-R05-0600		6	0,5	6	5,7	13	21	57	4	●
5602R38414GM-R10-0600		6	1	6	5,7	13	21	57	4	●
5602R38414GM-R02-0800		8	0,2	8	7,7	19	27	63	4	●
5602R38414GM-R05-0800		8	0,5	8	7,7	19	27	63	4	●
5602R38414GM-R10-0800		8	1	8	7,7	19	27	63	4	●
5602R38414GM-R15-0800		8	1,5	8	7,7	19	27	63	4	●
5602R38414GM-R20-0800		8	2	8	7,7	19	27	63	4	●
5602R38414GM-R02-1000		10	0,2	10	9,5	22	32	72	4	●
5602R38414GM-R05-1000		10	0,5	10	9,5	22	32	72	4	●
5602R38414GM-R10-1000		10	1	10	9,5	22	32	72	4	●
5602R38414GM-R15-1000		10	1,5	10	9,5	22	32	72	4	●
5602R38414GM-R20-1000		10	2	10	9,5	22	32	72	4	●
5602R38414GM-R05-1200		12	0,5	12	11,5	26	38	83	4	●
5602R38414GM-R10-1200		12	1	12	11,5	26	38	83	4	●
5602R38414GM-R15-1200		12	1,5	12	11,5	26	38	83	4	●
5602R38414GM-R20-1200		12	2	12	11,5	26	38	83	4	●
5602R38414GM-R25-1200		12	2,5	12	11,5	26	38	83	4	○
5602R38414GM-R10-1400		14	1	14	13,5	26	38	83	4	○
5602R38414GM-R10-1600		16	1	16	15,5	32	44	92	4	●
5602R38414GM-R15-1600		16	1,5	16	15,5	32	44	92	4	●
5602R38414GM-R20-1600		16	2	16	15,5	32	44	92	4	●
5602R38414GM-R30-1600		16	3	16	15,5	32	44	92	4	●
5602R38414GM-R10-2000		20	1	20	19,5	38	54	104	4	●
5602R38414GM-R15-2000		20	1,5	20	19,5	38	54	104	4	●
5602R38414GM-R20-2000		20	2	20	19,5	38	54	104	4	●
5602R38414GM-R30-2000		20	3	20	19,5	38	54	104	4	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

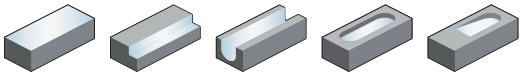
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

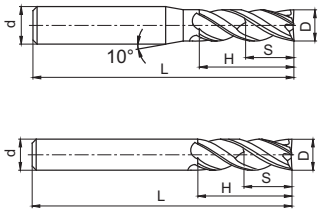
Frese a candela

Lavorazione HSC/HPC

UM-4E



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 38°/41°



Articolo	✻	Dimensioni [mm] D	d (h6)	H	L	S	Denti	Geometria	Grado KMG405	YK40F
UM-4E-D4.0S		4	4	11	50	6	4	B	●	
UM-4E-D4.0		4	6	11	50	6	4	A	●	
UM-4E-D4.5		4,5	6	11	50	6,75	4	A	●	
UM-4E-D5.0		5	6	13	50	7,5	4	A	●	
UM-4E-D5.5		5,5	6	16	50	8,25	4	A	●	
UM-4E-D6.0		6	6	16	50	9	4	B	●	○
UM-4E-D7.0		7	8	20	60	10,5	4	A	●	
UM-4E-D8.0		8	8	20	60	12	4	B	●	○
UM-4E-D9.0		9	10	22	75	13,5	4	A	●	
UM-4E-D10.0		10	10	25	75	15	4	B	●	○
UM-4E-D11.0		11	12	26	75	16,5	4	A	●	
UM-4E-D12.0		12	12	30	75	18	4	B	●	○
UM-4E-D14.0		14	14	32	75	21	4	B	●	
UM-4E-D16.0		16	16	45	100	24	4	B	●	○
UM-4E-D18.0		18	18	45	100	27	4	B	●	
UM-4E-D20.0		20	20	45	100	30	4	B	●	

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

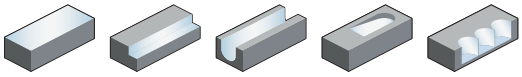
✔ Molto adatto
✔ Adatto

Codice sistema B362 | Dati di taglio B582 | Ordine utensili speciali B633

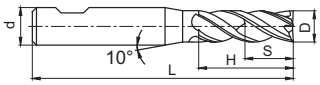
Frese a candela

Lavorazione HSC/HPC

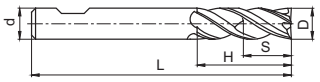
UM-4E-W



– Codolo cilindrico standard di fabbrica ZCC-CT attacco Weldon
– taglio al centro
– Angolo di inclinazione dell'elica 38°/41°



A



B

Articolo	✻	Dimensioni [mm] D	d (h6)	H	L	S	Denti	Geometria	Grado KMG405	YK40F
UM-4E-D4.0-W		4	6	11	50	6	4	A	●	
UM-4E-D4.5-W		4,5	6	11	50	6,75	4	A	●	
UM-4E-D5.0-W		5	6	13	50	7,5	4	A	●	
UM-4E-D5.5-W		5,5	6	16	50	8,25	4	A	●	
UM-4E-D6.0-W		6	6	16	50	9	4	B	●	○
UM-4E-D7.0-W		7	8	20	60	10,5	4	A	●	
UM-4E-D8.0-W		8	8	20	60	12	4	B	●	○
UM-4E-D9.0-W		9	10	22	75	13,5	4	A	●	
UM-4E-D10.0-W		10	10	25	75	15	4	B	●	○
UM-4E-D11.0-W		11	12	26	75	16,5	4	A	●	
UM-4E-D12.0-W		12	12	30	75	18	4	B	●	○
UM-4E-D14.0-W		14	14	32	75	21	4	B	●	
UM-4E-D16.0-W		16	16	45	100	24	4	B	●	○
UM-4E-D18.0-W		18	18	45	100	27	4	B	●	
UM-4E-D20.0-W		20	20	45	100	30	4	B	●	

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

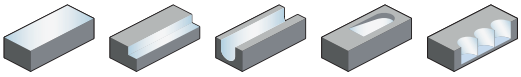
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

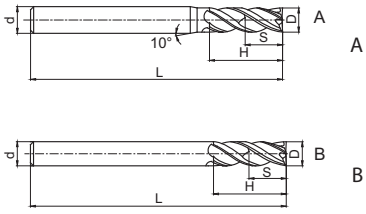
Frese a candela tagliente lungo

Lavorazione HSC/HPC

UM-4EL



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 38°/41°



Articolo	✻	Dimensioni [mm] D	d (h6)	H	L	S	Denti	Geometria	Grado KMG405
UM-4EL-D4.0		4	6	15	75	6	4	A	●
UM-4EL-D5.0		5	6	20	75	7,5	4	A	●
UM-4EL-D6.0		6	6	20	75	9	4	B	●
UM-4EL-D8.0		8	8	25	100	12	4	B	●
UM-4EL-D10.0		10	10	30	100	15	4	B	●
UM-4EL-D12.0		12	12	35	100	18	4	B	●
UM-4EL-D14.0		14	14	40	100	21	4	B	●
UM-4EL-D16.0		16	16	50	150	24	4	B	●
UM-4EL-D20.0		20	20	55	150	30	4	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

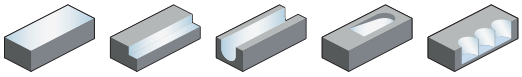
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

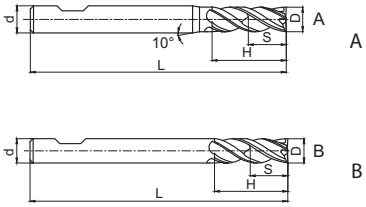
Frese a candela tagliente lungo

Lavorazione HSC/HPC

UM-4EL-W



– Codolo cilindrico standard di fabbrica ZCC-CT attacco Weldon
– taglio al centro
– Angolo di inclinazione dell'elica 38°/41°



Articolo	✻	Dimensioni [mm] D	d (h6)	H	L	S	Denti	Geometria	Grado KMG405
UM-4EL-D4.0-W		4	6	15	75	6	4	A	●
UM-4EL-D5.0-W		5	6	20	75	7,5	4	A	●
UM-4EL-D6.0-W		6	6	20	75	9	4	B	●
UM-4EL-D8.0-W		8	8	25	100	12	4	B	●
UM-4EL-D10.0-W		10	10	30	100	15	4	B	●
UM-4EL-D12.0-W		12	12	35	100	18	4	B	●
UM-4EL-D14.0-W		14	14	40	100	21	4	B	●
UM-4EL-D16.0-W		16	16	50	150	24	4	B	●
UM-4EL-D20.0-W		20	20	55	150	30	4	B	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

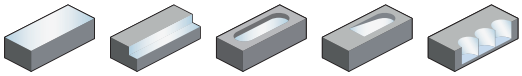
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

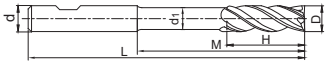
Frese a candela a collo ridotto

Lavorazione HSC/HPC

UM-4ELP-W



– Codolo cilindrico standard di fabbrica ZCC-CT attacco Weldon
– taglio al centro
– Angolo di inclinazione dell'elica 38°/41°



Articolo	✻	Dimensioni [mm]						Denti	Grado
		D	d (h6)	d_1	H	M	L		KMG405
UM-4ELP-D4.0-W		4	6	3,8	15	36	75	4	●
UM-4ELP-D5.0-W		5	6	4,8	20	36	75	4	●
UM-4ELP-D6.0-W		6	6	5,7	20	36	75	4	●
UM-4ELP-D8.0-W		8	8	7,7	25	60	100	4	●
UM-4ELP-D10.0-W		10	10	9,5	30	55	100	4	●
UM-4ELP-D12.0-W		12	12	11,5	35	50	100	4	●
UM-4ELP-D14.0-W		14	14	13,5	40	50	100	4	●
UM-4ELP-D16.0-W		16	16	15,5	50	100	150	4	●
UM-4ELP-D20.0-W		20	20	19,5	55	98	150	4	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

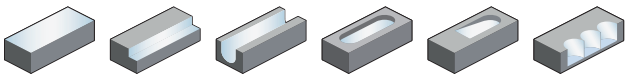
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

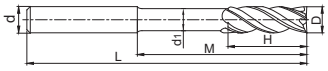
Frese a candela tagliente corto

Lavorazione HSC/HPC

UM-4EFP



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 38°/41°



Articolo	✻	Dimensioni [mm]						Denti	Grado
		D	d (h6)	d_1	H	M	L		KMG405
UM-4EFP-D6.0		6	6	5,8	9	30	75	4	●
UM-4EFP-D8.0		8	8	7,8	12	40	100	4	●
UM-4EFP-D10.0		10	10	9,6	15	50	100	4	●
UM-4EFP-D12.0		12	12	11,5	18	50	100	4	●
UM-4EFP-D16.0		16	16	15,5	24	50	150	4	●
UM-4EFP-D18.0		18	18	17,5	27	60	150	4	○
UM-4EFP-D20.0		20	20	19,5	30	60	150	4	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

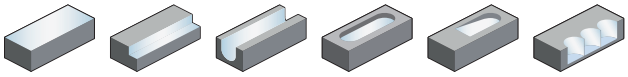
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

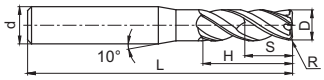
Frese a candela

Lavorazione HSC/HPC

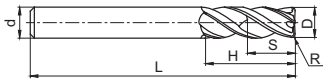
UM-4R



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 38°/41°



A



B

Articolo	✻	Dimensioni [mm] R	D	d (h6)	H	L	S	Denti	Geometria	Grado KMG405
UM-4R-D4.0R0.3		0,3	4	6	10	50	6	4	A	●
UM-4R-D4.0R0.5		0,5	4	6	10	50	6	4	A	●
UM-4R-D5.0R0.5		0,5	5	6	13	50	7,5	4	A	●
UM-4R-D5.0R1.0		1	5	6	13	50	7,5	4	A	●
UM-4R-D6.0R0.5		0,5	6	6	16	50	9	4	B	●
UM-4R-D6.0R1.0		1	6	6	16	50	9	4	B	●
UM-4R-D8.0R0.5		0,5	8	8	20	60	12	4	B	●
UM-4R-D8.0R1.0		1	8	8	20	60	12	4	B	●
UM-4R-D10.0R0.5		0,5	10	10	25	75	15	4	B	●
UM-4R-D10.0R1.0		1	10	10	25	75	15	4	B	●
UM-4R-D10.0R2.0		2	10	10	25	75	15	4	B	●
UM-4R-D10.0R3.0		3	10	10	25	75	15	4	B	●
UM-4R-D12.0R0.5		0,5	12	12	30	75	18	4	B	●
UM-4R-D12.0R1.0		1	12	12	30	75	18	4	B	●
UM-4R-D12.0R2.0		2	12	12	30	75	18	4	B	●
UM-4R-D12.0R3.0		3	12	12	30	75	18	4	B	●
UM-4R-D14.0R1.5		1,5	14	14	32	75	21	4	B	●
UM-4R-D16.0R0.5		0,5	16	16	45	100	24	4	B	●
UM-4R-D16.0R0.8		0,8	16	16	45	100	24	4	B	○
UM-4R-D16.0R1.0		1	16	16	45	100	24	4	B	●
UM-4R-D16.0R2.0		2	16	16	45	100	24	4	B	●
UM-4R-D16.0R3.0		3	16	16	45	100	24	4	B	●
UM-4R-D20.0R1.0		1	20	20	45	100	30	4	B	●
UM-4R-D20.0R2.0		2	20	20	45	100	30	4	B	●
UM-4R-D20.0R3.0		3	20	20	45	100	30	4	B	●
UM-4R-D20.0R5.0		5	20	20	45	100	30	4	B	○
UM-4R-D20.0R6.0		6	20	20	45	100	30	4	B	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

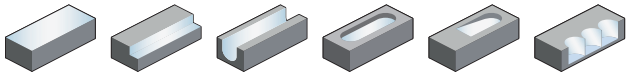
✔ Molto adatto
✔ Adatto

Codice sistema B362 | Dati di taglio B582 | Ordine utensili speciali B633

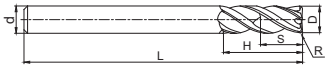
Frese toroidali codolo lungo

Lavorazione HSC/HPC

UM-4RL



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 38°/41°



Articolo	✻	Dimensioni [mm]						Denti	Grado
		R	D	d (h6)	H	L	S		KMG405
UM-4RL-D6.0R0.5		0,5	6	6	16	75	9	4	●
UM-4RL-D6.0R1.0		1	6	6	16	75	9	4	●
UM-4RL-D8.0R0.5		0,5	8	8	20	100	12	4	●
UM-4RL-D8.0R1.0		1	8	8	20	100	12	4	●
UM-4RL-D10.0R0.5		0,5	10	10	25	100	15	4	●
UM-4RL-D10.0R1.0		1	10	10	25	100	15	4	●
UM-4RL-D10.0R2.0		2	10	10	25	100	15	4	●
UM-4RL-D12.0R0.5		0,5	12	12	30	100	18	4	●
UM-4RL-D12.0R1.0		1	12	12	30	100	18	4	●
UM-4RL-D12.0R2.0		2	12	12	30	100	18	4	●
UM-4RL-D16.0R1.0		1	16	16	45	150	24	4	●
UM-4RL-D16.0R2.0		2	16	16	45	150	24	4	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

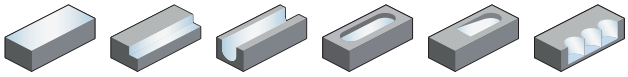
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

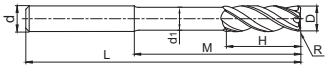
Frese toroidali tagliente corto

Lavorazione HSC/HPC

UM-4RFP



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 38°/41°



Articolo	✻	Dimensioni [mm]							Denti	Grado
		R	D	d (h6)	d_1	H	M	L		KMG405
UM-4RFP-D6.0R0.5		0,5	6	6	5,8	6	18	75	4	●
UM-4RFP-D6.0R1.0		1	6	6	5,8	6	18	75	4	●
UM-4RFP-D8.0R0.5		0,5	8	8	7,7	8	24	100	4	●
UM-4RFP-D8.0R1.0		1	8	8	7,7	8	24	100	4	●
UM-4RFP-D10.0R0.5		0,5	10	10	9,6	10	30	100	4	●
UM-4RFP-D10.0R1.0		1	10	10	9,6	10	30	100	4	●
UM-4RFP-D10.0R2.0		2	10	10	9,6	10	30	100	4	●
UM-4RFP-D12.0R0.5		0,5	12	12	11,5	12	36	100	4	●
UM-4RFP-D12.0R1.0		1	12	12	11,5	12	36	100	4	●
UM-4RFP-D12.0R2.0		2	12	12	11,5	12	36	100	4	●
UM-4RFP-D16.0R1.0		1	16	16	15,5	16	40	150	4	●
UM-4RFP-D16.0R2.0		2	16	16	15,5	16	40	150	4	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

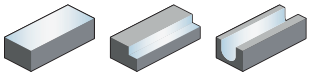
✔ Molto adatto
✔ Adatto

Codice sistema B362 | Dati di taglio B582 | Ordine utensili speciali B633

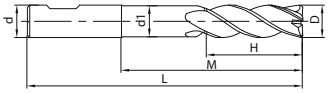
Frese a candela

Lavorazione HSC/HPC

UM-5EP-W



– Codolo cilindrico standard di fabbrica ZCC-CT attacco Weldon
– taglio non oltre il centro
– Angolo di inclinazione dell'elica 38°/39°/40°



Articolo	✻	Dimensioni [mm]						Denti	Grado
		D	d (h6)	d_1	H	M	L		KMG405
UM-5EP-D6.0-W		6	6	5,7	16	22	58	5	●
UM-5EP-D8.0-W		8	8	7,7	21	27	63	5	●
UM-5EP-D10.0-W		10	10	9,5	24	35	75	5	●
UM-5EP-D12.0-W		12	12	11,5	31	43	88	5	●
UM-5EP-D16.0-W		16	16	15,5	36	52	100	5	●
UM-5EP-D20.0-W		20	20	19,5	41	72	126	5	●
UM-5EP-D25.0-W		25	25	24	51	102	160	5	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

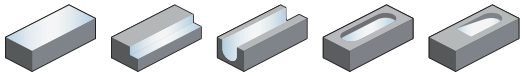
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

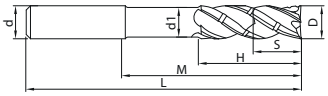
Frese a candela

Lavorazione HSC/HPC

UMC-4E



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 38°/40°



Articolo	✻	Dimensioni [mm]							Denti	Grado
		D	d (h6)	d_1	H	M	L	S		KMG405
UMC-4E-D6.0		6	6	5,8	18	24	60	9	4	○
UMC-4E-D8.0		8	8	7,8	24	34	70	12	4	○
UMC-4E-D10.0		10	10	9,6	30	40	80	15	4	○
UMC-4E-D12.0		12	12	11,5	36	45	90	18	4	○
UMC-4E-D16.0		16	16	15,5	48	62	110	24	4	○
UMC-4E-D20.0		20	20	19,5	60	80	130	30	4	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

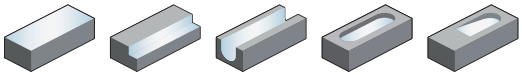
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

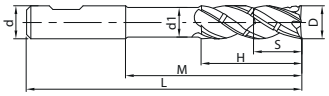
Frese a candela

Lavorazione HSC/HPC

UMC-4E-W



– Codolo cilindrico standard di fabbrica ZCC-CT attacco Weldon
– taglio al centro
– Angolo di inclinazione dell'elica 38°/40°



Articolo	✻	Dimensioni [mm]							Denti	Grado
		D	d (h6)	d_1	H	M	L	S		KMG405
UMC-4E-D6.0-W		6	6	5,8	18	24	60	9	4	○
UMC-4E-D8.0-W		8	8	7,8	24	34	70	12	4	○
UMC-4E-D10.0-W		10	10	9,6	30	40	80	15	4	○
UMC-4E-D12.0-W		12	12	11,5	36	45	90	18	4	○
UMC-4E-D16.0-W		16	16	15,5	48	62	110	24	4	○
UMC-4E-D20.0-W		20	20	19,5	60	80	130	30	4	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

✔ Molto adatto
✔ Adatto

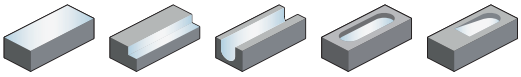
Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

Frese in metallo duro integrale

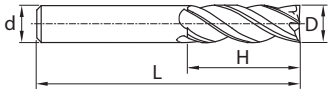
Frese a candela

Lavorazione generica di materiali a difficile asportazione

VSM-4E



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 38°/41°



Articolo	✻	Dimensioni [mm]				Denti	Grado
		D	d (h6)	H	L		KMG405
VSM-4E-D4.0		4	6	11	50	4	●
VSM-4E-D5.0		5	6	13	50	4	●
VSM-4E-D6.0		6	6	16	50	4	●
VSM-4E-D8.0		8	8	20	60	4	●
VSM-4E-D10.0		10	10	25	75	4	●
VSM-4E-D12.0		12	12	30	75	4	●
VSM-4E-D14.0		14	14	40	100	4	○
VSM-4E-D16.0		16	16	45	100	4	●
VSM-4E-D20.0		20	20	45	100	4	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔			✔	

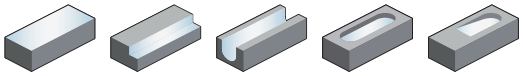
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

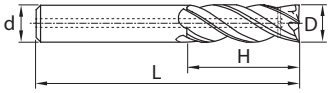
Frese a candela

Lavorazione generica di materiali a difficile asportazione

VSM-4E-C



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– Uscita refrigerante radiale
– taglio al centro
– Angolo di inclinazione dell'elica 38°/41°



Articolo	✻	Dimensioni [mm] D	d (h6)	H	L	Denti	Grado KMG405
VSM-4E-C-D10.0	✻	10	10	25	75	4	○
VSM-4E-C-D12.0	✻	12	12	30	75	4	○
VSM-4E-C-D16.0	✻	16	16	45	100	4	○
VSM-4E-C-D20.0	✻	20	20	45	100	4	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

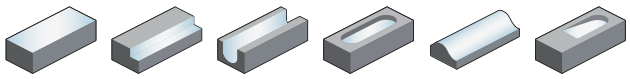
P	M	K	N	S	H
✔	✔			✔	

✔ Molto adatto
✔ Adatto

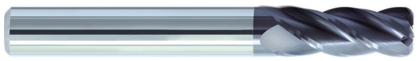
Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

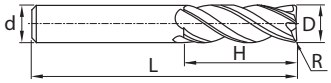
Frese toroidali — Lavorazione generica di materiali a difficile asportazione

VSM-4R



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 38°/41°





Articolo	✻	Dimensioni [mm] D	R	d (h6)	H	L	Denti	Grado KMG405
VSM-4R-D4.0R0.2		4	0,2	6	11	50	4	●
VSM-4R-D4.0R0.5		4	0,5	6	11	50	4	●
VSM-4R-D5.0R0.2		5	0,2	6	13	50	4	●
VSM-4R-D5.0R0.5		5	0,5	6	13	50	4	●
VSM-4R-D6.0R0.2		6	0,2	6	16	50	4	●
VSM-4R-D6.0R0.5		6	0,5	6	16	50	4	●
VSM-4R-D6.0R1.0		6	1	6	16	50	4	●
VSM-4R-D6.0R1.5		6	1,5	6	16	50	4	●
VSM-4R-D8.0R0.5		8	0,5	8	20	63	4	●
VSM-4R-D8.0R0.8		8	0,8	8	20	63	4	●
VSM-4R-D8.0R1.0		8	1	8	20	63	4	●
VSM-4R-D8.0R1.5		8	1,5	8	20	63	4	●
VSM-4R-D8.0R2.0		8	2	8	20	63	4	●
VSM-4R-D10.0R0.5		10	0,5	10	25	75	4	●
VSM-4R-D10.0R0.8		10	0,8	10	25	75	4	●
VSM-4R-D10.0R1.0		10	1	10	25	75	4	●
VSM-4R-D10.0R1.5		10	1,5	10	25	75	4	●
VSM-4R-D10.0R2.0		10	2	10	25	75	4	●
VSM-4R-D12.0R0.3		12	0,3	12	30	75	4	●
VSM-4R-D12.0R0.5		12	0,5	12	30	75	4	●
VSM-4R-D12.0R0.8		12	0,8	12	30	75	4	●
VSM-4R-D12.0R1.0		12	1	12	30	75	4	●
VSM-4R-D12.0R1.5		12	1,5	12	30	75	4	●
VSM-4R-D12.0R2.0		12	2	12	30	75	4	●
VSM-4R-D12.0R2.5		12	2,5	12	30	75	4	●
VSM-4R-D12.0R3.0		12	3	12	30	75	4	●
VSM-4R-D12.0R4.0		12	4	12	30	75	4	●
VSM-4R-D14.0R0.5		14	0,5	14	32	75	4	○
VSM-4R-D16.0R0.5		16	0,5	16	45	100	4	●
VSM-4R-D16.0R0.8		16	0,8	16	45	100	4	●
VSM-4R-D16.0R1.0		16	1	16	45	100	4	●
VSM-4R-D16.0R1.5		16	1,5	16	45	100	4	●
VSM-4R-D16.0R2.0		16	2	16	45	100	4	●
VSM-4R-D16.0R2.5		16	2,5	16	45	100	4	●
VSM-4R-D16.0R3.0		16	3	16	45	100	4	●
VSM-4R-D16.0R4.0		16	4	16	45	100	4	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔			✔	

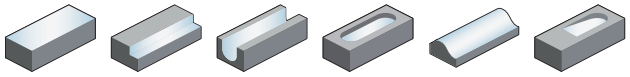
✔ Molto adatto
✔ Adatto

Codice sistema B362 | Dati di taglio B582 | Ordine utensili speciali B633

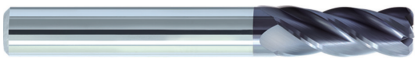
Frese toroidali

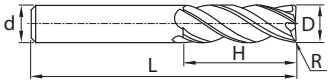
Lavorazione generica di materiali a difficile asportazione

VSM-4R



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 38°/41°





Articolo	✻	Dimensioni [mm] D	R	d (h6)	H	L	Denti	Grado KMG405
VSM-4R-D20.0R0.5		20	0,5	20	45	100	4	●
VSM-4R-D20.0R1.0		20	1	20	45	100	4	●
VSM-4R-D20.0R1.5		20	1,5	20	45	100	4	●
VSM-4R-D20.0R2.0		20	2	20	45	100	4	●
VSM-4R-D20.0R2.5		20	2,5	20	45	100	4	●
VSM-4R-D20.0R3.0		20	3	20	45	100	4	●
VSM-4R-D20.0R4.0		20	4	20	45	100	4	●

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔			✔	

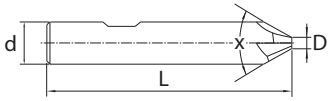
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

Frese a sbavare 60° Lavorazione generica

5501/5601R60*FM

– Versione del codolo DIN 6535HA
– Versione del codolo DIN 6535HB
– taglio non oltre il centro
– Angolo di inclinazione dell'elica 0°



Articolo	✻	Dimensioni [mm] d(h6)	L	D	Codolo	X	Denti	Grado KMG303
5501R603FM-0300		3	48	0,2	HA	60	3	●
5501R604FM-0400		4	48	0,2	HA	60	4	●
5601R604FM-0600		6	55	0,2	HB	60	4	●
5601R604FM-0800		8	58	0,5	HB	60	4	●
5601R604FM-1000		10	65	0,5	HB	60	4	●
5601R606FM-1000		10	65	0,7	HB	60	6	○
5601R604FM-1200		12	75	0,5	HB	60	4	●
5601R606FM-1200		12	75	0,7	HB	60	6	○
5601R604FM-1600		16	85	0,7	HB	60	4	●
5601R606FM-1600		16	85	0,7	HB	60	6	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔	✔		

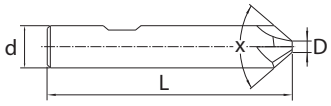
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

Frese a sbavare 90° Lavorazione generica

5501/5601R90*FM

– Versione del codolo DIN 6535HA
– Versione del codolo DIN 6535HB
– taglio non oltre il centro
– Angolo di inclinazione dell'elica 0°



Articolo	✻	Dimensioni [mm] d(h6)	L	D	Codolo	X	Denti	Grado KMG303
5501R903FM-0300		3	48	0,2	HA	90	3	●
5501R904FM-0400		4	48	0,2	HA	90	4	●
5501R904FM-0600		6	55	0,2	HA	90		○
5601R904FM-0600		6	55	0,2	HB	90	4	●
5501R904FM-0800		8	58	0,5	HA	90		○
5601R904FM-0800		8	58	0,5	HB	90	4	●
5501R904FM-1000		10	65	0,5	HA	90		○
5601R904FM-1000		10	65	0,5	HB	90	4	●
5601R906FM-1000		10	65	0,7	HB	90	6	○
5501R904FM-1200		12	75	0,5	HA	90		○
5601R904FM-1200		12	75	0,5	HB	90	4	●
5601R906FM-1200		12	75	0,7	HB	90	6	○
5501R904FM-1600		16	85	0,7	HA	90	4	○
5601R904FM-1600		16	85	0,7	HB	90	4	●
5601R906FM-1600		16	85	0,7	HB	90	6	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔	✔		

✔ Molto adatto
✔ Adatto

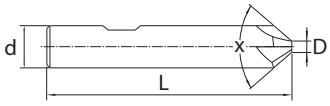
Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

Frese a sbavare

Lavorazione generica

5501/5601R120*FM

– Versione del codolo DIN 6535HA
– Versione del codolo DIN 6535HB
– taglio non oltre il centro
– Angolo di inclinazione dell'elica 0°



Articolo	✻	Dimensioni [mm]					Denti	Grado
		d(h6)	L	D	Codolo	X		KMG406
5501R1203FM-0300		3	48	0,2	HA	120	3	○
5501R1204FM-0400		4	48	0,2	HA	120	4	○
5501R1204FM-0600		6	55	0,2	HA	120	4	○
5601R1204FM-0600		6	55	0,2	HB	120	4	○
5501R1204FM-0800		8	58	0,5	HA	120	4	○
5601R1204FM-0800		8	58	0,5	HB	120	4	○
5601R1204FM-1000		10	65	0,5	HB	120	4	○
5501R1204FM-1000		10	65	0,5	HA	120	4	○
5501R1206FM-1000		10	65	0,7	HA	120	6	○
5601R1206FM-1000		10	65	0,7	HB	120	6	○
5501R1204FM-1200		12	75	0,5	HA	120	4	○
5601R1204FM-1200		12	75	0,5	HB	120	4	○
5501R1206FM-1200		12	75	0,7	HA	120	6	○
5601R1206FM-1200		12	75	0,7	HB	120	6	○
5601R1204FM-1600		16	85	0,7	HB	120	4	○
5501R1204FM-1600		16	85	0,7	HA	120	4	○
5601R1206FM-1600		16	85	0,7	HB	120	6	○
5501R1206FM-1600		16	85	0,7	HA	120	6	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔	✔		

✔ Molto adatto
✔ Adatto

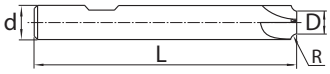
Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

Frese a raggio concave a quarto di raggio

Lavorazione generica

5601R90*FM-R

– Versione del codolo DIN 6535HB
– taglio non oltre il centro
– Angolo di inclinazione dell'elica 0°



Articolo	✻	Dimensioni [mm] d(h6)	L	D	R	Denti	Grado KMG303
5601R904FM-R02-0600		6	60	5,6	0,2	4	●
5601R904FM-R03-0600		6	60	5,4	0,3	4	●
5601R904FM-R04-0600		6	60	5,2	0,4	4	●
5601R904FM-R05-0800		8	70	7	0,5	4	●
5601R904FM-R06-0800		8	70	6,8	0,6	4	●
5601R904FM-R075-0800		8	70	6,5	0,75	4	●
5601R904FM-R08-0800		8	70	6,4	0,8	4	●
5601R904FM-R10-0800		8	70	6	1	4	●
5601R904FM-R15-1000		10	75	7	1,5	4	●
5601R904FM-R20-1000		10	75	6	2	4	●
5601R904FM-R25-1200		12	75	7	2,5	4	●
5601R904FM-R30-1200		12	75	6	3	4	●
5601R904FM-R40-1600		16	80	8	4	4	●
5601R904FM-R50-2000		20	80	10	5	4	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔	✔		

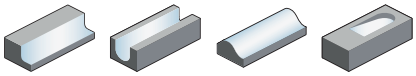
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

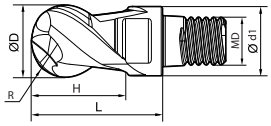
Frese a testa sferica

Lavorazione ad alte prestazioni

PM-2B



– taglio al centro
– Angolo di inclinazione dell'elica 30°



Articolo	✻	Dimensioni [mm]						Denti	Grado
		R	D	d1	H	L	MD(Q)		KMG405
Q07-PM-2B-D10.0		5	10	9,5	6	16	7	2	●
Q08-PM-2B-D12.0		6	12	11,5	7	17	8	2	●
Q10-PM-2B-D16.0		8	16	15,2	9	21,5	10	2	●
Q12-PM-2B-D20.0		10	20	19	11	25,5	12	2	●
Q14-PM-2B-D25.0		12,5	25	24	13,5	31,5	14	2	●
Q18-PM-2B-D32.0		16	32	30	17	36	18	2	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

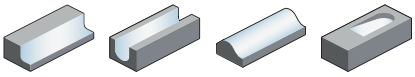
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

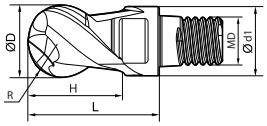
Frese a testa sferica

Lavorazione ad alte prestazioni

PM-4B



– taglio al centro
– Angolo di inclinazione dell'elica 30°



Articolo	✻	Dimensioni [mm] R	D	d1	H	L	MD(Q)	Denti	Grado KMG405
Q07-PM-4B-D10.0		5	10	9,5	6	16	7	4	●
Q08-PM-4B-D12.0		6	12	11,5	7	17	8	4	●
Q10-PM-4B-D16.0		8	16	15,2	9	21,5	10	4	●
Q12-PM-4B-D20.0		10	20	19	11	25,5	12	4	●
Q14-PM-4B-D25.0		12,5	25	24	13,5	31,5	14	4	●
Q18-PM-4B-D32.0		16	32	30	17	36	18	4	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

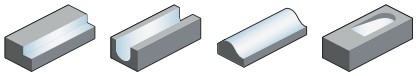
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

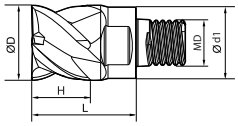
Frese a spallamento

Lavorazione ad alte prestazioni

PM-4E



– taglio al centro
– Angolo di inclinazione dell'elica 45°



Articolo	✻	Dimensioni [mm] D	d1	H	L	MD(Q)	Denti	Grado KMG405
Q07-PM-4E-D10.0		10	9,5	6	16	7	4	●
Q08-PM-4E-D12.0		12	11,5	7	17	8	4	●
Q10-PM-4E-D16.0		16	15,2	9	21,5	10	4	●
Q12-PM-4E-D20.0		20	19	11	25,5	12	4	●
Q14-PM-4E-D25.0		25	24	13,5	31,5	14	4	●
Q18-PM-4E-D32.0		32	30	17	36	18	4	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

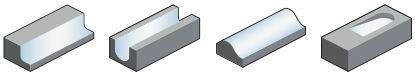
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

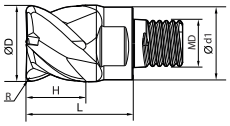
Frese toroidali

Lavorazione ad alte prestazioni

PM-4R



– taglio al centro
– Angolo di inclinazione dell'elica 30°



Articolo	✻	Dimensioni [mm] R	D	d1	H	L	MD(Q)	Denti	Grado KMG405
Q07-PM-4R-D10.0R0.5		0,5	10	9,5	6	16	7	4	●
Q07-PM-4R-D10.0R1.0		1	10	9,5	6	16	7	4	●
Q08-PM-4R-D12.0R1.0		1	12	11,5	7	17	8	4	●
Q08-PM-4R-D12.0R2.0		2	12	11,5	7	17	8	4	●
Q10-PM-4R-D16.0R1.0		1	16	15,2	9	21,5	10	4	●
Q10-PM-4R-D16.0R1.5		1,5	16	15,2	9	21,5	10	4	●
Q10-PM-4R-D16.0R2.0		2	16	15,2	9	21,5	10	4	●
Q12-PM-4R-D20.0R1.0		1	20	19	11	25,5	12	4	●
Q12-PM-4R-D20.0R2.0		2	20	19	11	25,5	12	4	●
Q14-PM-4R-D25.0R1.0		1	25	24	13,5	31,5	14	4	●
Q14-PM-4R-D25.0R2.0		2	25	24	13,5	31,5	14	4	●
Q14-PM-4R-D25.0R2.5		2,5	25	24	13,5	31,5	14	4	●
Q18-PM-4R-D32.0R1.0		1	32	30	17	36	18	4	●
Q18-PM-4R-D32.0R2.0		2	32	30	17	36	18	4	●
Q18-PM-4R-D32.0R3.0		3	32	30	17	36	18	4	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

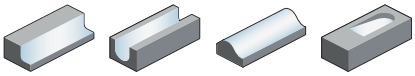
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

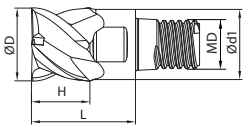
Frese a spallamento

Lavorazione ad alte prestazioni

VPM-4E



– taglio al centro
– Angolo di inclinazione dell'elica 38°



Articolo	✻	Dimensioni [mm]					Denti	Grado
		D	d1	H	L	MD(Q)		KMG406
Q07-VPM-4E-D10.0		10	9,5	6	16	7	4	●
Q08-VPM-4E-D12.0		12	11,5	7	17	8	4	●
Q10-VPM-4E-D16.0		16	15,2	9	21,5	10	4	●
Q12-VPM-4E-D20.0		20	19	11	25,5	12	4	●
Q14-VPM-4E-D25.0		25	24	13,5	31,5	14	4	●
Q18-VPM-4E-D32.0		32	30	17	36	18	4	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

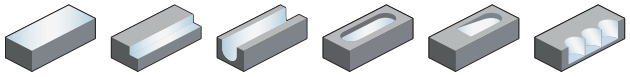
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

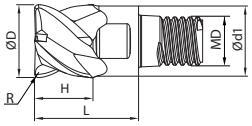
Frese a spallamento

Lavorazione ad alte prestazioni

VPM-4R



– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– taglio al centro
– Angolo di inclinazione dell'elica 36°/38°



Articolo	✻	Dimensioni [mm] R	D	d1	H	L	MD(Q)	Denti	Grado KMG406
Q07-VPM-4R-D10.0R0.3		0,3	10	9,5	6	16	7	4	○
Q07-VPM-4R-D10.0R0.5		0,5	10	9,5	6	16	7	4	●
Q07-VPM-4R-D10.0R1.0		1	10	9,5	6	16	7	4	○
Q07-VPM-4R-D10.0R1.5		1,5	10	9,5	6	16	7	4	○
Q07-VPM-4R-D10.0R2.0		2	10	9,5	6	16	7	4	○
Q08-VPM-4R-D12.0R0.3		0,3	12	11,5	7	17	8	4	○
Q08-VPM-4R-D12.0R0.5		0,5	12	11,5	7	17	8	4	●
Q08-VPM-4R-D12.0R1.5		1,5	12	11,5	7	17	8	4	○
Q08-VPM-4R-D12.0R2.0		2	12	11,5	7	17	8	4	●
Q10-VPM-4R-D16.0R0.5		0,5	16	15,2	9	21,5	10	4	○
Q10-VPM-4R-D16.0R1.0		1	16	15,2	9	21,5	10	4	●
Q10-VPM-4R-D16.0R1.5		1,5	16	15,2	9	21,5	10	4	○
Q10-VPM-4R-D16.0R2.0		2	16	15,2	9	21,5	10	4	●
Q10-VPM-4R-D16.0R3.0		3	16	15,2	9	21,5	10	4	●
Q12-VPM-4R-D20.0R1.0		1	20	18,5	11	25,5	12	4	●
Q12-VPM-4R-D20.0R1.5		1,5	20	18,5	11	25,5	12	4	○
Q12-VPM-4R-D20.0R2.0		2	20	18,5	11	25,5	12	4	●
Q12-VPM-4R-D20.0R3.0		3	20	18,5	11	25,5	12	4	●
Q14-VPM-4R-D25.0R1.5		1,5	25	24	13,5	31,5	14	4	○
Q14-VPM-4R-D25.0R2.0		2	25	24	13,5	31,5	14	4	●
Q14-VPM-4R-D25.0R2.5		2,5	25	24	13,5	31,5	14	4	○
Q14-VPM-4R-D25.0R3.0		3	25	24	13,5	31,5	14	4	●
Q18-VPM-4R-D32.0R2.0		2	32	30	17	36	18	4	○
Q18-VPM-4R-D32.0R2.5		2,5	32	30	17	36	18	4	○
Q18-VPM-4R-D32.0R4.0		4	32	30	17	36	18	4	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			✔

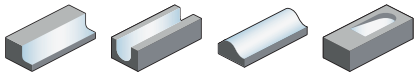
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

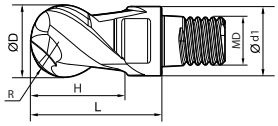
Frese a testa sferica

Lavorazioni di acciai temprati

HMX-2B



– taglio al centro
– Angolo di inclinazione dell'elica 35°



Articolo	✻	Dimensioni [mm]						Denti	Grado
		R	D	d1	H	L	MD(Q)		KMG5515
Q07-HMX-2B-D10.0		5	10	9,5	6	16	7	2	●
Q08-HMX-2B-D12.0		6	12	11,5	7	17	8	2	●
Q10-HMX-2B-D16.0		8	16	15,2	9	21,5	10	2	●
Q12-HMX-2B-D20.0		10	20	19	11	25,5	12	2	●
Q14-HMX-2B-D25.0		12,5	25	24	13,5	31,5	14	2	●
Q18-HMX-2B-D32.0		16	32	30	17	36	18	2	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
					✔

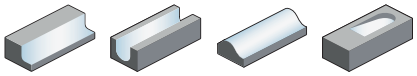
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

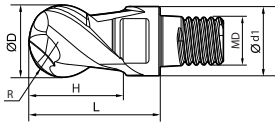
Frese a testa sferica

Lavorazioni di acciai temprati

HMX-4B



– taglio al centro
– Angolo di inclinazione dell'elica 35°



Articolo	✻	Dimensioni [mm] R	D	d1	H	L	MD(Q)	Denti	Grado KMG5515
Q08-HMX-4B-D12.0		6	12	11,5	7	17	8	4	●
Q10-HMX-4B-D16.0		8	16	15,2	9	21,5	10	4	●
Q12-HMX-4B-D20.0		10	20	19	11	25,5	12	4	●
Q14-HMX-4B-D25.0		12,5	25	24	13,5	31,5	14	4	●
Q18-HMX-4B-D32.0		16	32	30	17	36	18	4	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
					✔

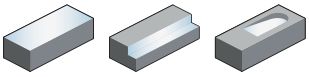
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

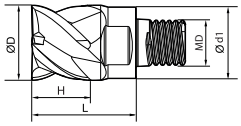
Frese a spallamento

Lavorazioni di acciai temprati

HMX-4E



– taglio al centro
– Angolo di inclinazione dell'elica 45°



Articolo	✻	Dimensioni [mm] D	d1	H	L	MD(Q)	Denti	Grado KMG5515
Q07-HMX-4E-D10.0		10	9,5	6	16	7	4	●
Q08-HMX-4E-D12.0		12	11,5	7	17	8	4	●
Q10-HMX-4E-D16.0		16	15,2	9	21,5	10	4	●
Q12-HMX-4E-D20.0		20	19	11	25,5	12	4	●
Q14-HMX-4E-D25.0		25	24	13,5	31,5	14	4	●
Q18-HMX-4E-D32.0		32	30	17	36	18	4	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
					✔

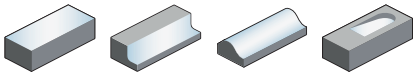
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

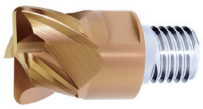
Frese toroidali

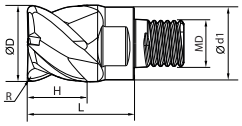
Lavorazioni di acciai temprati

HMX-4R



– taglio al centro
– Angolo di inclinazione dell'elica 35°





Articolo	✻	Dimensioni [mm]						Denti	Grado
		R	D	d1	H	L	MD(Q)		KMG5515
Q07-HMX-4R-D10.0R0.5		0,5	10	9,5	6	16	7	4	●
Q07-HMX-4R-D10.0R1.0		1	10	9,5	6	16	7	4	●
Q08-HMX-4R-D12.0R1.0		1	12	11,5	7	17	8	4	●
Q08-HMX-4R-D12.0R2.0		2	12	11,5	7	17	8	4	●
Q10-HMX-4R-D16.0R1.0		1	16	15,2	9	21,5	10	4	●
Q10-HMX-4R-D16.0R1.5		1,5	16	15,2	9	21,5	10	4	●
Q10-HMX-4R-D16.0R2.0		2	16	15,2	9	21,5	10	4	●
Q12-HMX-4R-D20.0R1.0		1	20	19	11	25,5	12	4	●
Q12-HMX-4R-D20.0R2.0		2	20	19	11	25,5	12	4	●
Q14-HMX-4R-D25.0R1.0		1	25	24	13,5	31,5	14	4	●
Q14-HMX-4R-D25.0R2.0		2	25	24	13,5	31,5	14	4	●
Q14-HMX-4R-D25.0R2.5		2,5	25	24	13,5	31,5	14	4	●
Q18-HMX-4R-D32.0R1.0		1	32	30	17	36	18	4	●
Q18-HMX-4R-D32.0R2.0		2	32	30	17	36	18	4	●
Q18-HMX-4R-D32.0R3.0		3	32	30	17	36	18	4	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
					✔

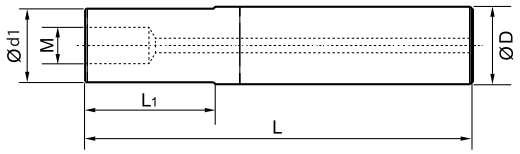
✔ Molto adatto
✔ Adatto

Codice sistema B362 Dati di taglio B582 Ordine utensili speciali B633

Note

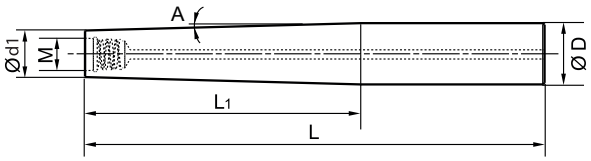
Sistema di attacchi

Stelo in metallo duro integrale, scaricato



Articolo	Dimensioni [mm]				Angolo (M)	Stock
	D	d1	L	L1		
G12-QCH-Q08-80C	12	11,5	80	30	Q8	●
G12-QCH-Q08-100C	12	11,5	100	50	Q8	●
G12-QCH-Q08-120C	12	11,5	120	70	Q8	●
G16-QCH-Q10-90C	16	15,2	90	40	Q10	●
G16-QCH-Q10-120C	16	15,2	120	70	Q10	●
G16-QCH-Q10-150C	16	15,2	150	100	Q10	●
G20-QCH-Q12-100C	20	19	100	40	Q12	●
G20-QCH-Q12-140C	20	19	140	80	Q12	●
G20-QCH-Q12-180C	20	19	180	120	Q12	●
G25-QCH-Q14-120C	25	24	120	50	Q14	●
G25-QCH-Q14-170C	25	24	170	100	Q14	●
G25-QCH-Q14-220C	25	24	220	150	Q14	●
G32-QCH-Q18-140C	32	30	140	70	Q18	●
G32-QCH-Q18-200C	32	30	200	130	Q18	●
G32-QCH-Q18-260C	32	30	260	190	Q18	●
G32-QCH-Q18-320C	32	30	320	250	Q18	●

Stelo in metallo duro integrale, conico



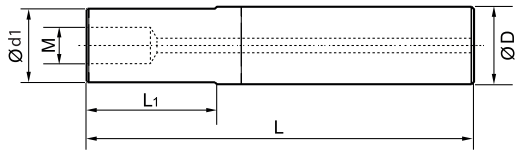
Articolo	Dimensioni [mm]				Filetto (M)	Angolo (A)	Stock
	D	d1	L	L1			
G16-QCH-Q08-140C-ZJ90	16	11,5	140	90	Q8	1,0	●
G20-QCH-Q10-200C-ZJ140	20	15,2	200	140	Q8	0,8	●
G25-QCH-Q12-250C-ZJ180	25	19	250	180	Q8	0,8	●
G32-QCH-Q14-270C-ZJ200	32	30	270	200	Q10	0,8	●

Parti di ricambio

	Filetto	Q8 / Q10	Q12 / Q14	Q18
	Chiave	QCH-10×13	QCH-16×20	QCH-26

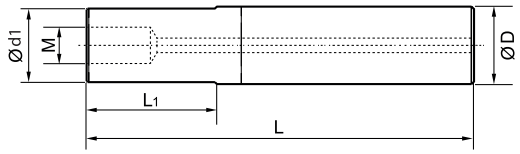
Sistema di attacchi

Codolo in acciaio, scaricato



Articolo	Dimensioni [mm]				Angolo (M)	Stock
	D	d1	L	L1		
G12-QCH-Q08-65S	12	11,5	65	19	Q08	●
G16-QCH-Q10-100S	16	15,2	100	42	Q10	●
G20-QCH-Q12-110S	20	19	110	54	Q12	●

Stelo in metallo duro integrale, scaricato, filettatura metrica



Articolo	Dimensioni [mm]				Angolo (M)	Stock
	D	d1	L	L1		
G16-QCH-M8-90C-125	16	12,5	90	35	M8	○
G16-QCH-M8-110C-125	16	12,5	110	55	M8	○
G16-QCH-M8-130C-125	16	12,5	130	75	M8	○
G16-QCH-M8-90C	16	15	90	35	M8	○
G16-QCH-M8-110C	16	15	110	55	M8	○
G16-QCH-M8-130C	16	15	130	75	M8	○
G16-QCH-M8-170C	16	15	170	115	M8	○
G16-QCH-M8-200C	16	15	200	145	M8	○
G20-QCH-M10-87C	20	18,5	87	30	M10	○
G20-QCH-M10-107C	20	18,5	107	50	M10	○
G20-QCH-M10-127C	20	18,5	127	70	M10	○
G20-QCH-M10-167C	20	18,5	167	110	M10	○
G20-QCH-M10-197C	20	18,5	197	140	M10	○
G25-QCH-M12-128C	25	23	128	65	M12	○
G25-QCH-M12-148C	25	23	148	85	M12	○
G25-QCH-M12-168C	25	23	168	105	M12	○
G25-QCH-M12-198C	25	23	198	135	M12	○
G25-QCH-M12-228C	25	23	228	165	M12	○
G32-QCH-M16-161C	32	29	161	95	M16	○
G32-QCH-M16-211C	32	29	211	145	M16	○
G32-QCH-M16-281C	32	29	281	215	M16	○
G32-QCH-M16-311C	32	29	311	245	M16	○
G32-QCH-M16-361C	32	29	361	295	M16	○

Principi guida per i dati di taglio consigliati – Frese in metallo duro integrale

End mill – GM series

1 2 3 4

	Material group	Composition / structure / heat treatment		Brinell hardness HB	Machining group	Starting values for cutting speed v_c [m/min] 5501R302GM 5601R302GM 5502R302GM 5602R302GM Slot milling Ø [mm] 0<x<3	$a_{p\,max}$ 0,1 x D	Slot milling Ø [mm] 3≤x≤20	$a_{p\,max}$ 0,8 x D	Shoulder milling Ø [mm] 0<x≤20	$a_{e\,max}$ <0,5 x D	Shoulder milling Ø [mm] 0<x≤20	$a_{e\,max}$ <0,5 x D	GM-2E GM-2EFP GM-2F Slot milling Ø [mm] 0<x<3	$a_{p\,max}$ 0,1 x D	Slot milling Ø [mm] 3≤x≤20	$a_{p\,max}$ 0,8 x D	Shoulder milling Ø [mm] 0<x≤20	$a_{e\,max}$ <0,5 x D
						KMG303 a_e / D 1/1	1/2	1/10	f-group	KMG303 a_e / D 1/1	1/2	1/10	f-group						
P	Unalloyed steel	ca. 0,15 % C	annealed	125	1	150	200	270	2	150	200	270	2						
		ca. 0,45 % C	annealed	190	2	145	190	260	2	145	190	260	2						
		ca. 0,45 % C	tempered	250	3	105	140	190	2	105	140	190	2						
		ca. 0,75 % C	annealed	270	4	90	120	165	2	90	120	165	2						
		ca. 0,75 % C	tempered	300	5	85	110	150	2	85	110	150	2						
	Low-alloyed steel		annealed	180	6	115	150	205	2	115	150	205	2						
			tempered	275	7	90	120	165	2	90	120	165	2						
			tempered	300	8	85	110	150	2	85	110	150	2						
			tempered	350	9	80	105	145	2	80	105	145	2						
	High-alloyed steel and high-alloyed tool steel		annealed	200	10	105	140	190	2	105	140	190	2						
			hardened and tempered	325	11	80	110	145	2	80	110	145	2						
M	Stainless steel	ferritic/martensitic	annealed	200	12	50	65	90	2	50	65	90	2						
		martensitic	tempered	240	13	45	60	80	2	45	60	80	2						
		austenitic	quench hardened	180	14	55	70	95	2	55	70	95	2						
		austenitic-ferritic		230	15	45	60	80	2	45	60	80	2						
K	Grey cast iron	perlitic/ferritic		180	16	110	150	200	2	110	150	200	2						
		perlitic (martensitic)		260	17	90	120	165	2	90	120	165	2						
	Cast iron with spheroidal graphite	ferritic		160	18	135	180	245	2	135	180	245	2						
		perlitic		250	19	105	140	190	2	105	140	190	2						
	Malleable cast iron	ferritic		130	20	150	200	270	2	150	200	270	2						
		perlitic		230	21	120	160	220	2	120	160	220	2						
N	Aluminium wrought alloys	cannot be hardened		60	22														
		hardenable	hardened	100	23														
	Cast aluminium alloys	≤ 12 % Si, cannot be hardened		75	24														
		≤ 12 % Si, hardenable	hardened	90	25														
		> 12 % Si, cannot be hardened		130	26														
	Copper and copper alloys (bronze/brass)	machining steel, PB> 1%		110	27														
		CuZn, CuSnZn		90	28														
		CuSn, Pb-free copper, electrolytic copper		100	29														
S	Heat-resistant alloys	Fe-based alloys	annealed	200	30														
			hardened	280	31														
		Ni or Co bass	annealed	250	32														
			hardened	350	33														
			cast	320	34														
	Titanium alloys	pure titanium		R_m 400	35														
		α and β alloys	hardened	R_m 1050	36														
H	Hardened steel		hardened and tempered	55 HRC	37														
			hardened and tempered	60 HRC	38														
	Hard cast iron		cast	400	39														
	Hardened cast iron		hardened and tempered	55 HRC	40														
X	Non-metallic materials	Thermoplasts			41														
		Thermosetting plastics			42														
		Plastic, glass-fibre reinforced GFRP			43														
		Plastic, carbon fibre reinforced CFRP			44														
		Graphite			45														
		Wood			46														

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.
Feed rate recommendations on page B460
For examples of material for cutting tool groups view page D22.

Recommend feed rate

Solid carbide milling group 2 – Square shoulder mills GM *series*

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	a_e / D	Feed rate per cutting edge (f_z) [mm]														
		Ø0,5	Ø0,8	Ø 1	Ø 2	Ø 3	Ø 4	Ø 5	Ø 6	Ø 8	Ø 10	Ø 12	Ø 14	Ø 16	Ø 18	Ø 20
P	1/1	0,01	0,02	0,02	0,02	0,02	0,02	0,03	0,03	0,04	0,06	0,07	0,07	0,08	0,08	0,09
	1/2	0,01	0,03	0,03	0,03	0,03	0,03	0,04	0,04	0,05	0,08	0,09	0,09	0,10	0,10	0,12
	1/10	0,02	0,04	0,04	0,04	0,04	0,04	0,06	0,06	0,08	0,12	0,14	0,14	0,16	0,16	0,18
M	1/1	0,01	0,02	0,02	0,02	0,02	0,02	0,02	0,02	0,03	0,05	0,06	0,06	0,06	0,06	0,07
	1/2	0,01	0,02	0,02	0,02	0,02	0,02	0,03	0,03	0,04	0,06	0,07	0,07	0,08	0,08	0,09
	1/10	0,02	0,03	0,03	0,03	0,03	0,03	0,05	0,05	0,06	0,10	0,11	0,11	0,13	0,13	0,15
K	1/1	0,01	0,02	0,02	0,02	0,02	0,02	0,03	0,03	0,04	0,06	0,07	0,07	0,08	0,08	0,09
	1/2	0,01	0,03	0,03	0,03	0,03	0,03	0,04	0,04	0,05	0,08	0,09	0,09	0,10	0,10	0,12
	1/10	0,02	0,04	0,04	0,04	0,04	0,04	0,06	0,06	0,08	0,12	0,14	0,14	0,16	0,16	0,18

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Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.

1. Selezionare la serie di prodotti adatta.
2. Determinare il rapporto di contatto.
3. Seleziona il materiale utilizzato e selezionare la velocità di taglio.
4. Determinare il gruppo di avanzamento e consultare i dati di avanzamento consigliati.
5. Selezionare il diametro dell'utensile e il rapporto di contatto.

Frese frontali – Serie GM

Gruppo materiali		Composizione/Struttura/Trattamento termico		Durezza HB Brinell	Gruppo di sgrossatura	Velocità di taglio v_c [m/min]							
						5501R302GM 5601R302GM 5502R302GM 5602R302GM				GM-2E GM-2EFP GM-2F			
						Cave		Spallamento		Cave		Spallamento	
						Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$
						0 < x < 3	0,1 x D	0 < x ≤ 20	< 0,5 x D	0 < x < 3	0,1 x D	0 < x ≤ 20	< 0,5 x D
						3 ≤ x ≤ 20	0,8 x D			3 ≤ x ≤ 20	0,8 x D		
						KMG303				KMG303			
						a_e / D				a_e / D			
						1/1	1/2	1/10	Gruppo f	1/1	1/2	1/10	Gruppo f
P	Acciaio non legato	ca. 0,15 % C	Temprato	125	1	150	200	270	2	150	200	270	2
		ca. 0,45 % C	Temprato	190	2	145	190	260	2	145	190	260	2
		ca. 0,45 % C	pre-temprato	250	3	105	140	190	2	105	140	190	2
		ca. 0,75 % C	Temprato	270	4	90	120	165	2	90	120	165	2
		ca. 0,75 % C	pre-temprato	300	5	85	110	150	2	85	110	150	2
	Acciaio al carbonio		Temprato	180	6	115	150	205	2	115	150	205	2
			pre-temprato	275	7	90	120	165	2	90	120	165	2
			pre-temprato	300	8	85	110	150	2	85	110	150	2
			pre-temprato	350	9	80	105	145	2	80	105	145	2
	Acciaio alto legato e acciaio alto legato per utensili		Temprato	200	10	105	140	190	2	105	140	190	2
			temprato e rinvenuto	325	11	80	110	145	2	80	110	145	2
M	Acciaio inossidabile	ferritico/martensitico	Temprato	200	12	50	65	90	2	50	65	90	2
		martensitico	pre-temprato	240	13	45	60	80	2	45	60	80	2
		austenitico	quencing	180	14	55	70	95	2	55	70	95	2
		austenitico-ferritico		230	15	45	60	80	2	45	60	80	2
K	Ghisa grigia	perlitico/ferritico		180	16	110	150	200	2	110	150	200	2
		perlitico (martensitico)		260	17	90	120	165	2	90	120	165	2
	Ghise con grafite sferoidale	ferritico		160	18	135	180	245	2	135	180	245	2
		perlitico		250	19	105	140	190	2	105	140	190	2
	Ghisa malleabile	ferritico		130	20	150	200	270	2	150	200	270	2
		perlitico		230	21	120	160	220	2	120	160	220	2
N	Lavorazioni plastiche di leghe di alluminio	non invecchiabile		60	22								
		invecchiabile	indurito	100	23								
	Leghe di alluminio fuso	≤ 12 % Si, non invecchiabile		75	24								
		≤ 12 % Si, invecchiabile	indurito	90	25								
		> 12 % Si, non invecchiabile		130	26								
	Rame e leghe di rame (bronzo/ottone)	Leghe per macchine di tipo multiplo, PB > 1 %		110	27								
		CuZn, CuSnZn		90	28								
		CuSn, rame senza piombo e rame elettrolitico		100	29								
S	Leghe resistenti al calore	Base Fe	Temprato	200	30								
			indurito	280	31								
		Base Ni o Co	Temprato	250	32								
			indurito	350	33								
			fuso	320	34								
	Leghe di titanio	Titanio puro		R_m 400	35								
		Leghe Alpha + Beta	indurito	R_m 1050	36								
H	Acciaio temprato		temprato e rinvenuto	55 HRC	37								
			temprato e rinvenuto	60 HRC	38								
	Ghisa dura		fuso	400	39								
	Ghise temprate		temprato e rinvenuto	55 HRC	40								
X	Materiali non metallici	Termoplastiche			41								
		Termoindurenti			42								
		Vetroresina VTR			43								
		Plastica rinforzata in fibra di carbonio			44								
		Grafite			45								
		Legno			46								

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.
I valori di avanzamento consigliati sono consultabili a pagina B612.
Esempi di materiali per gruppi di taglio sono disponibili a pagina D11.

	Velocità di taglio v_c [m/min]																			
	GM-2EL GM-2EX GM-2FL				GM-2EP GM-2ES				GM-3E GM-4E GM-4E-G				GM-2EL GM-4EL-G				5501R303GM 5601R303GM 5502R303GM 5602R303GM			
	Cave		Spallamento		Cave		Spallamento		Cave		Spallamento		Cave		Spallamento		Cave		Spallamento	
	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$
	0 < x < 3	0,1 x D	0 < x ≤ 20	< 0,5 x D	0 < x < 3	0,1 x D	0 < x ≤ 20	< 0,5 x D	0 < x < 3	0,1 x D	0 < x ≤ 20	< 0,5 x D	0 < x < 3	0,1 x D	0 < x ≤ 20	< 0,5 x D	0 < x < 3	0,1 x D	0 < x ≤ 20	< 0,5 x D
	3 ≤ x ≤ 20	0,8 x D			3 ≤ x ≤ 20	0,8 x D			3 ≤ x ≤ 20	0,8 x D			3 ≤ x ≤ 20	0,8 x D			3 ≤ x ≤ 20	0,8 x D		
	KMG303				KMG303				KMG303				KMG303				KMG303			
	a_e / D				a_e / D				a_e / D				a_e / D				a_e / D			
	1/1	1/2	1/10	Gruppo f	1/1	1/2	1/10	Gruppo f	1/1	1/2	1/10	Gruppo f	1/1	1/2	1/10	Gruppo f	1/1	1/2	1/10	Gruppo f
	130	170	230	2	150	200	270	2	150	200	270	2	130	170	230	2	140	185	245	2
	125	165	220	2	145	190	260	2	145	190	260	2	125	165	220	2	135	180	235	2
	95	120	165	2	105	140	190	2	105	140	190	2	95	120	165	2	100	130	175	2
	80	105	140	2	90	120	165	2	90	120	165	2	80	105	140	2	85	115	150	2
	75	95	130	2	85	110	150	2	85	110	150	2	75	95	130	2	80	105	135	2
	100	130	175	2	115	150	205	2	115	150	205	2	100	130	175	2	105	140	185	2
	80	105	140	2	90	120	165	2	90	120	165	2	80	105	140	2	85	115	150	2
	75	95	130	2	85	110	150	2	85	110	150	2	75	95	130	2	80	105	135	2
	70	90	120	2	80	105	145	2	80	105	145	2	70	90	120	2	75	100	130	2
	95	120	165	2	105	140	190	2	105	140	190	2	95	120	165	2	100	130	175	2
	70	95	125	2	80	110	145	2	80	110	145	2	70	95	125	2	75	100	130	2
	45	55	75	2	50	65	90	2	50	65	90	2	45	55	75	2	45	60	80	2
	40	50	65	2	45	60	80	2	45	60	80	2	40	50	65	2	40	55	70	2
	45	60	80	2	55	70	95	2	55	70	95	2	45	60	80	2	50	65	85	2
	40	50	65	2	45	60	80	2	45	60	80	2	40	50	65	2	40	55	70	2
	95	125	170	2	110	150	200	2	110	150	200	2	95	125	170	2	105	140	180	2
	80	105	140	2	90	120	165	2	90	120	165	2	80	105	140	2	85	115	150	2
	120	155	210	2	135	180	245	2	135	180	245	2	120	155	210	2	130	170	225	2
	95	120	165	2	105	140	190	2	105	140	190	2	95	120	165	2	100	130	175	2
	130	170	230	2	150	200	270	2	150	200	270	2	130	170	230	2	140	185	245	2
	105	140	185	2	120	160	220	2	120	160	220	2	105	140	185	2	115	150	200	2

Frese frontali – Serie GM

Gruppo materiali		Composizione/Struttura/Trattamento termico		Durezza HB Brinell	Gruppo di sgrossatura	Velocità di taglio v_c [m/min]							
						5501R304GF 5601R304GF 5502R304GF 5602R304GF				GM-4F-G GM-4EFP			
						Cave		Spallamento		Cave		Spallamento	
						Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$
						0 < x < 3	0,1 x D	0 < x ≤ 20	< 0,5 x D	0 < x < 3	0,1 x D	0 < x ≤ 20	< 0,5 x D
						3 ≤ x ≤ 20	0,8 x D			3 ≤ x ≤ 20	0,8 x D		
						KMG303				KMG303			
						a_e / D				a_e / D			
						1/1	1/2	1/10	Gruppo f	1/1	1/2	1/10	Gruppo f
P	Acciaio non legato	ca. 0,15 % C	Temprato	125	1	155	200	265	2	150	200	270	2
		ca. 0,45 % C	Temprato	190	2	150	190	255	2	145	190	260	2
		ca. 0,45 % C	pre-temprato	250	3	110	140	190	2	105	140	190	2
		ca. 0,75 % C	Temprato	270	4	95	120	160	2	90	120	165	2
		ca. 0,75 % C	pre-temprato	300	5	90	110	150	2	85	110	150	2
	Acciaio al carbonio		Temprato	180	6	120	150	200	2	115	150	205	2
			pre-temprato	275	7	95	120	160	2	90	120	165	2
			pre-temprato	300	8	90	110	150	2	85	110	150	2
			pre-temprato	350	9	85	105	140	2	80	105	145	2
	Acciaio alto legato e acciaio alto legato per utensili		Temprato	200	10	110	140	190	2	105	140	190	2
			temprato e rinvenuto	325	11	85	110	145	2	80	110	145	2
M	Acciaio inossidabile	ferritico/martensitico	Temprato	200	12	50	65	85	2	50	65	90	2
		martensitico	pre-temprato	240	13	45	60	75	2	45	60	80	2
		austenitico	quencing	180	14	55	70	95	2	55	70	95	2
		austenitico-ferritico		230	15	45	60	75	2	45	60	80	2
K	Ghisa grigia	perlitico/ferritico		180	16	115	150	195	2	110	150	200	2
		perlitico (martensitico)		260	17	95	120	160	2	90	120	165	2
	Ghise con grafite sferoidale	ferritico		160	18	140	180	240	2	135	180	245	2
		perlitico		250	19	110	140	190	2	105	140	190	2
	Ghisa malleabile	ferritico		130	20	155	200	265	2	150	200	270	2
		perlitico		230	21	125	160	215	2	120	160	220	2
N	Lavorazioni plastiche di leghe di alluminio	non invecchiabile		60	22								
		invecchiabile	indurito	100	23								
	Leghe di alluminio fuso	≤ 12 % Si, non invecchiabile		75	24								
		≤ 12 % Si, invecchiabile	indurito	90	25								
		> 12 % Si, non invecchiabile		130	26								
	Rame e leghe di rame (bronzo/ottone)	Leghe per macchine di tipo multiplo, PB > 1 %		110	27								
		CuZn, CuSnZn		90	28								
		CuSn, rame senza piombo e rame elettrolitico		100	29								
S	Leghe resistenti al calore	Base Fe	Temprato	200	30								
			indurito	280	31								
		Base Ni o Co	Temprato	250	32								
			indurito	350	33								
			fuso	320	34								
	Leghe di titanio	Titanio puro		R_m 400	35								
		Leghe Alpha + Beta	indurito	R_m 1050	36								
H	Acciaio temprato		temprato e rinvenuto	55 HRC	37								
			temprato e rinvenuto	60 HRC	38								
	Ghisa dura		fuso	400	39								
	Ghise temprate		temprato e rinvenuto	55 HRC	40								
X	Materiali non metallici	Termoplastiche			41								
		Termoindurenti			42								
		Vetroresina VTR			43								
		Plastica rinforzata in fibra di carbonio			44								
		Grafite			45								
		Legno			46								

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.
I valori di avanzamento consigliati sono consultabili a pagina B612.
Esempi di materiali per gruppi di taglio sono disponibili a pagina D11.

	Velocità di taglio v_c [m/min]																			
	GM-4FL-G GM-4EX-G				GM-6E				GM-6E 5589R45MGFR				5565R302GF 5565R302GM 5566R302GF				GM-2B GM-4B GM-2BS GM-2BP			
	Cave		Spallamento				Spallamento				Spallamento		Cave		Spallamento					
	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$			Ø [mm]	$a_{e\,max}$			Ø [mm]	$a_{e\,max}$	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$				
	0 < x < 3	0,1 x D	0 < x ≤ 20	< 0,5 x D			0 < x ≤ 20	< 0,5 x D			0 < x ≤ 20	< 0,5 x D	0 < x < 3	0,1 x D	0 < x ≤ 20	< 0,5 x D				
	3 ≤ x ≤ 20	0,8 x D											3 ≤ x ≤ 20	0,8 x D						
	KMG303				KMG303				KMG303				KMG303				KMG303			
	a_e / D				a_e / D				a_e / D				a_e / D				a_e / D			
	1/1	1/2	1/10	Gruppo f	1/1	1/2	1/10	Gruppo f	1/1	1/2	1/10	Gruppo f	1/1	1/10	1/20	Gruppo f	1/1	1/10	1/20	Gruppo f
	130	170	230	2	–	–	270	2	–	–	230	2	–	250	280	5	–	250	280	5
	125	165	220	2	–	–	260	2	–	–	220	2	–	240	270	5	–	240	270	5
	95	120	165	2	–	–	190	2	–	–	165	2	–	175	200	5	–	175	200	5
	80	105	140	2	–	–	165	2	–	–	140	2	–	150	170	5	–	150	170	5
	75	95	130	2	–	–	150	2	–	–	130	2	–	140	155	5	–	140	155	5
	100	130	175	2	–	–	205	2	–	–	175	2	–	190	210	5	–	190	210	5
	80	105	140	2	–	–	165	2	–	–	140	2	–	150	170	5	–	150	170	5
	75	95	130	2	–	–	150	2	–	–	130	2	–	140	155	5	–	140	155	5
	70	90	120	2	–	–	145	2	–	–	120	2	–	130	150	5	–	130	150	5
	95	120	165	2	–	–	190	2	–	–	165	2	–	175	200	5	–	175	200	5
	70	95	125	2	–	–	145	2	–	–	125	2	–	135	150	5	–	135	150	5
	45	55	75	2	–	–	90	2	–	–	75	2	–	80	90	5	–	80	90	5
	40	50	65	2	–	–	80	2	–	–	65	2	–	70	80	5	–	70	80	5
	45	60	80	2	–	–	95	2	–	–	80	2	–	85	100	5	–	85	100	5
	40	50	65	2	–	–	80	2	–	–	65	2	–	70	80	5	–	70	80	5
	95	125	170	2	–	–	200	2	–	–	170	2	–	185	205	5	–	185	205	5
	80	105	140	2	–	–	165	2	–	–	140	2	–	150	170	5	–	150	170	5
	120	155	210	2	–	–	245	2	–	–	210	2	–	225	255	5	–	225	255	5
	95	120	165	2	–	–	190	2	–	–	165	2	–	175	200	5	–	175	200	5
	130	170	230	2	–	–	270	2	–	–	230	2	–	250	280	5	–	250	280	5
	105	140	185	2	–	–	220	2	–	–	185	2	–	200	225	5	–	200	225	5

Frese frontali – Serie GM

Gruppo materiali		Composizione/Struttura/Trattamento termico		Durezza HB Brinell	Gruppo di sgrossatura	Velocità di taglio v_c [m/min]							
						GM-2BL GM-4BL GM-2BFP				GM-2R GM-4R			
										Cave		Spallamento	
										Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$
										0 < x < 3	0,1 x D	0 < x ≤ 20	< 0,5 x D
										3 ≤ x ≤ 20	0,8 x D		
						KMG303				KMG303			
						a_e / D				a_e / D			
						1/1	1/10	1/20	Gruppo f	1/1	1/2	1/10	Gruppo f
P	Acciaio non legato	ca. 0,15 % C	Temprato	125	1	–	220	250	5	160	215	275	2
		ca. 0,45 % C	Temprato	190	2	–	210	240	5	155	205	265	2
		ca. 0,45 % C	pre-temprato	250	3	–	155	175	5	115	155	195	2
		ca. 0,75 % C	Temprato	270	4	–	135	150	5	100	130	165	2
		ca. 0,75 % C	pre-temprato	300	5	–	125	140	5	90	120	155	2
	Acciaio al carbonio		Temprato	180	6	–	165	190	5	120	165	210	2
			pre-temprato	275	7	–	135	150	5	100	130	165	2
			pre-temprato	300	8	–	125	140	5	90	120	155	2
			pre-temprato	350	9	–	115	130	5	85	115	145	2
	Acciaio alto legato e acciaio alto legato per utensili		Temprato	200	10	–	155	175	5	115	155	195	2
			temprato e rinvenuto	325	11	–	120	135	5	85	115	150	2
M	Acciaio inossidabile	ferritico/martensitico	Temprato	200	12	–	75	80	5	55	70	90	2
		martensitico	pre-temprato	240	13	–	65	70	5	45	65	80	2
		austenitico	quencing	180	14	–	75	85	5	55	75	95	2
		austenitico-ferritico		230	15	–	65	70	5	45	65	80	2
K	Ghisa grigia	perlitico/ferritico		180	16	–	165	185	5	120	160	205	2
		perlitico (martensitico)		260	17	–	135	150	5	100	130	165	2
	Ghise con grafite sferoidale	ferritico		160	18	–	200	225	5	145	195	250	2
		perlitico		250	19	–	155	175	5	115	155	195	2
	Ghisa malleabile	ferritico		130	20	–	220	250	5	160	215	275	2
		perlitico		230	21	–	180	200	5	130	175	220	2
N	Lavorazioni plastiche di leghe di alluminio	non invecchiabile		60	22								
		invecchiabile	indurito	100	23								
	Leghe di alluminio fuso	≤ 12 % Si, non invecchiabile		75	24								
		≤ 12 % Si, invecchiabile	indurito	90	25								
		> 12 % Si, non invecchiabile		130	26								
	Rame e leghe di rame (bronzo/ottone)	Leghe per macchine di tipo multiplo, PB > 1 %		110	27								
		CuZn, CuSnZn		90	28								
		CuSn, rame senza piombo e rame elettrolitico		100	29								
S	Leghe resistenti al calore	Base Fe	Temprato	200	30								
			indurito	280	31								
		Base Ni o Co	Temprato	250	32								
			indurito	350	33								
			fuso	320	34								
	Leghe di titanio	Titanio puro		R_m 400	35								
		Leghe Alpha + Beta	indurito	R_m 1050	36								
H	Acciaio temprato		temprato e rinvenuto	55 HRC	37								
			temprato e rinvenuto	60 HRC	38								
	Ghisa dura		fuso	400	39								
	Ghise temprate		temprato e rinvenuto	55 HRC	40								
X	Materiali non metallici	Termoplastiche			41								
		Termoindurenti			42								
		Vetroresina VTR			43								
		Plastica rinforzata in fibra di carbonio			44								
		Grafite			45								
		Legno			46								

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.
I valori di avanzamento consigliati sono consultabili a pagina B612.
Esempi di materiali per gruppi di taglio sono disponibili a pagina D11.

	Velocità di taglio v_c [m/min]							
	GM-4RL				5602R303GR 5602R304GR 5602R305GR GM-4W			
	Cave		Spallamento		Cave		Spallamento	
	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$
	0 < x < 3	0,1 x D	0 < x ≤ 20	< 0,5 x D	0 < x < 3	0,1 x D	0 < x ≤ 20	< 0,5 x D
	3 ≤ x ≤ 20	0,8 x D			3 ≤ x ≤ 20	0,8 x D		
	KMG303				KMG303			
	a_e / D				a_e / D			
	1/1	1/2	1/10	Gruppo f	1/1	1/2	1/10	Gruppo f
	145	200	240	2	135	180	240	2
	140	190	230	2	130	175	230	2
	105	140	170	2	95	130	170	2
	90	120	145	2	85	110	145	2
	80	110	135	2	75	100	135	2
	110	150	180	2	105	135	180	2
	90	120	145	2	85	110	145	2
	80	110	135	2	75	100	135	2
	80	105	125	2	75	95	125	2
	105	140	170	2	95	130	170	2
	80	110	130	2	75	100	130	2
	50	65	80	2	45	60	80	2
	45	60	70	2	40	55	70	2
	50	70	85	2	50	65	85	2
	45	60	70	2	40	55	70	2
	110	150	180	2	100	135	180	2
	90	120	145	2	85	110	145	2
	135	180	220	2	125	165	220	2
	105	140	170	2	95	130	170	2
	145	200	240	2	135	180	240	2
	120	160	195	2	110	145	195	2

Frese frontali – Serie HM

Gruppo materiali		Composizione/Struttura/Trattamento termico		Durezza HB Brinell	Gruppo di sgrossatura	Velocità di taglio v_c [m/min]							
						HM-2E HM-2EP HM-2ES HM-4E				HM-2EFP HM-4EL HM-4EFP			
								Spallamento				Spallamento	
								Ø [mm]	$a_{e\,max}$			Ø [mm]	$a_{e\,max}$
								0 < x ≤ 20	0,05 x D			0 < x ≤ 20	0,05 x D
						KMG555				KMG555			
						a_e / D				a_e / D			
						1/1	1/2	1/10	Gruppo f	1/1	1/2	1/10	Gruppo f
P	Acciaio non legato	ca. 0,15 % C	Temprato	125	1								
		ca. 0,45 % C	Temprato	190	2								
		ca. 0,45 % C	pre-temprato	250	3								
		ca. 0,75 % C	Temprato	270	4								
		ca. 0,75 % C	pre-temprato	300	5								
	Acciaio al carbonio		Temprato	180	6								
			pre-temprato	275	7								
			pre-temprato	300	8								
			pre-temprato	350	9								
	Acciaio alto legato e acciaio alto legato per utensili		Temprato	200	10								
			temprato e rinvenuto	325	11								
M	Acciaio inossidabile	ferritico/martensitico	Temprato	200	12								
		martensitico	pre-temprato	240	13								
		austenitico	quencing	180	14								
		austenitico-ferritico		230	15								
K	Ghisa grigia	perlitico/ferritico		180	16								
		perlitico (martensitico)		260	17								
	Ghise con grafite sferoidale	ferritico		160	18								
		perlitico		250	19								
	Ghisa malleabile	ferritico		130	20								
		perlitico		230	21								
N	Lavorazioni plastiche di leghe di alluminio	non invecchiabile		60	22								
		invecchiabile	indurito	100	23								
	Leghe di alluminio fuso	≤ 12 % Si, non invecchiabile		75	24								
		≤ 12 % Si, invecchiabile	indurito	90	25								
		> 12 % Si, non invecchiabile		130	26								
	Rame e leghe di rame (bronzo/ottone)	Leghe per macchine di tipo multiplo, PB > 1 %		110	27								
		CuZn, CuSnZn		90	28								
		CuSn, rame senza piombo e rame elettrolitico		100	29								
S	Leghe resistenti al calore	Base Fe	Temprato	200	30								
			indurito	280	31								
		Base Ni o Co	Temprato	250	32								
			indurito	350	33								
			fuso	320	34								
	Leghe di titanio	Titanio puro		R_m 400	35								
		Leghe Alpha + Beta	indurito	R_m 1050	36								
H	Acciaio temprato		temprato e rinvenuto	55 HRC	37	55	100	125	3	50	95	115	3
			temprato e rinvenuto	60 HRC	38	55	95	120	3	50	95	110	3
	Ghisa dura		fuso	400	39	70	125	160	3	65	120	145	3
	Ghise temprate		temprato e rinvenuto	55 HRC	40	55	100	125	3	50	95	115	3
X	Materiali non metallici	Termoplastiche			41								
		Termoindurenti			42								
		Vetroresina VTR			43								
		Plastica rinforzata in fibra di carbonio			44								
		Grafite			45								
		Legno			46								

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
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I valori di avanzamento consigliati sono consultabili a pagina B612.
Esempi di materiali per gruppi di taglio sono disponibili a pagina D11.

	Velocità di taglio v_c [m/min]																			
	HM-6E				HM-6EL				HM-2B HM-2BP HM-2BS HM-4B				HM-2BL HM-4BL				HM-4R HM-4RP HM-4RF			
			Spallamento				Spallamento												Spallamento	
			Ø [mm]	$a_{e\,max}$			Ø [mm]	$a_{e\,max}$											Ø [mm]	$a_{e\,max}$
			0 < x ≤ 20	0,05 x D			0 < x ≤ 20	0,05 x D											0 < x ≤ 20	0,05 x D
	KMG555				KMG555				KMG555				KMG555				KMG555			
	a_e / D				a_e / D				a_e / D				a_e / D				a_e / D			
	1/1	1/2	1/10	Gruppo f	1/1	1/2	1/10	Gruppo f	1/1	1/10	1/20	Gruppo f	1/1	1/10	1/20	Gruppo f	1/1	1/2	1/10	Gruppo f
	–	–	125	3	–	–	115	3	–	130	145	7	–	125	140	7	55	100	125	3
	–	–	120	3	–	–	110	3	–	80	90	7	–	80	90	7	55	95	120	3
	–	–	160	3	–	–	145	3	–	163	181	7	–	156	175	7	70	125	160	3
	–	–	125	3	–	–	115	3	–	109	145	7	–	105	140	7	55	100	125	3

Frese frontali – Serie NM

Gruppo materiali		Composizione/Struttura/Trattamento termico		Durezza HB Brinell	Gruppo di sgrossatura	Velocità di taglio v_c [m/min]								
						5502R402NM NM-2E NM-4E NM-2EP				NM-2B NM-4BP				
						Cave		Spallamento						
						Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$					
						0<x<12	0,5xD	0<x≤20	<0,5xD					
						12≤x≤20	1,0xD							
						KMG309				KMG309				
						a_e / D				a_e / D				
						1/1	1/2	1/10	Gruppo f	1/1	1/10	1/20	Gruppo f	
P	Acciaio non legato	ca. 0,15 % C	Temprato	125	1									
		ca. 0,45 % C	Temprato	190	2									
		ca. 0,45 % C	pre-temprato	250	3									
		ca. 0,75 % C	Temprato	270	4									
		ca. 0,75 % C	pre-temprato	300	5									
	Acciaio al carbonio		Temprato	180	6									
			pre-temprato	275	7									
			pre-temprato	300	8									
			pre-temprato	350	9									
	Acciaio alto legato e acciaio alto legato per utensili		Temprato	200	10									
			temprato e rinvenuto	325	11									
M	Acciaio inossidabile	ferritico/martensitico	Temprato	200	12									
		martensitico	pre-temprato	240	13									
		austenitico	quencing	180	14									
		austenitico-ferritico		230	15									
K	Ghisa grigia	perlitico/ferritico		180	16									
		perlitico (martensitico)		260	17									
	Ghise con grafite sferoidale	ferritico		160	18									
		perlitico		250	19									
	Ghisa malleabile	ferritico		130	20									
		perlitico		230	21									
N	Lavorazioni plastiche di leghe di alluminio	non invecchiabile		60	22	920	1100	1200	4	–	1400	1550	4	
		invecchiabile	indurito	100	23	555	660	720	4	–	840	930	4	
	Leghe di alluminio fuso	≤ 12 % Si, non invecchiabile		75	24	370	440	480	4	–	560	620	4	
		≤ 12 % Si, invecchiabile	indurito	90	25	460	550	600	4	–	700	775	4	
		> 12 % Si, non invecchiabile		130	26	140	165	180	4	–	210	235	4	
	Rame e leghe di rame (bronzo/ottone)	Leghe per macchine di tipo multiplo, PB > 1 %		110	27	280	330	360	4	–	420	465	4	
		CuZn, CuSnZn		90	28	325	385	420	4	–	490	545	4	
		CuSn, rame senza piombo e rame elettrolitico		100	29	280	330	360	4	–	420	465	4	
S	Leghe resistenti al calore	Base Fe	Temprato	200	30									
			indurito	280	31									
		Base Ni o Co	Temprato	250	32									
			indurito	350	33									
			fuso	320	34									
	Leghe di titanio	Titanio puro		R_m 400	35									
		Leghe Alpha + Beta	indurito	R_m 1050	36									
H	Acciaio temprato		temprato e rinvenuto	55 HRC	37									
			temprato e rinvenuto	60 HRC	38									
	Ghisa dura		fuso	400	39									
	Ghise temprate		temprato e rinvenuto	55 HRC	40									
X	Materiali non metallici	Termoplastiche			41									
		Termoindurenti			42									
		Vetroresina VTR			43									
		Plastica rinforzata in fibra di carbonio			44									
		Grafite			45									
		Legno			46									

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
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I valori di avanzamento consigliati sono consultabili a pagina B612.
Esempi di materiali per gruppi di taglio sono disponibili a pagina D11.

Frese in metallo duro integrale

Frese frontali – Serie AL, Serie ALP/ALG

Gruppo materiali		Composizione/Struttura/Trattamento termico		Durezza HB Brinell	Gruppo di sgrossatura	Velocità di taglio v_c [m/min]							
						ALP-1EP				AL-1E AL-2E AL-3E (W) ALG-2E			
						Cave		Spallamento		Cave		Spallamento	
						Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$
						0<x<12	0,5xD	0<x≤20	<0,5xD	0<x<12	0,5xD	0<x≤20	<0,5xD
						12≤x≤20	1,0xD			12≤x≤20	1,0xD		
						YK40F / KMD401				YK30F / YK40F			
						a_e / D				a_e / D			
						1/1	1/2	1/10	Gruppo f	1/1	1/2	1/10	Gruppo f
P	Acciaio non legato	ca. 0,15 % C	Temprato	125	1								
		ca. 0,45 % C	Temprato	190	2								
		ca. 0,45 % C	pre-temprato	250	3								
		ca. 0,75 % C	Temprato	270	4								
		ca. 0,75 % C	pre-temprato	300	5								
	Acciaio al carbonio		Temprato	180	6								
			pre-temprato	275	7								
			pre-temprato	300	8								
			pre-temprato	350	9								
	Acciaio alto legato e acciaio alto legato per utensili		Temprato	200	10								
			temprato e rinvenuto	325	11								
M	Acciaio inossidabile	ferritico/martensitico	Temprato	200	12								
		martensitico	pre-temprato	240	13								
		austenitico	quencing	180	14								
		austenitico-ferritico		230	15								
K	Ghisa grigia	perlitico/ferritico		180	16								
		perlitico (martensitico)		260	17								
	Ghise con grafite sferoidale	ferritico		160	18								
		perlitico		250	19								
	Ghisa malleabile	ferritico		130	20								
		perlitico		230	21								
N	Lavorazioni plastiche di leghe di alluminio	non invecchiabile		60	22	300	345	375	12	920	1100	1200	4
		invecchiabile	indurito	100	23	250	290	315	12	555	660	720	4
	Leghe di alluminio fuso	≤ 12 % Si, non invecchiabile		75	24	250	280	315	12	370	440	480	4
		≤ 12 % Si, invecchiabile	indurito	90	25	210	240	265	12	460	550	600	4
		> 12 % Si, non invecchiabile		130	26	180	210	225	12	140	165	180	4
	Rame e leghe di rame (bronzo/ottone)	Leghe per macchine di tipo multiplo, PB > 1 %		110	27	280	320	350	12	280	330	360	4
		CuZn, CuSnZn		90	28	310	360	390	12	325	385	420	4
		CuSn, rame senza piombo e rame elettrolitico		100	29	280	320	350	12	280	330	360	4
S	Leghe resistenti al calore	Base Fe	Temprato	200	30								
			indurito	280	31								
		Base Ni o Co	Temprato	250	32								
			indurito	350	33								
			fuso	320	34								
	Leghe di titanio	Titanio puro		R_m 400	35								
		Leghe Alpha + Beta	indurito	R_m 1050	36								
H	Acciaio temprato		temprato e rinvenuto	55 HRC	37								
			temprato e rinvenuto	60 HRC	38								
	Ghisa dura		fuso	400	39								
	Ghise temprate		temprato e rinvenuto	55 HRC	40								
X	Materiali non metallici	Termoplastiche			41								
		Termoindurenti			42								
		Vetroresina VTR			43								
		Plastica rinforzata in fibra di carbonio			44								
		Grafite			45								
		Legno			46								

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.
I valori di avanzamento consigliati sono consultabili a pagina B612.
Esempi di materiali per gruppi di taglio sono disponibili a pagina D11.

	Velocità di taglio v_c [m/min]																			
	AL-2EL AL-3EL				ALG-3E ALP-3E ALP-4E				ALG-3E (W) ALP-3E (W) ALP-4E (W)				5566R302NH AL-2B				AL-2R-AIR AL-3R-AIR			
	Cave		Spallamento		Cave		Spallamento		Cave		Spallamento		Cave		Spallamento		Cave		Spallamento	
	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$
	0<x<12	0,5xD	0<x≤20	<0,5xD	0<x<12	0,5xD	0<x≤20	<0,5xD	0<x<12	0,5xD	0<x≤20	<0,5xD	0<x<12	0,5xD	0<x≤20	<0,5xD	0<x<12	0,5xD	0<x≤20	<0,5xD
	12≤x≤20	1,0xD			12≤x≤20	1,0xD			12≤x≤20	1,0xD			12≤x≤20	1,0xD			12≤x≤20	1,0xD		
	YK30F				YK40F				KMD401				YK30F / YK40F				YK40F			
	a_e / D				ae / D				a_e / D				a_e / D				ae / D			
	1/1	1/2	1/10	Gruppo f	1/1	1/2	1/10	Gruppo f	1/1	1/10	1/20	Gruppo f	1/1	1/2	1/10	Gruppo f	1/1	1/2	1/10	Gruppo f
	830	990	1080	4	920	1100	1200	4	1200	1430	1560	4	–	1400	1550	4	1150	1380	1500	8
	500	595	650	4	555	660	720	4	725	860	940	4	–	840	930	4	690	830	900	8
	335	400	435	4	370	440	480	4	485	575	625	4	–	560	620	4	460	555	600	8
	415	495	540	4	460	550	600	4	600	715	780	4	–	700	775	4	575	690	750	8
	125	150	165	4	140	165	180	4	185	215	235	4	–	210	235	4	175	210	225	8
	250	300	325	4	280	330	360	4	365	430	470	4	–	420	465	4	345	415	450	8
	295	350	380	4	325	385	420	4	425	505	550	4	–	490	545	4	405	485	525	8
	250	300	325	4	280	330	360	4	365	430	470	4	–	420	465	4	345	415	450	8

Frese in metallo duro integrale Dati di taglio consigliati

Frese frontali – Serie AL, Serie ALP/ALG

Gruppo materiali		Composizione/Struttura/Trattamento termico		Durezza HB Brinell	Gruppo di sgrossatura	Velocità di taglio v_c [m/min]								
						ALG-2R (W)				AL-2RL-AIR AL-3RL-AIR				
						Cave		Spallamento		Cave		Spallamento		
						Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$	
						0<x<12	0,5xD	0<x≤20	<0,5xD	0<x<12	0,5xD	0<x≤20	<0,5xD	
						12≤x≤20	1,0xD			12≤x≤20	1,0xD			
						KMD401				YK40F				
						a_e / D				a_e / D				
						1/1	1/2	1/10	Gruppo f	1/1	1/2	1/10	Gruppo f	
P	Acciaio non legato	ca. 0,15 % C	Temprato	125	1									
		ca. 0,45 % C	Temprato	190	2									
		ca. 0,45 % C	pre-temprato	250	3									
		ca. 0,75 % C	Temprato	270	4									
		ca. 0,75 % C	pre-temprato	300	5									
	Acciaio al carbonio		Temprato	180	6									
			pre-temprato	275	7									
			pre-temprato	300	8									
			pre-temprato	350	9									
	Acciaio alto legato e acciaio alto legato per utensili		Temprato	200	10									
			temprato e rinvenuto	325	11									
M	Acciaio inossidabile	ferritico/martensitico	Temprato	200	12									
		martensitico	pre-temprato	240	13									
		austenitico	quencing	180	14									
		austenitico-ferritico		230	15									
K	Ghisa grigia	perlitico/ferritico		180	16									
		perlitico (martensitico)		260	17									
	Ghise con grafite sferoidale	ferritico		160	18									
		perlitico		250	19									
	Ghisa malleabile	ferritico		130	20									
		perlitico		230	21									
N	Lavorazioni plastiche di leghe di alluminio	non invecchiabile		60	22	1495	1795	1950	8	1035	1250	1350	8	
		invecchiabile	indurito	100	23	900	1080	1170	8	625	750	810	8	
	Leghe di alluminio fuso	≤ 12 % Si, non invecchiabile		75	24	600	725	780	8	415	500	540	8	
		≤ 12 % Si, invecchiabile	indurito	90	25	750	900	975	8	520	625	675	8	
		> 12 % Si, non invecchiabile		130	26	230	275	295	8	160	190	205	8	
	Rame e leghe di rame (bronzo/ottone)	Leghe per macchine di tipo multiplo, PB > 1 %		110	27	450	540	585	8	315	375	405	8	
		CuZn, CuSnZn		90	28	530	635	685	8	365	440	475	8	
		CuSn, rame senza piombo e rame elettrolitico		100	29	450	540	585	8	315	375	405	8	
S	Leghe resistenti al calore	Base Fe	Temprato	200	30									
			indurito	280	31									
		Base Ni o Co	Temprato	250	32									
			indurito	350	33									
			fuso	320	34									
	Leghe di titanio	Titanio puro		R_m 400	35									
		Leghe Alpha + Beta	indurito	R_m 1050	36									
H	Acciaio temprato		temprato e rinvenuto	55 HRC	37									
			temprato e rinvenuto	60 HRC	38									
	Ghisa dura		fuso	400	39									
	Ghise temprate		temprato e rinvenuto	55 HRC	40									
X	Materiali non metallici	Termoplastiche			41									
		Termoindurenti			42									
		Vetroresina VTR			43									
		Plastica rinforzata in fibra di carbonio			44									
		Grafite			45									
		Legno			46									

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.
I valori di avanzamento consigliati sono consultabili a pagina B612.
Esempi di materiali per gruppi di taglio sono disponibili a pagina D11.

Frese in metallo duro integrale

Frese frontali – Serie TM

Gruppo materiali		Composizione/Struttura/Trattamento termico		Durezza HB Brinell	Gruppo di sgrossatura	Velocità di taglio v_c [m/min]								
						TM-2R / TM-3R / TM-4R / TM-4RP TM-5R / TM-5RP TM-7R / TM-7RP TM-9R / TM-9RP				TM-4B / TM-4BP TM-5B / TM-5BP				
						Cave		Spallamento						
						Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$					
						0 < x < 3	0,3 x D	0 < x < 3						
						3 ≤ x < 12	0,7 x D	3 ≤ x < 20	0,3 x D					
						12 ≤ x ≤ 20	1,5 x D							
						KMS405				KMS405				
						a_e / D				a_e / D				
						1/1	1/2	1/10	Gruppo f	1/1	1/10	1/20	Gruppo f	
P	Acciaio non legato	ca. 0,15 % C	Temprato	125	1									
		ca. 0,45 % C	Temprato	190	2									
		ca. 0,45 % C	pre-temprato	250	3									
		ca. 0,75 % C	Temprato	270	4									
		ca. 0,75 % C	pre-temprato	300	5									
	Acciaio al carbonio		Temprato	180	6									
			pre-temprato	275	7									
			pre-temprato	300	8									
			pre-temprato	350	9									
	Acciaio alto legato e acciaio alto legato per utensili		Temprato	200	10									
			temprato e rinvenuto	325	11									
M	Acciaio inossidabile	ferritico/martensitico	Temprato	200	12									
		martensitico	pre-temprato	240	13									
		austenitico	quencing	180	14									
		austenitico-ferritico		230	15									
K	Ghisa grigia	perlitico/ferritico		180	16									
		perlitico (martensitico)		260	17									
	Ghisa sferodale	ferritico		160	18									
		perlitico		250	19									
	Ghisa malleabile	ferritico		130	20									
		perlitico		230	21									
N	Lavorazioni plastiche di leghe di alluminio	non invecchiabile		60	22									
		invecchiabile	indurito	100	23									
	Leghe di alluminio fuso	≤ 12 % Si, non invecchiabile		75	24									
		≤ 12 % Si, invecchiabile	indurito	90	25									
		> 12 % Si, non invecchiabile		130	26									
	Rame e leghe di rame (bronzo/ ottone)	Leghe per macchine di tipo multiplo, PB > 1 %		110	27									
		CuZn, CuSnZn		90	28									
		CuSn, rame senza piombo e rame elettrolitico		100	29									
S	Leghe resistenti al calore	Base Fe	Temprato	200	30	45	55	85	10	–	85	90	10	
			indurito	280	31	25	30	45	10	–	45	50	10	
		Base Ni o Co	Temprato	250	32	45	55	85	10	–	85	90	10	
			indurito	350	33	25	30	45	10	–	45	50	10	
			fuso	320	34	25	30	45	10	–	45	50	10	
	Leghe di titanio	Titanio puro		R_m 400	35	75	90	135	10	–	135	145	10	
		Leghe Alpha + Beta	indurito	R_m 1050	36	45	55	85	10	–	85	90	10	
H	Acciaio temprato		temprato e rinvenuto	55 HRC	37									
			temprato e rinvenuto	60 HRC	38									
	Ghisa dura		fuso	400	39									
	Ghise temprate		temprato e rinvenuto	55 HRC	40									
X	Materiali non metallici	Termoplastiche			41									
		Termoindurenti			42									
		Vetroresina VTR			43									
		Plastica rinforzata in fibra di carbonio			44									
		Grafite			45									
		Legno			46									

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.
I valori di avanzamento consigliati sono consultabili a pagina B612.
Esempi di materiali per gruppi di taglio sono disponibili a pagina D11.

Frese in metallo duro integrale

Frese frontali – Serie PM

Gruppo materiali		Composizione/Struttura/Trattamento termico		Durezza HB Brinell	Gruppo di sgrossatura	Velocità di taglio v_c [m/min]							
						PM-2E PM-2ES / PM-2EP / PM-2RP PM-4E PM-4E-G				PM-4EL PM-4EL-G PM-4EX-G			
						Cave		Spallamento		Cave		Spallamento	
						Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$
						0 < x < 3	0,1 5 x D	0 < x ≤ 20	0,15 x D	0 < x < 3	0,1 5 x D	0 < x ≤ 20	0,15 x D
						3 ≤ x < 6	0,3 x D			3 ≤ x < 6	0,3 x D		
						6 ≤ x ≤ 20	0,5 x D			6 ≤ x ≤ 20	0,5 x D		
						KMG405				KMG405			
						a_e / D				a_e / D			
						1/1	1/2	1/10	Gruppo f	1/1	1/2	1/10	Gruppo f
P	Acciaio non legato	ca. 0,15 % C	Temprato	125	1	165	220	300	1	140	190	255	1
		ca. 0,45 % C	Temprato	190	2	160	210	285	1	135	185	245	1
		ca. 0,45 % C	pre-temprato	250	3	120	155	210	1	100	135	180	1
		ca. 0,75 % C	Temprato	270	4	100	135	180	1	85	115	155	1
		ca. 0,75 % C	pre-temprato	300	5	95	125	165	1	80	105	145	1
	Acciaio al carbonio		Temprato	180	6	125	165	225	1	110	145	195	1
			pre-temprato	275	7	100	135	180	1	85	115	155	1
			pre-temprato	300	8	95	125	165	1	80	105	145	1
			pre-temprato	350	9	90	115	160	1	75	100	135	1
	Acciaio alto legato e acciaio alto legato per utensili		Temprato	200	10	120	155	210	1	100	135	180	1
			temprato e rinvenuto	325	11	90	120	160	1	75	105	140	1
M	Acciaio inossidabile	ferritico/martensitico	Temprato	200	12	55	75	100	1	45	65	85	1
		martensitico	pre-temprato	240	13	50	65	85	1	40	55	75	1
		austenitico	quencing	180	14	60	75	105	1	50	65	90	1
		austenitico-ferritico		230	15	50	65	85	1	40	55	75	1
K	Ghisa grigia	perlitico/ferritico		180	16	125	165	220	1	105	140	190	1
		perlitico (martensitico)		260	17	100	135	180	1	85	115	155	1
	Ghisa sferodale	ferritico		160	18	150	200	270	1	130	175	230	1
		perlitico		250	19	120	155	210	1	100	135	180	1
	Ghisa malleabile	ferritico		130	20	165	220	300	1	145	190	255	1
		perlitico		230	21	135	180	240	1	115	155	205	1
N	Lavorazioni plastiche di leghe di alluminio	non invecchiabile		60	22								
		invecchiabile	indurito	100	23								
	Leghe di alluminio fuso	≤ 12 % Si, non invecchiabile		75	24								
		≤ 12 % Si, invecchiabile	indurito	90	25								
		> 12 % Si, non invecchiabile		130	26								
	Rame e leghe di rame (bronzo/ottone)	Leghe per macchine di tipo multiplo, PB > 1 %		110	27								
		CuZn, CuSnZn		90	28								
		CuSn, rame senza piombo e rame elettrolitico		100	29								
S	Leghe resistenti al calore	Base Fe	Temprato	200	30								
			indurito	280	31								
		Base Ni o Co	Temprato	250	32								
			indurito	350	33								
			fuso	320	34								
	Leghe di titanio	Titanio puro		R_m 400	35								
		Leghe Alpha + Beta	indurito	R_m 1050	36								
H	Acciaio temprato		temprato e rinvenuto	55 HRC	37	80	105	140	1	65	90	120	1
			temprato e rinvenuto	60 HRC	38	–	–	–	–	–	–	–	–
	Ghisa dura		fuso	400	39	105	140	185	1	85	120	160	1
	Ghise temprate		temprato e rinvenuto	55 HRC	40	–	–	–	–	–	–	–	–
X	Materiali non metallici	Termoplastiche			41								
		Termoindurenti			42								
		Vetroresina VTR			43								
		Plastica rinforzata in fibra di carbonio			44								
		Grafite			45								
		Legno			46								

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.
I valori di avanzamento consigliati sono consultabili a pagina B612.
Esempi di materiali per gruppi di taglio sono disponibili a pagina D11.

	Velocità di taglio v_c [m/min]																			
	PM-6E				PM-6EL				PM-2B PM-2BS / PM-2BP PM-4B				PM-2BL PM-2BFP PM-4BL				PM-2BC			
			Spallamento				Spallamento													
			Ø [mm]	$a_{p\,max}$			Ø [mm]	$a_{p\,max}$												
			0 < x ≤ 20	0.15 x D			0 < x ≤ 20	0.15 x D												
	KMG405				KMG405				KMG405				KMG405				KMG405			
	a_e / D				a_e / D				a_e / D				a_e / D				a_e / D			
	1/1	1/2	1/10	Gruppo f	1/1	1/2	1/10	Gruppo f	1/1	1/10	1/20	Gruppo f	1/1	1/10	1/20	Gruppo f	1/1	1/10	1/20	Gruppo f
	–	220	300	1	–	190	255	1	–	270	300	5	–	230	255	5	–	230	255	5
	–	210	285	1	–	185	245	1	–	260	285	5	–	220	245	5	–	220	245	5
	–	155	210	1	–	135	180	1	–	190	210	5	–	165	180	5	–	165	180	5
	–	135	180	1	–	115	155	1	–	165	180	5	–	140	155	5	–	140	155	5
	–	125	165	1	–	105	145	1	–	150	165	5	–	130	145	5	–	130	145	5
	–	165	225	1	–	145	195	1	–	205	225	5	–	175	195	5	–	175	195	5
	–	135	180	1	–	115	155	1	–	165	180	5	–	140	155	5	–	140	155	5
	–	125	165	1	–	105	145	1	–	150	165	5	–	130	145	5	–	130	145	5
	–	115	160	1	–	100	135	1	–	145	160	5	–	120	135	5	–	120	135	5
	–	155	210	1	–	135	180	1	–	190	210	5	–	165	180	5	–	165	180	5
	–	120	160	1	–	105	140	1	–	145	160	5	–	125	140	5	–	125	140	5
	–	75	100	1	–	65	85	1	–	90	100	5	–	75	85	5	–	75	85	5
	–	65	85	1	–	55	75	1	–	80	85	5	–	65	75	5	–	65	75	5
	–	75	105	1	–	65	90	1	–	95	105	5	–	80	90	5	–	80	90	5
	–	65	85	1	–	55	75	1	–	80	85	5	–	65	75	5	–	65	75	5
	–	165	220	1	–	140	190	1	–	200	220	5	–	170	190	5	–	170	190	5
	–	135	180	1	–	115	155	1	–	165	180	5	–	140	155	5	–	140	155	5
	–	200	270	1	–	175	230	1	–	245	270	5	–	210	230	5	–	210	230	5
	–	155	210	1	–	135	180	1	–	190	210	5	–	165	180	5	–	165	180	5
	–	220	300	1	–	190	255	1	–	270	300	5	–	230	255	5	–	230	255	5
	–	180	240	1	–	155	205	1	–	220	240	5	–	185	205	5	–	185	205	5
	–	105	140	1	–	90	120	1	–	125	140	5	–	110	120	5	–	110	120	5
	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	–	140	185	1	–	120	160	1	–	165	185	1	–	145	160	1	–	145	160	1
	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

Frese in metallo duro integrale Dati di taglio consigliati

Frese frontali – serie PM, serie VPM

Gruppo materiali		Composizione/Struttura/Trattamento termico		Durezza HB Brinell	Gruppo di sgrossatura	Velocità di taglio v_c [m/min]							
						PM-2R PM-4R				PM-4RL			
						Cave		Spallamento		Cave		Spallamento	
						Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$
						0 < x < 3	0,1 5x D	0 < x ≤ 20	0.15 x D	0 < x < 3	0,1 5x D	0 < x ≤ 20	0.15 x D
						3 ≤ x < 6	0,3 x D			3 ≤ x < 6	0,3 x D		
						6 ≤ x ≤ 20	0,5 x D			6 ≤ x ≤ 20	0,5 x D		
						KMG405				KMG405			
						a_e / D				a_e / D			
						1/1	1/2	1/10	Gruppo f	1/1	1/2	1/10	Gruppo f
P	Acciaio non legato	ca. 0,15 % C	Temprato	125	1	165	220	300	1	150	200	265	1
		ca. 0,45 % C	Temprato	190	2	160	210	285	1	145	190	255	1
		ca. 0,45 % C	pre-temprato	250	3	120	155	210	1	105	140	190	1
		ca. 0,75 % C	Temprato	270	4	100	135	180	1	90	120	160	1
		ca. 0,75 % C	pre-temprato	300	5	95	125	165	1	85	110	150	1
	Acciaio al carbonio		Temprato	180	6	125	165	225	1	115	150	200	1
			pre-temprato	275	7	100	135	180	1	90	120	160	1
			pre-temprato	300	8	95	125	165	1	85	110	150	1
			pre-temprato	350	9	90	115	160	1	80	105	140	1
	Acciaio alto legato e acciaio alto legato per utensili		Temprato	200	10	120	155	210	1	105	140	190	1
			temprato e rinvenuto	325	11	90	120	160	1	80	110	145	1
M	Acciaio inossidabile	ferritico/martensitico	Temprato	200	12	55	75	100	1	50	65	85	1
		martensitico	pre-temprato	240	13	50	65	85	1	45	60	75	1
		austenitico	quencing	180	14	60	75	105	1	55	70	95	1
		austenitico-ferritico		230	15	50	65	85	1	45	60	75	1
K	Ghisa grigia	perlitico/ferritico		180	16	125	165	220	1	110	150	195	1
		perlitico (martensitico)		260	17	100	135	180	1	90	120	160	1
	Ghisa sferodale	ferritico		160	18	150	200	270	1	135	180	240	1
		perlitico		250	19	120	155	210	1	105	140	190	1
	Ghisa malleabile	ferritico		130	20	165	220	300	1	150	200	265	1
		perlitico		230	21	135	180	240	1	120	160	215	1
N	Lavorazioni plastiche di leghe di alluminio	non invecchiabile		60	22								
		invecchiabile	indurito	100	23								
	Leghe di alluminio fuso	≤ 12 % Si, non invecchiabile		75	24								
		≤ 12 % Si, invecchiabile	indurito	90	25								
		> 12 % Si, non invecchiabile		130	26								
	Rame e leghe di rame (bronzo/ ottone)	Leghe per macchine di tipo multiplo, PB > 1 %		110	27								
		CuZn, CuSnZn		90	28								
		CuSn, rame senza piombo e rame elettrolitico		100	29								
S	Leghe resistenti al calore	Base Fe	Temprato	200	30								
			indurito	280	31								
		Base Ni o Co	Temprato	250	32								
			indurito	350	33								
			fuso	320	34								
	Leghe di titanio	Titanio puro		R_m 400	35								
		Leghe Alpha + Beta	indurito	R_m 1050	36								
H	Acciaio temprato		temprato e rinvenuto	55 HRC	37	85	110	145	1	70	95	125	1
			temprato e rinvenuto	60 HRC	38	–	–	–	–	–	–	–	–
	Ghisa dura		fuso	400	39	115	145	190	1	95	125	165	1
	Ghise temprate		temprato e rinvenuto	55 HRC	40	–	–	–	–	–	–	–	–
X	Materiali non metallici	Termoplastiche			41								
		Termoindurenti			42								
		Vetroresina VTR			43								
		Plastica rinforzata in fibra di carbonio			44								
		Grafite			45								
		Legno			46								

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.
I valori di avanzamento consigliati sono consultabili a pagina B612.
Esempi di materiali per gruppi di taglio sono disponibili a pagina D11.

	Velocità di taglio v_c [m/min]								
	PM-4H PM-4HL				VPM-4E VPM-4R				
			Spallamento						
			Ø [mm]	$a_{e\,max}$					
			0 < x ≤ 20	0.15 x D	0 < x < 3	0,5x D	0 < x < 3	0.15 x D	
					3 ≤ x < 12	1,5x D	3 ≤ x < 20	0,5 x D	
					12≤x≤20	2,0x D			
	KMG405				KMG406				
	a_e / D				a_e / D				
	1/1	1/2	1/10	Gruppo f	1/1	1/2	1/10		
	–	210	270	6	230	280	350	9	
	–	200	260	6	220	270	340	9	
	–	150	190	6	160	190	250	9	
	–	130	165	6	140	160	210	9	
	–	120	150	6	130	150	200	9	
	–	160	205	6	180	215	270	9	
	–	130	165	6	130	170	220	9	
	–	120	150	6	125	150	190	9	
	–	110	145	6	120	150	190	9	
	–	150	190	6	160	190	250	9	
	–	115	145	6	115	140	190	9	
	–	70	90	6	70	90	110	9	
	–	60	80	6	60	80	100	9	
	–	75	95	6	75	90	120	9	
	–	60	80	6	65	80	100	9	
	–	155	200	6	160	200	260	9	
	–	130	165	6	140	170	220	9	
	–	190	245	6	215	250	330	9	
	–	150	190	6	160	200	250	9	
	–	210	270	6	230	280	360	9	
	–	170	220	6	180	230	290	9	
	–	100	125	1	100	120	150	9	
	–	–	–	–	–	–	–	–	
	–	130	165	1	110	150	180	9	
	–	–	–	–	–	–	–	–	

Frese in metallo duro integrale Dati di taglio consigliati

Frese frontali – Serie EPM

Gruppo materiali		Composizione/Struttura/Trattamento termico		Durezza HB Brinell	Gruppo di sgrossatura	Velocità di taglio v_c [m/min]							
						EPM-2E EPM-4E				EPM-2EL EPM-4EL			
						Cave		Spallamento		Cave		Spallamento	
						Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$
						0 < x < 3	0,1 5xD	0 < x ≤ 20	0,15xD	0 < x < 3	0,1 5xD	0 < x ≤ 20	0,15xD
						3 ≤ x < 6	0,3xD			3 ≤ x < 6	0,3xD		
						6 ≤ x ≤ 20	0,5xD			6 ≤ x ≤ 20	0,5xD		
						KMG406				KMG406			
						a_e / D				a_e / D			
						1/1	1/2	1/10	Gruppo f	1/1	1/2	1/10	Gruppo f
P	Acciaio non legato	ca. 0,15 % C	Temprato	125	1	165	220	300	1	140	190	255	1
		ca. 0,45 % C	Temprato	190	2	160	210	285	1	135	185	245	1
		ca. 0,45 % C	pre-temprato	250	3	120	155	210	1	100	135	180	1
		ca. 0,75 % C	Temprato	270	4	100	135	180	1	85	115	155	1
		ca. 0,75 % C	pre-temprato	300	5	95	125	165	1	80	105	145	1
	Acciaio al carbonio		Temprato	180	6	125	165	225	1	110	145	195	1
			pre-temprato	275	7	100	135	180	1	85	115	155	1
			pre-temprato	300	8	95	125	165	1	80	105	145	1
			pre-temprato	350	9	90	115	160	1	75	100	135	1
	Acciaio alto legato e acciaio alto legato per utensili		Temprato	200	10	120	155	210	1	100	135	180	1
			temprato e rinvenuto	325	11	90	120	160	1	75	105	140	1
M	Acciaio inossidabile	ferritico/martensitico	Temprato	200	12	55	75	100	1	45	65	85	1
		martensitico	pre-temprato	240	13	50	65	85	1	40	55	75	1
		austenitico	quencing	180	14	60	75	105	1	50	65	90	1
		austenitico-ferritico		230	15	50	65	85	1	40	55	75	1
K	Ghisa grigia	perlitico/ferritico		180	16	125	165	220	1	105	140	190	1
		perlitico (martensitico)		260	17	100	135	180	1	85	115	155	1
	Ghisa sferodale	ferritico		160	18	150	200	270	1	130	175	230	1
		perlitico		250	19	120	155	210	1	100	135	180	1
	Ghisa malleabile	ferritico		130	20	165	220	300	1	145	190	255	1
		perlitico		230	21	135	180	240	1	115	155	205	1
N	Lavorazioni plastiche di leghe di alluminio	non invecchiabile		60	22								
		invecchiabile	indurito	100	23								
	Leghe di alluminio fuso	≤ 12 % Si, non invecchiabile		75	24								
		≤ 12 % Si, invecchiabile	indurito	90	25								
		> 12 % Si, non invecchiabile		130	26								
	Rame e leghe di rame (bronzo/ ottone)	Leghe per macchine di tipo multiplo, PB > 1 %		110	27								
		CuZn, CuSnZn		90	28								
		CuSn, rame senza piombo e rame elettrolitico		100	29								
S	Leghe resistenti al calore	Base Fe	Temprato	200	30								
			indurito	280	31								
		Base Ni o Co	Temprato	250	32								
			indurito	350	33								
			fuso	320	34								
	Leghe di titanio	Titanio puro		R_m 400	35								
		Leghe Alpha + Beta	indurito	R_m 1050	36								
H	Acciaio temprato		temprato e rinvenuto	55 HRC	37	80	105	140	1	65	90	120	1
			temprato e rinvenuto	60 HRC	38	–	–	–	–	–	–	–	–
	Ghisa dura		fuso	400	39	105	140	185	1	85	120	160	1
	Ghise temprate		temprato e rinvenuto	55 HRC	40								
X	Materiali non metallici	Termoplastiche			41								
		Termoindurenti			42								
		Vetroresina VTR			43								
		Plastica rinforzata in fibra di carbonio			44								
		Grafite			45								
		Legno			46								

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.
I valori di avanzamento consigliati sono consultabili a pagina B612.
Esempi di materiali per gruppi di taglio sono disponibili a pagina D11.

	Velocità di taglio v_c [m/min]																			
	EPM-2B EPM-4B				EPM-2BL EPM-4BL															
	KMG406				KMG406															
	a_e / D				a_e / D															
	1/1	1/10	1/20	Gruppo f	1/1	1/10	1/20													
	–	270	300	5	–	230	255	5												
	–	260	285	5	–	220	245	5												
	–	190	210	5	–	165	180	5												
	–	165	180	5	–	140	155	5												
	–	150	165	5	–	130	145	5												
	–	205	225	5	–	175	195	5												
	–	165	180	5	–	140	155	5												
	–	150	165	5	–	130	145	5												
	–	145	160	5	–	120	135	5												
	–	190	210	5	–	165	180	5												
	–	145	160	5	–	125	140	5												
	–	90	100	5	–	75	85	5												
	–	80	85	5	–	65	75	5												
	–	95	105	5	–	80	90	5												
	–	80	85	5	–	65	75	5												
	–	200	220	5	–	170	190	5												
	–	165	180	5	–	140	155	5												
	–	245	270	5	–	210	230	5												
	–	190	210	5	–	165	180	5												
	–	270	300	5	–	230	255	5												
	–	220	240	5	–	185	205	5												
	–	125	140	5	–	110	120	5												
	–	–	–	–	–	–	–	–												
	–	165	185	1	–	145	160	1												

Frese frontali – Serie HPC, Serie UM/UMC, Serie VSM

Gruppo materiali		Composizione/Struttura/Trattamento termico		Durezza HB Brinell	Gruppo di sgrossatura	Velocità di taglio v_c [m/min]							
						5501R38414GM (-R) 5502R38414GM (-R) 5602R38414GM (-R)				5501R38414GM 5502R38414GM 5602R38414GM			
						Cave		Spallamento		Cave		Spallamento	
						Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$
						0 < x < 3	0,3x D	0 < x < 3	0.15 x D	0 < x < 3	0,3x D	0 < x < 3	0.15 x D
						3 ≤ x < 12	0,7 x D	3 ≤ x < 20	0,3 x D	3 ≤ x < 12	0,7 x D	3 ≤ x < 20	0,3 x D
						12≤x≤20	1,5xD			12≤x≤20	1,5xD		
						KMG405				KMG406			
						a_e / D				a_e / D			
						1/1	1/2	1/10	Gruppo f	1/1	1/2	1/10	Gruppo f
P	Acciaio non legato	ca. 0,15 % C	Temprato	125	1	250	300	380	9	230	280	350	9
		ca. 0,45 % C	Temprato	190	2	240	285	365	9	220	270	340	9
		ca. 0,45 % C	pre-temprato	250	3	175	210	270	9	160	190	250	9
		ca. 0,75 % C	Temprato	270	4	150	180	230	9	140	160	210	9
		ca. 0,75 % C	pre-temprato	300	5	140	165	210	9	130	150	200	9
	Acciaio al carbonio		Temprato	180	6	190	225	285	9	180	215	270	9
			pre-temprato	275	7	150	180	230	9	130	170	220	9
			pre-temprato	300	8	140	165	210	9	125	150	190	9
			pre-temprato	350	9	130	160	200	9	120	150	190	9
	Acciaio alto legato e acciaio alto legato per utensili		Temprato	200	10	175	210	270	9	160	190	250	9
			temprato e rinvenuto	325	11	135	160	205	9	115	140	190	9
M	Acciaio inossidabile	ferritico/martensitico	Temprato	200	12	80	100	125	9	70	90	110	9
		martensitico	pre-temprato	240	13	70	85	110	9	60	80	100	9
		austenitico	quencing	180	14	85	105	130	9	75	90	120	9
		austenitico-ferritico		230	15	70	85	110	9	65	80	100	9
K	Ghisa grigia	perlitico/ferritico		180	16	185	220	280	9	160	200	260	9
		perlitico (martensitico)		260	17	150	180	230	9	140	170	220	9
	Ghisa sferodale	ferritico		160	18	225	270	345	9	215	250	330	9
		perlitico		250	19	175	210	270	9	160	200	250	9
	Ghisa malleabile	ferritico		130	20	250	300	380	9	230	280	360	9
		perlitico		230	21	200	240	305	9	180	230	290	9
N	Lavorazioni plastiche di leghe di alluminio	non invecchiabile		60	22								
		invecchiabile	indurito	100	23								
	Leghe di alluminio fuso	≤ 12 % Si, non invecchiabile		75	24								
		≤ 12 % Si, invecchiabile	indurito	90	25								
		> 12 % Si, non invecchiabile		130	26								
	Rame e leghe di rame (bronzo/ ottone)	Leghe per macchine di tipo multiplo, PB > 1 %		110	27								
		CuZn, CuSnZn		90	28								
		CuSn, rame senza piombo e rame elettrolitico		100	29								
S	Leghe resistenti al calore	Base Fe	Temprato	200	30								
			indurito	280	31								
		Base Ni o Co	Temprato	250	32								
			indurito	350	33								
			fuso	320	34								
	Leghe di titanio	Titanio puro		R_m 400	35								
		Leghe Alpha + Beta	indurito	R_m 1050	36								
H	Acciaio temprato		temprato e rinvenuto	55 HRC	37	115	140	175	9	100	120	150	9
			temprato e rinvenuto	60 HRC	38	–	–	–	–	–	–	–	–
	Ghisa dura		fuso	400	39	135	165	205	9	110	150	180	9
	Ghise temprate		temprato e rinvenuto	55 HRC	40	–	–	–	–	–	–	–	–
X	Materiali non metallici	Termoplastiche			41								
		Termoindurenti			42								
		Vetroresina VTR			43								
		Plastica rinforzata in fibra di carbonio			44								
		Grafite			45								
		Legno			46								

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.
I valori di avanzamento consigliati sono consultabili a pagina B612.
Esempi di materiali per gruppi di taglio sono disponibili a pagina D11.

	Velocità di taglio v_c [m/min]																			
	UM-4E UM-4E-W UM-4R UM-5EP				UM-4EL UM-4EL-W UM-4ELP UM-4EFP				UM-4RL UM-4RFP				UMC-4E UMC-4E-W				VSM-4E VSM-4R			
	Cave		Spallamento		Cave		Spallamento		Cave		Spallamento		Cave		Spallamento		Cave		Spallamento	
	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$
	0 < x < 3	0,3xD	0 < x < 3	0.15xD	0 < x < 3	0,3xD	0 < x < 3	0.15xD	0 < x < 3	0,3xD	0 < x < 3	0.15xD	0 < x < 3	0,3xD	0 < x < 3	0.15xD	0 < x < 3	0,3xD	0 < x < 3	0.15xD
	3 ≤ x < 12	0,7xD	3 ≤ x < 20	0,3xD	3 ≤ x < 12	0,7xD	3 ≤ x < 20	0,3xD	3 ≤ x < 12	0,7xD	3 ≤ x < 20	0,3xD	3 ≤ x < 12	0,7xD	3 ≤ x < 20	0,3xD	3 ≤ x < 12	0,7xD	3 ≤ x < 20	0,3xD
	12≤x≤20	1,5xD			12≤x≤20	1,5xD			12≤x≤20	1,5xD			12≤x≤20	1,5xD			12≤x≤20	1,5xD		
	KMG405				KMG405				KMG405				KMG405				KMG405			
	a_e / D				a_e / D				a_e / D				a_e / D				a_e / D			
	1/1	1/2	1/10	Gruppo f	1/1	1/2	1/10	Gruppo f	1/1	1/2	1/10	Gruppo f	1/1	1/2	1/10	Gruppo f	1/1	1/2	1/10	Gruppo f
	250	300	380	9	150	180	230	9	150	180	230	9	–	–	300	9	145	180	250	10
	240	285	365	9	145	175	220	9	145	175	220	9	–	–	285	9	140	175	240	10
	175	210	270	9	105	130	165	9	105	130	165	9	–	–	210	9	105	130	175	10
	150	180	230	9	90	110	140	9	90	110	140	9	–	–	180	9	90	110	150	10
	140	165	210	9	85	100	130	9	85	100	130	9	–	–	165	9	80	100	140	10
	190	225	285	9	115	135	175	9	115	135	175	9	–	–	225	9	110	135	190	10
	150	180	230	9	90	110	140	9	90	110	140	9	–	–	180	9	90	110	150	10
	140	165	210	9	85	100	130	9	85	100	130	9	–	–	165	9	80	100	140	10
	130	160	200	9	80	95	120	9	80	95	120	9	–	–	160	9	80	95	130	10
	175	210	270	9	105	130	165	9	105	130	165	9	–	–	210	9	105	130	175	10
	135	160	205	9	80	100	125	9	80	100	125	9	–	–	160	9	80	100	135	10
	80	100	125	9	50	60	75	9	50	60	75	9	–	–	100	9	50	60	80	10
	70	85	110	9	45	55	65	9	45	55	65	9	–	–	85	9	45	55	70	10
	85	105	130	9	55	65	80	9	55	65	80	9	–	–	105	9	50	65	85	10
	70	85	110	9	45	55	65	9	45	55	65	9	–	–	85	9	45	55	70	10
	185	220	280	9	110	135	170	9	110	135	170	9	–	–	220	9				
	150	180	230	9	90	110	140	9	90	110	140	9	–	–	180	9				
	225	270	345	9	135	165	210	9	135	165	210	9	–	–	270	9				
	175	210	270	9	105	130	165	9	105	130	165	9	–	–	210	9				
	250	300	380	9	150	180	230	9	150	180	230	9	–	–	300	9				
	200	240	305	9	120	145	185	9	120	145	185	9	–	–	240	9				
																	45	55	85	10
																	25	30	45	10
																	45	55	85	10
																	25	30	45	10
																	25	30	45	10
																	75	90	135	10
																	45	55	85	10
	115	140	175	9	70	85	110	9	70	85	110	9								
	–	–	–	–	–	–	–	–	–	–	–	–								
	135	165	205	9	85	100	130	9	85	100	130	9								
	–	–	–	–	–	–	–	–	–	–	–	–								

Frese a sbavare – Serie FM

Gruppo materiali		Composizione/Struttura/Trattamento termico		Durezza HB Brinell	Gruppo di sgrossatura	Velocità di taglio v_c [m/min]				
						5501 / 5601 5501 / 5601 5601				
						KMG303				
						a_e / D				
						1/1	1/2	1/10	Gruppo f	
P	Acciaio non legato	ca. 0,15 % C	Temprato	125	1	–	–	230	11	
		ca. 0,45 % C	Temprato	190	2	–	–	220	11	
		ca. 0,45 % C	pre-temprato	250	3	–	–	165	11	
		ca. 0,75 % C	Temprato	270	4	–	–	140	11	
		ca. 0,75 % C	pre-temprato	300	5	–	–	130	11	
	Acciaio al carbonio		Temprato	180	6	–	–	175	11	
			pre-temprato	275	7	–	–	140	11	
			pre-temprato	300	8	–	–	130	11	
			pre-temprato	350	9	–	–	120	11	
	Acciaio alto legato e acciaio alto legato per utensili		Temprato	200	10	–	–	165	11	
			temprato e rinvenuto	325	11	–	–	125	11	
M	Acciaio inossidabile	ferritico/martensitico	Temprato	200	12	–	–	75	11	
		martensitico	pre-temprato	240	13	–	–	65	11	
		austenitico	quencing	180	14	–	–	80	11	
		austenitico-ferritico		230	15	–	–	65	11	
K	Ghisa grigia	perlitico/ferritico		180	16	–	–	170	11	
		perlitico (martensitico)		260	17	–	–	140	11	
	Ghise con grafite sferoidale	ferritico		160	18	–	–	210	11	
		perlitico		250	19	–	–	165	11	
	Ghisa malleabile	ferritico		130	20	–	–	230	11	
		perlitico		230	21	–	–	185	11	
N	Lavorazioni plastiche di leghe di alluminio	non invecchiabile		60	22	–	–	1200	11	
		invecchiabile	indurito	100	23	–	–	720	11	
	Leghe di alluminio fuso	≤ 12 % Si, non invecchiabile		75	24	–	–	480	11	
		≤ 12 % Si, invecchiabile	indurito	90	25	–	–	600	11	
		> 12 % Si, non invecchiabile		130	26	–	–	180	11	
	Rame e leghe di rame (bronzo/ottone)	Leghe per macchine di tipo multiplo, PB > 1 %		110	27	–	–	360	11	
		CuZn, CuSnZn		90	28	–	–	420	11	
		CuSn, rame senza piombo e rame elettrolitico		100	29	–	–	360	11	
S	Leghe resistenti al calore	Base Fe	Temprato	200	30					
			indurito	280	31					
		Base Ni o Co	Temprato	250	32					
			indurito	350	33					
			fuso	320	34					
	Leghe di titanio	Titanio puro		R_m 400	35					
		Leghe Alpha + Beta	indurito	R_m 1050	36					
H	Acciaio temprato		temprato e rinvenuto	55 HRC	37					
			temprato e rinvenuto	60 HRC	38					
	Ghisa dura		fuso	400	39					
	Ghise temprate		temprato e rinvenuto	55 HRC	40					
X	Materiali non metallici	Termoplastiche			41					
		Termoindurenti			42					
		Vetroresina VTR			43					
		Plastica rinforzata in fibra di carbonio			44					
		Grafite			45					
		Legno			46					

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.
I valori di avanzamento consigliati sono consultabili a pagina B612.
Esempi di materiali per gruppi di taglio sono disponibili a pagina D11.

Frese in metallo duro integrale

Frese in metallo duro integrale Dati di taglio consigliati

Frese frontali – Serie QCH

Gruppo materiali		Composizione/Struttura/Trattamento termico		Durezza HB Brinell	Gruppo di sgrossatura	Velocità di taglio v_c [m/min]							
						Q**-PM-4E Q**-PM-4R Q**-VPM-4E Q**-VPM-4R				Q**PM-2B Q**PM-4B			
						Cave		Spallamento					
						Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$				
						0 < x < 3	0,3 x D	0 < x < 20	0,15xD				
						3 ≤ x < 6	0,3 x D						
						6 ≤ x ≤ 20	0,5 x D						
						KMG405				KMG405			
						a_e / D				a_e / D			
						1/1	1/2	1/10	Gruppo f	1/1	1/2	1/10	Gruppo f
P	Acciaio non legato	ca. 0,15 % C	Temprato	125	1	165	220	300	1	–	270	300	5
		ca. 0,45 % C	Temprato	190	2	160	210	285	1	–	260	285	5
		ca. 0,45 % C	pre-temprato	250	3	120	155	210	1	–	190	210	5
		ca. 0,75 % C	Temprato	270	4	100	135	180	1	–	165	180	5
		ca. 0,75 % C	pre-temprato	300	5	95	125	165	1	–	150	165	5
	Acciaio al carbonio		Temprato	180	6	125	165	225	1	–	205	225	5
			pre-temprato	275	7	100	135	180	1	–	165	180	5
			pre-temprato	300	8	95	125	165	1	–	150	165	5
			pre-temprato	350	9	90	115	160	1	–	145	160	5
	Acciaio alto legato e acciaio alto legato per utensili		Temprato	200	10	120	155	210	1	–	190	210	5
			temprato e rinvenuto	325	11	90	120	160	1	–	145	160	5
M	Acciaio inossidabile	ferritico/martensitico	Temprato	200	12	55	75	100	1	–	90	100	5
		martensitico	pre-temprato	240	13	50	65	85	1	–	80	85	5
		austenitico	quencing	180	14	60	75	105	1	–	95	105	5
		austenitico-ferritico		230	15	50	65	85	1	–	80	85	5
K	Ghisa grigia	perlitico/ferritico		180	16	125	165	220	1	–	200	220	5
		perlitico (martensitico)		260	17	100	135	180	1	–	165	180	5
	Ghisa sferodale	ferritico		160	18	150	200	270	1	–	245	270	5
		perlitico		250	19	120	155	210	1	–	190	210	5
	Ghisa malleabile	ferritico		130	20	165	220	300	1	–	270	300	5
		perlitico		230	21	135	180	240	1	–	220	240	5
N	Lavorazioni plastiche di leghe di alluminio	non invecchiabile		60	22								
		invecchiabile	indurito	100	23								
	Leghe di alluminio fuso	≤ 12 % Si, non invecchiabile		75	24								
		≤ 12 % Si, invecchiabile	indurito	90	25								
		> 12 % Si, non invecchiabile		130	26								
	Rame e leghe di rame (bronzo/ottone)	Leghe per macchine di tipo multiplo, PB > 1 %		110	27								
		CuZn, CuSnZn		90	28								
		CuSn, rame senza piombo e rame elettrolitico		100	29								
S	Leghe resistenti al calore	Base Fe	Temprato	200	30								
			indurito	280	31								
		Base Ni o Co	Temprato	250	32								
			indurito	350	33								
			fuso	320	34								
	Leghe di titanio	Titanio puro		R_m 400	35								
		Leghe Alpha + Beta	indurito	R_m 1050	36	–	–	–	–				
H	Acciaio temprato		temprato e rinvenuto	55 HRC	37	80	105	140	1				
			temprato e rinvenuto	60 HRC	38	–	–	–	–				
	Ghisa dura		fuso	400	39	105	140	185	1				
	Ghise temprate		temprato e rinvenuto	55 HRC	40								
X	Materiali non metallici	Termoplastiche			41								
		Termoindurenti			42								
		Vetroresina VTR			43								
		Plastica rinforzata in fibra di carbonio			44								
		Grafite			45								
		Legno			46								

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.
I valori di avanzamento consigliati sono consultabili a pagina B612.
Esempi di materiali per gruppi di taglio sono disponibili a pagina D11.

	Velocità di taglio v_c [m/min]																			
	Q**-HMX-4E Q**-HMX-4R				Q**-HMX-2B Q**-HMX-4B															
			Spallamento																	
	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$												
			0 < x ≤ 20	0.15 x D																
	KMG5515				KMG5515															
	a_e / D				a_e / D															
	1/1	1/2	1/10	Gruppo f	1/1	1/2	1/10	Gruppo f												
	–	–	–	–	–	–	–	–												
	55	100	125	3	–	130	145	7												
	55	95	120	3	–	80	90	7												
	70	125	160	3	–	163	181	7												
	55	100	125	3	–	109	145	7												

Dati di avanzamento consigliato

Frese in metallo duro integrale Gruppo 1 – Frese a spallamento Serie PM, Serie QCH, Serie EPM

	a_e / D	Avanzamento per tagliente (f_z) [mm]														
		Ø0,5	Ø0,8	Ø 1	Ø 2	Ø 3	Ø 4	Ø 5	Ø 6	Ø 8	Ø 10	Ø 12	Ø 14	Ø 16	Ø 18	Ø 20
P	1/1	0,01	0,02	0,02	0,02	0,02	0,02	0,03	0,03	0,05	0,07	0,08	0,08	0,09	0,09	0,10
	1/2	0,01	0,03	0,03	0,03	0,03	0,03	0,04	0,04	0,06	0,09	0,10	0,10	0,12	0,12	0,13
	1/10	0,02	0,05	0,05	0,05	0,05	0,05	0,07	0,07	0,09	0,14	0,16	0,16	0,18	0,18	0,20
M	1/1	0,01	0,02	0,02	0,02	0,02	0,02	0,03	0,03	0,04	0,05	0,06	0,06	0,07	0,07	0,08
	1/2	0,01	0,02	0,02	0,02	0,02	0,02	0,04	0,04	0,05	0,07	0,08	0,08	0,10	0,10	0,11
	1/10	0,02	0,04	0,04	0,04	0,04	0,04	0,05	0,05	0,07	0,11	0,13	0,13	0,15	0,15	0,16
K	1/1	0,01	0,02	0,02	0,02	0,02	0,02	0,03	0,03	0,05	0,07	0,08	0,08	0,09	0,09	0,10
	1/2	0,01	0,03	0,03	0,03	0,03	0,03	0,04	0,04	0,06	0,09	0,10	0,10	0,12	0,12	0,13
	1/10	0,02	0,05	0,05	0,05	0,05	0,05	0,07	0,07	0,09	0,14	0,16	0,16	0,18	0,18	0,20
H	1/1	0,01	0,02	0,02	0,02	0,02	0,02	0,03	0,03	0,04	0,05	0,06	0,06	0,07	0,07	0,08
	1/2	0,01	0,02	0,02	0,02	0,02	0,02	0,04	0,04	0,05	0,07	0,08	0,08	0,10	0,10	0,11
	1/10	0,02	0,04	0,04	0,04	0,04	0,04	0,05	0,05	0,07	0,11	0,13	0,13	0,15	0,15	0,16

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.

Frese in metallo duro integrale Gruppo 2 – Frese a spallamento Serie GM

	a_e / D	Avanzamento per tagliente (f_z) [mm]														
		Ø0,5	Ø0,8	Ø 1	Ø 2	Ø 3	Ø 4	Ø 5	Ø 6	Ø 8	Ø 10	Ø 12	Ø 14	Ø 16	Ø 18	Ø 20
P	1/1	0,01	0,02	0,02	0,02	0,02	0,02	0,03	0,03	0,04	0,06	0,07	0,07	0,08	0,08	0,09
	1/2	0,01	0,03	0,03	0,03	0,03	0,03	0,04	0,04	0,05	0,08	0,09	0,09	0,10	0,10	0,12
	1/10	0,02	0,04	0,04	0,04	0,04	0,04	0,06	0,06	0,08	0,12	0,14	0,14	0,16	0,16	0,18
M	1/1	0,01	0,02	0,02	0,02	0,02	0,02	0,02	0,02	0,03	0,05	0,06	0,06	0,06	0,06	0,07
	1/2	0,01	0,02	0,02	0,02	0,02	0,02	0,03	0,03	0,04	0,06	0,07	0,07	0,08	0,08	0,09
	1/10	0,02	0,03	0,03	0,03	0,03	0,03	0,05	0,05	0,06	0,10	0,11	0,11	0,13	0,13	0,15
K	1/1	0,01	0,02	0,02	0,02	0,02	0,02	0,03	0,03	0,04	0,06	0,07	0,07	0,08	0,08	0,09
	1/2	0,01	0,03	0,03	0,03	0,03	0,03	0,04	0,04	0,05	0,08	0,09	0,09	0,10	0,10	0,12
	1/10	0,02	0,04	0,04	0,04	0,04	0,04	0,06	0,06	0,08	0,12	0,14	0,14	0,16	0,16	0,18

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.

Frese in metallo duro integrale Gruppo 3 – Frese a spallamento Serie HM, Serie QCH

	a_e / D	Avanzamento per tagliente (f_z) [mm]														
		Ø0,5	Ø0,8	Ø 1	Ø 2	Ø 3	Ø 4	Ø 5	Ø 6	Ø 8	Ø 10	Ø 12	Ø 14	Ø 16	Ø 18	Ø 20
H	1/1	0,01	0,02	0,02	0,02	0,02	0,02	0,02	0,02	0,03	0,05	0,06	0,06	0,06	0,06	0,07
	1/2	0,01	0,02	0,02	0,02	0,02	0,02	0,03	0,03	0,04	0,06	0,07	0,07	0,08	0,08	0,09
	1/10	0,02	0,03	0,03	0,03	0,03	0,03	0,05	0,05	0,06	0,10	0,11	0,11	0,13	0,13	0,15

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.

Frese in metallo duro integrale Gruppo 4 – Frese a spallamento Serie AL, Serie HM

	a_e / D	Avanzamento per tagliente (f_z) [mm]														
		Ø0,5	Ø0,8	Ø 1	Ø 2	Ø 3	Ø 4	Ø 5	Ø 6	Ø 8	Ø 10	Ø 12	Ø 14	Ø 16	Ø 18	Ø 20
N	1/1	0,02	0,03	0,03	0,03	0,03	0,03	0,05	0,05	0,06	0,09	0,11	0,11	0,12	0,12	0,14
	3/4	0,02	0,04	0,04	0,04	0,04	0,04	0,06	0,06	0,08	0,12	0,14	0,14	0,16	0,16	0,18
	1/10	0,03	0,06	0,06	0,06	0,06	0,06	0,09	0,09	0,12	0,19	0,22	0,22	0,25	0,25	0,28
	1/20	0,04	0,08	0,08	0,08	0,08	0,08	0,12	0,12	0,16	0,23	0,27	0,27	0,31	0,31	0,35

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.

Dati di avanzamento consigliato

Frese in metallo duro integrale Gruppo 5 – Frese a testa sferica Serie GM, Serie QCH, Serie EPM

	a_e / D	Avanzamento per tagliente (f_z) [mm]																			
		Ø0,5	Ø0,8	Ø 1	Ø 2	Ø 3	Ø 4	Ø 5	Ø 6	Ø 8	Ø 10	Ø 12	Ø 14	Ø 16	Ø 18	Ø 20					
P	1/1																				
	1/10	0,02	0,05	0,05	0,05	0,05	0,05	0,07	0,07	0,09	0,14	0,16	0,16	0,18	0,18	0,20					
	1/20	0,03	0,06	0,06	0,06	0,06	0,06	0,08	0,08	0,11	0,17	0,20	0,20	0,23	0,23	0,25					
M	1/1																				
	1/10	0,02	0,04	0,04	0,04	0,04	0,04	0,05	0,05	0,07	0,11	0,13	0,13	0,15	0,15	0,16					
	1/20	0,02	0,05	0,05	0,05	0,05	0,05	0,07	0,07	0,09	0,14	0,16	0,16	0,18	0,18	0,21					
K	1/1																				
	1/10	0,02	0,05	0,05	0,05	0,05	0,05	0,07	0,07	0,09	0,14	0,16	0,16	0,18	0,18	0,20					
	1/20	0,03	0,06	0,06	0,06	0,06	0,06	0,08	0,08	0,11	0,17	0,20	0,20	0,23	0,23	0,25					
H	1/1																				
	1/10	0,02	0,04	0,04	0,04	0,04	0,04	0,05	0,05	0,07	0,11	0,13	0,13	0,15	0,15	0,16					
	1/20	0,02	0,05	0,05	0,05	0,05	0,05	0,07	0,07	0,09	0,14	0,16	0,16	0,18	0,18	0,21					

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.

Frese in metallo duro integrale Gruppo 6 – Frese ad alto avanzamento Serie PM

	a_e / D	Avanzamento per tagliente (f_z) [mm]																			
		Ø 3	Ø 4	Ø 5	Ø 6	Ø 8	Ø 10	Ø 12													
P	1/1																				
	1/10																				
	1/20	0,15	0,25	0,28	0,33	0,44	0,55	0,66													
M	1/1																				
	1/10																				
	1/20	0,12	0,22	0,25	0,30	0,41	0,52	0,63													
K	1/1																				
	1/10																				
	1/20	0,15	0,25	0,28	0,33	0,44	0,55	0,66													
H	1/1																				
	1/10																				
	1/20	0,12	0,22	0,25	0,30	0,41	0,52	0,63													

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.

Frese in metallo duro integrale Gruppo 7 – Frese a testa sferica Serie HM, Serie QCH

	a_e / D	Avanzamento per tagliente (f_z) [mm]																			
		Ø0,5	Ø0,8	Ø 1	Ø 2	Ø 3	Ø 4	Ø 5	Ø 6	Ø 8	Ø 10	Ø 12	Ø 14	Ø 16	Ø 18	Ø 20					
H	1/1																				
	1/2	0,02	0,04	0,04	0,04	0,04	0,04	0,05	0,05	0,07	0,11	0,13	0,13	0,15	0,15	0,16					
	1/10	0,02	0,05	0,05	0,05	0,05	0,05	0,07	0,07	0,09	0,14	0,16	0,16	0,18	0,18	0,21					

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.

Frese in metallo duro integrale Gruppo 8 – Frese ad alto avanzamento Serie AL, Serie ALP/ALG

	a_e / D	Avanzamento per tagliente (f_z) [mm]																			
		Ø 6	Ø 8	Ø 10	Ø 12	Ø 14	Ø 16	Ø 18	Ø 20												
N	1/1	0,04	0,05	0,08	0,09	0,11	0,13	0,16	0,18												
	3/4	0,05	0,07	0,10	0,12	0,14	0,16	0,20	0,23												
	1/10	0,08	0,11	0,16	0,19	0,22	0,25	0,31	0,36												

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.

Dati di avanzamento consigliato

Frese in metallo duro integrale Gruppo 9 – Frese a spallamento Serie UM/UMC Lavorazione HSC/HPC

	a_e / D	Avanzamento per tagliente (f_z) [mm]									
		Ø 4	Ø 5	Ø 6	Ø 8	Ø 10	Ø 12	Ø 14	Ø 16	Ø 18	Ø 20
P	1/1	0,06	0,06	0,06	0,07	0,07	0,07	0,07	0,08	0,08	0,08
	1/2	0,08	0,08	0,08	0,09	0,09	0,09	0,09	0,10	0,10	0,10
	1/10	0,14	0,14	0,16	0,18	0,22	0,25	0,27	0,3	0,32	0,36
M	1/1	0,05	0,05	0,05	0,05	0,05	0,05	0,05	0,06	0,06	0,06
	1/2	0,06	0,06	0,06	0,07	0,07	0,07	0,07	0,08	0,08	0,08
	1/10	0,10	0,10	0,10	0,12	0,12	0,14	0,16	0,16	0,18	0,18
K	1/1	0,06	0,06	0,06	0,07	0,07	0,07	0,07	0,08	0,08	0,08
	1/2	0,08	0,08	0,08	0,09	0,09	0,09	0,09	0,10	0,10	0,10
	1/10	0,14	0,14	0,16	0,18	0,22	0,25	0,27	0,3	0,32	0,36
H	1/1	0,045	0,045	0,045	0,053	0,053	0,053	0,053	0,06	0,06	0,06
	1/2	0,06	0,06	0,06	0,07	0,07	0,07	0,07	0,08	0,08	0,08
	1/10	0,10	0,10	0,10	0,12	0,12	0,14	0,16	0,16	0,18	0,18

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.

Frese in metallo duro integrale Gruppo 10 – Frese a spallamento Serie VSM, Serie TM

	a_e / D	Avanzamento per tagliente (f_z) [mm]									
		Ø 4	Ø 5	Ø 6	Ø 8	Ø 10	Ø 12	Ø 14	Ø 16	Ø 18	Ø 20
P	1/1	0,03	0,04	0,05	0,05	0,05	0,05	0,06	0,06	0,07	0,08
	1/2	0,04	0,06	0,07	0,07	0,07	0,07	0,08	0,09	0,10	0,11
	1/10	0,05	0,08	0,09	0,09	0,09	0,09	0,11	0,12	0,14	0,15
M	1/1	0,02	0,03	0,04	0,04	0,04	0,04	0,04	0,05	0,05	0,06
	1/2	0,03	0,05	0,05	0,05	0,05	0,05	0,06	0,07	0,08	0,08
	1/10	0,04	0,06	0,07	0,07	0,07	0,07	0,08	0,09	0,10	0,11
S	1/1	0,02	0,03	0,04	0,04	0,04	0,04	0,04	0,05	0,05	0,06
	1/2	0,03	0,05	0,05	0,05	0,05	0,05	0,06	0,07	0,08	0,08
	1/10	0,04	0,06	0,07	0,07	0,07	0,07	0,08	0,09	0,10	0,11

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.

Frese in metallo duro integrale Gruppo 11 – Frese a sbavare Serie FM

	a_e / D	Avanzamento per tagliente (f_z) [mm]										
		Ø 3	Ø 4	Ø 5	Ø 6	Ø 8	Ø 10	Ø 12	Ø 14	Ø 16	Ø 18	Ø 20
P	1/1											
	1/2											
	1/10	0,02	0,02	0,03	0,03	0,04	0,06	0,07	0,07	0,08	0,08	0,09
M	1/1											
	1/2											
	1/10	0,02	0,02	0,02	0,02	0,03	0,05	0,06	0,06	0,06	0,06	0,07
K	1/1											
	1/2											
	1/10	0,02	0,02	0,03	0,03	0,04	0,06	0,07	0,07	0,08	0,08	0,09
N	1/1											
	1/2											
	1/10	0,03	0,03	0,05	0,05	0,06	0,09	0,11	0,11	0,12	0,12	0,14

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.

Dati di avanzamento consigliato

Frese in metallo duro integrale Gruppo 12 – Fresa a candela singola ALP-1EP

	a_e / D	Avanzamento per tagliente (f_z) [mm]																			
		Ø 2	**Ø 3**	**Ø 4**	**Ø 5**	**Ø 6**	**Ø 8**	**Ø 10**													
N	**1/1**	0,03	0,05	0,07	0,09	0,11	0,14	0,18													
	1/2	0,04	0,07	0,10	0,13	0,15	0,20	0,25													
	1/10	0,06	0,11	0,15	0,19	0,23	0,29	0,38													

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.

Note

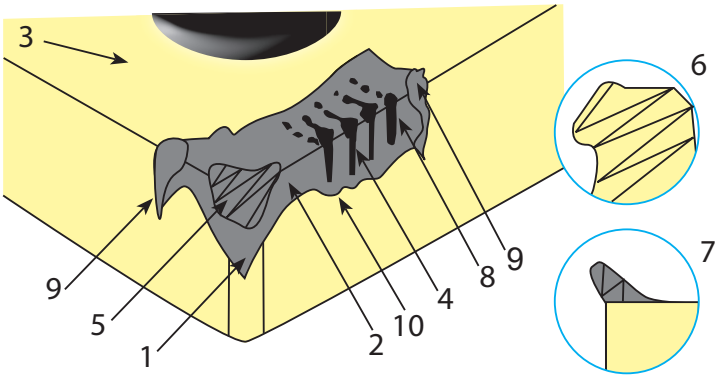
Informazioni tecniche

Misure per la risoluzione dei problemi – Fresatura	**B618**
Informazioni tecniche – Fresatura	**B619-B632**
Gli utensili speciali – fresatura	**B633**

B

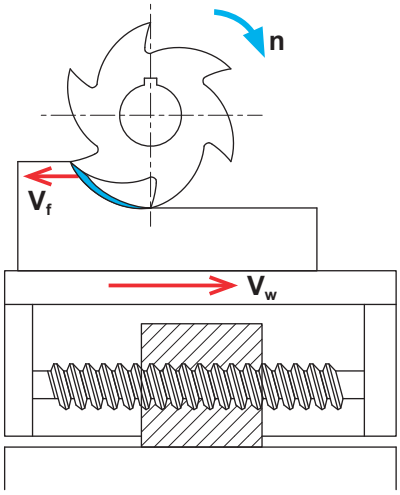
Misure per la risoluzione dei problemi - inserti per fresatura

vedi fig.	Tipo di usura	Effetti	Causa	Contromisura
1+2	Usura sul fianco	– Scarsa qualità superficiale e dimensioni inconsistenti – Aumento della forza di taglio	– Grado con resistenza all'usura insufficiente – Velocità di taglio troppo elevata – Angolo di spoglia inferiore troppo piccolo – Velocità di avanzamento troppo bassa	– Grado con maggiore resistenza all'usura – Ridurre la velocità di taglio – Aumentare l'angolo di spoglia – Ridurre la velocità di avanzamento
3	Craterizzazione	– Qualità superficiale e controllo del truciolo scarsi	– Grado con resistenza all'usura insufficiente – Velocità di taglio troppo elevata – Velocità di avanzamento troppo alta	– Grado con maggiore resistenza all'usura – Ridurre la velocità di taglio – Ridurre la velocità di avanzamento
4	Scheggiatura	– Durata utensile non stabile – Rottura improvvisa del tagliente	– Grado troppo duro – Velocità di avanzamento troppo alta – Stabilità tagliente Stabilità del portautensile o bloccaggio insufficienti	– Grado con maggiore tenacità – Ridurre la velocità di avanzamento – Cambiare l'arrotondamento del tagliente – Utilizzare un portautensile con maggiore stabilità
5	Rottura	– Aumento della forza di taglio – Scarsa qualità superficiale e dimensioni inconsistenti	– Grado troppo duro – Velocità di avanzamento troppo alta – Stabilità del tagliente insufficiente – Stabilità del portautensile o bloccaggio insufficienti	– Grado con maggiore tenacità – Ridurre la velocità di avanzamento – Cambiare l'arrotondamento del tagliente – Utilizzare un portautensile con maggiore stabilità
6	Deformazione plastica	– Dimensioni inconsistenti – Danneggiamento del tagliente	– Grado con resistenza all'usura insufficiente – Velocità di taglio troppo elevata – Profondità e/o velocità di taglio troppo alta – Temperatura sul tagliente troppo alta	– Grado con maggiore resistenza all'usura – Ridurre la velocità di taglio – Ridurre la profondità di taglio e la velocità di avanzamento – Grado con maggiore resistenza al calore
7	Tagliente di riporto	– Aumento della forza di taglio – Pessima finitura superficiale	– Velocità di taglio troppo bassa – Tagliente non sufficientemente affilato – Grado non adatto	– Aumentare la velocità di taglio – Aumentare l'angolo di spoglia – Selezionare un grado adatto
8	Termica usura	– Rottura per interazione termica, soprattutto in caso di taglio interrotto (fresatura)	– Variazioni di temperatura della lavorazione – Grado troppo duro	– Taglio a secco – Grado con maggiore tenacità
9	Intagliatura	– Bave – Aumento della forza di taglio	– Danneggiamento dovuto ai trucioli (rompitruciolo sfilacciato) – Avanzamento e velocità di taglio troppo alte	– Grado con maggiore resistenza all'usura – Aumentare l'angolo di spoglia per ottenere un tagliente più affilato – Ridurre la velocità di taglio
10	Sfaldamento (rivestimento)	– Soprattutto durante la lavorazione di materiali più duri o quando si verificano vibrazioni	– Adesioni sul tagliente e scheggiature – Scarso deflusso del truciolo	– Aumentare l'angolo di spoglia per ottenere un tagliente più affilato – Rompitruciolo con gola più grande

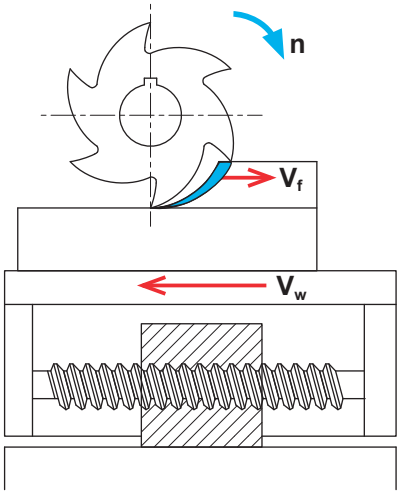


Inserti per fresatura

Differenza tra fresatura concorde e discorde



Fresatura discorde



Fresatura concorde

V_f Avanzamento utensile
V_w Avanzamento pezzo
n Direzione di taglio

Nella fresatura discorde, il senso di rotazione della fresa è opposto rispetto alla direzione di avanzamento del pezzo.	Nella fresatura concorde, il senso di rotazione della fresa è lo stesso rispetto alla direzione di avanzamento del pezzo.

Vantaggi e svantaggi

Direzione	Vantaggio	Svantaggio
Fresatura discorde	– Previene che l'utensile si agganci, taglio più regolare – Taglio più regolare	– Maggiore stress sul tagliente – Vita dell'utensile più breve
Fresatura concorde	– Vita dell'utensile più lunga – Meno stress termico	– Possibile aggancio dell'utensile

Inserti per fresatura

Passo di fresatura

Il passo è la distanza tra un punto su un tagliente e lo stesso punto sul tagliente successivo.
La classificazione distingue i seguenti passi: lungo (differenziale), stretto e extra stretto.

Stabilità di lavorazione		
L (basso)	M (medio)	H (alto)
Passo lungo	Passo normale	Passo stretto
Se la larghezza di fresatura è uguale al diametro della fresa, il sistema di lavorazione stabile e l'alimentazione principale della macchina sufficiente, è consigliato un passo lungo. Ciò consente di raggiungere un'alta efficienza produttiva.	Prima scelta per la fresatura generale e la lavorazione mista.	Se la larghezza di fresatura è più piccola del diametro della fresa, un gran numero di taglienti permette un'elevata produttività. Le frese sono adatte a tutti i materiali, specialmente per materiali a difficile asportazione.

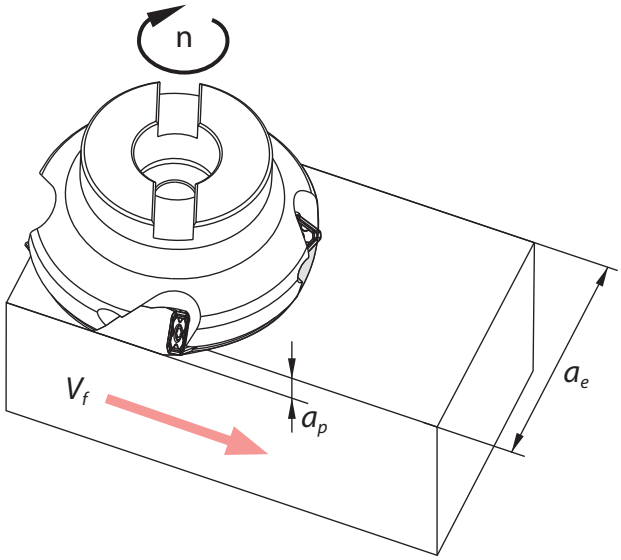
Angolo di inclinazione [mm]

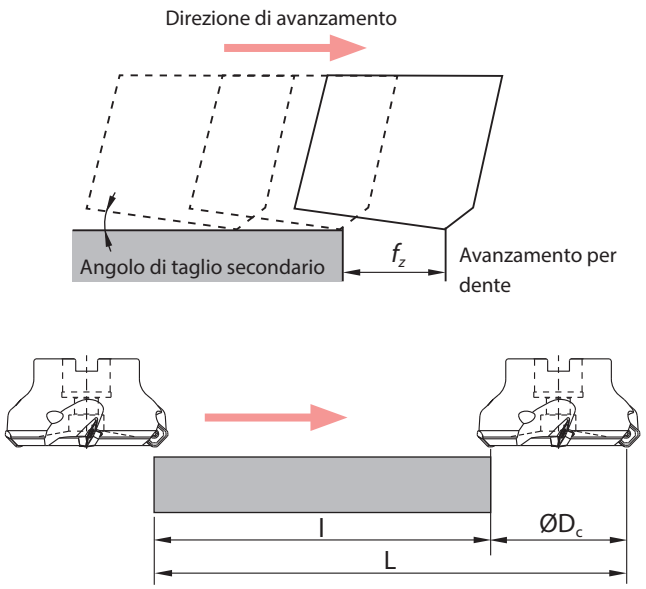
L'angolo di attacco di una fresa a spianare è in relazione allo spessore del truciolo. Questo è l'angolo tra il tagliente principale dell'inserto e la superficie del pezzo. L'angolo di attacco influenza in particolare modo lo spessore del truciolo, le forze di taglio e la durata dell'utensile. Diminuendo l'angolo di attacco, per una data velocità di avanzamento, si riduce lo spessore del truciolo. Questo ha l'effetto che il materiale si distribuisce su una parte più grande del tagliente. Un piccolo angolo di attacco provoca anche un ingresso meno brusco nel taglio. In questo modo la pressione radiale si riduce e il tagliente è protetto. Le forze assiali più elevate aumentano, tuttavia, la pressione sul pezzo. Non adatto per la lavorazione di componenti con pareti sottili.

Angolo di inclinazione [mm]	Avanzamento per dente	Max. spessore del truciolo
90°	f_z	$h_{ex} = f_z \times sin_{kr}$
75°		$h_{ex} = 0{,}96 \times f_z$
60°		$h_{ex} = 0{,}86 \times f_z$
45°		$h_{ex} = 0{,}707 \times f_z$
Tondo		$h_{ex} = \frac{\sqrt{iC^2 \times (iC - 2a_p)^2}}{iC} \times f_z$

Inserti per fresatura

Formule generali





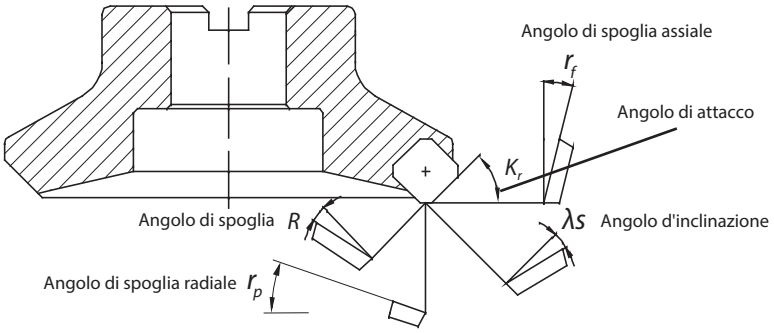
V_c: Velocità di taglio [m/min]
D_c: Diametro nominale utensili per fresatura [mm]
n: Velocità di rotazione [giri/min]
z_n: Numero di denti
Q: Volumi di sgrossatura [cm^3/min]

V_f: Avanzamento piano macchina (velocità di alimentazione) [mm/min]
f_z: Avanzamento per dente [mm/z]
π: Pi greco ~3,14
T_c: Tempo di lavorazione [min]
f_n: Avanzamento per rotazione [mm/giro]

Velocità di taglio	$V_c = \frac{\pi \times D_c \times n}{1000}$ [m/min]
Velocità di rotazione	$n = \frac{1000 \times V_c}{\pi \times D_c}$ [rev/min]
Avanzamento del piano macchina	$V_f = f_z \times n \times z_n$ [mm/min]
Avanzamento per dente	$f_z = \frac{V_f}{n \times Z_n}$ [mm/z]
Avanzamento per giro	$f_n = \frac{V_f}{n}$ [mm/rev]
Tempo di lavorazione	$T_c = \frac{1000 \times V_c}{\pi \times D_c}$ [min]
Volumi di sgrossatura	$Q = \frac{a_p \times a_e \times V_f}{1000}$ [cm^3/min]

Inserti per fresatura

Angoli nella fresatura a spianare



Angoli nella fresatura a spianare

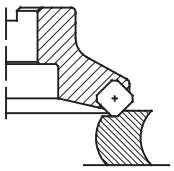
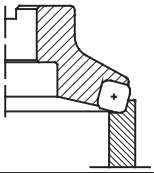
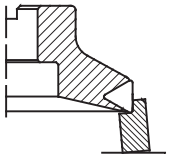
Angolo	Funzione	Effetto		
Angolo di spoglia assiale r_f	Influisce sulla direzione del flusso del truciolo	Angolo di spoglia negativo, buona asportazione del truciolo		
Angolo di spoglia radiale r_p	Definisce la taglienza	Angolo di spoglia positivo, buone prestazioni di taglio		
Angolo di attacco K_r	Influenza lo spessore del truciolo	K_r↑, Spessore del truciolo↑, K_r↓, Spessore del truciolo↓;		
Angolo di spoglia *R*	Influisce sulla forza di taglio	Scarse prestazioni di taglio, tagliente stabile	(−)←0→(+)	Buone prestazioni di taglio, tagliente instabile
Angolo d'inclinazione *λs*	Influisce sulla direzione del flusso del truciolo	Scarse prestazioni di taglio, tagliente stabile	(−)←0→(+)	Buone prestazioni di taglio, tagliente instabile

Combinazione di differenti angoli di spoglia

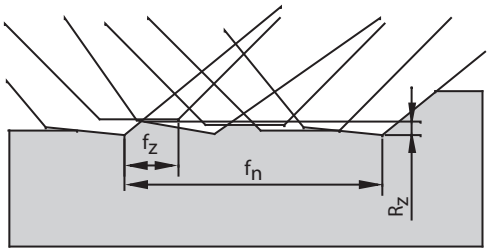
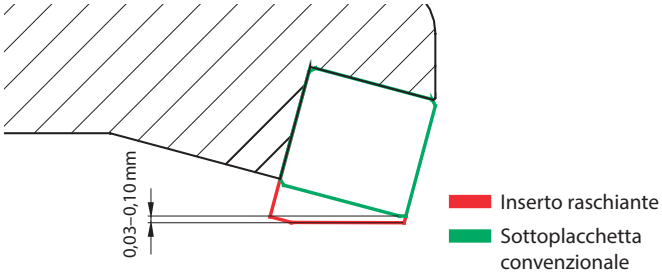
		Doppio positivo	Doppio negativo	Positivo/Negativo
Angolo di spoglia negativo	–			
Angolo neutrale	0°			
Angolo di spoglia positivo	+			
		$r_{f(+)}$, $r_{p(+)}$	$r_{f(-)}$, $r_{p(-)}$	$r_{f(+)}$, $r_{p(-)}$
Angolo di spoglia assiale r_f		+	–	+
Angolo di spoglia radiale r_p		+	–	–
Campo di applicazione	P	√		√
	M	√		√
	K		√	√
	N	√		
	S	√		√

Inserti per fresatura

Prestazioni di taglio a diversi angoli di inclinazione

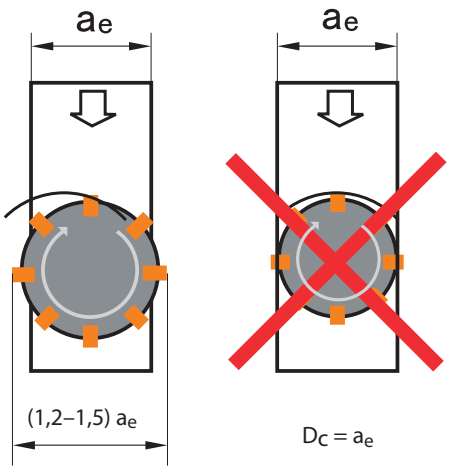
Angolo di inclinazione [mm]	Rappresentazione	Spiegazione
45°		La forza assiale è molto alta. A causa della flessione non è adatto per la lavorazione di componenti con pareti sottili. Ottimale per la spianatura di acciaio, ghise e acciaio inossidabile.
75°		La forza assiale è normale. Per la spianatura generica.
90°		La forza assiale è quasi zero. Adatto per la lavorazione di pezzi sottili e instabili.

Inserti con raschiante

Impiego di sottoplacchette convenzionali	Impiego di inserti raschianti
	
Finitura superficiale normale	Finitura superficiale elevata

L'inserto raschiante deve essere circa 0,03-0,1 mm sopra gli inserti normali in direzione assiale per ottenere l'effetto raschiante.
Per diametri standard è sufficiente un inserto raschiante. Per diametri molto grandi o grandi velocità di avanzamento di taglio possono essere utilizzati fino a tre inserti raschianti.

Larghezze di taglio



In generale, il rapporto tra larghezza di taglio e il diametro dell'utensile dovrebbe essere 1,2x bis 1,5x a_e .

Posizionare la fresa spostata dal centro.

D_c: Diametro utensile
a_e: Avanzamento laterale

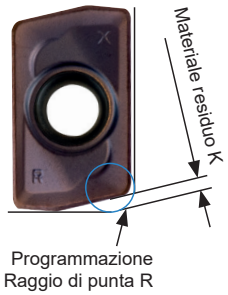
Inserti per fresatura

Fresatura a tuffo e circolare con inserto APKT

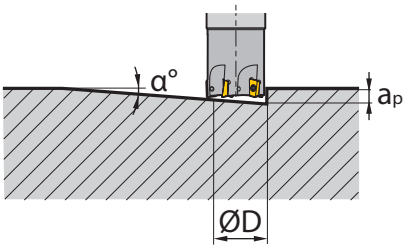
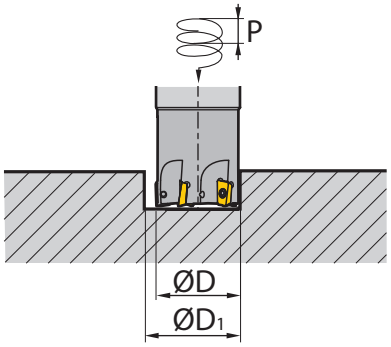
Raggio di punta programmato approx.

Inserto	ca. R [mm]	Materiale residuo K [mm]	a_p [mm]	f_z / mm
APKT0702-XR	0,8	0,291	0,2–0,5	0,25–0,7
APKT0702-XR	1,0	0,257	0,2–0,5	0,25–0,7
APKT11T3-XR	1,0	0,689	0,3–1,1	0,4–1,5
APKT11T3-XR	1,5	0,594	0,3–1,1	0,4–1,5
APKT11T3-XR	2,0	0,499	0,3–1,1	0,4–1,5

APKT



Inserto APKT

		Fresatura a tuffo		Fresatura circolare	
		 $L_m = \frac{a_p}{\tan_\alpha}$ α: Angolo di immersione		 $P = \tan_\alpha \times \pi \times D_1$ α: Angolo di inclinazione dell'elica	
Inserto	Diametro ØD [mm]	Max. profondità di taglio a_p [mm]	Max. angolo di immersione α°	Diametro min. $ØD_1$ [mm]	Max. diametro [mm]
AP**0702**	10	6	6	12	18
	12	6	4	15	22
	14	6	3	18	26
	16	6	2,5	21	30
AP**11**	16	10	10	20	30
	20	10	5	28	38
	25	10	4	40	48
	32	10	3	56	60
	40	10	2	70	76
AP**1604**	25	15	6	32	48
	30	15	5	40	58
	32	15	4,5	45	62
	40	15	2,5	60	78
	50	15	1,5	80	98
	63	15	1	105	124

Per la fresatura a "tuffo" e circolare ridurre l'avanzamento.
Per le operazioni di foratura (assiale), impostare un avanzamento inferiore a 0,2 mm.
"Attenzione" - Durante la foratura possono prodursi trucioli lunghi.

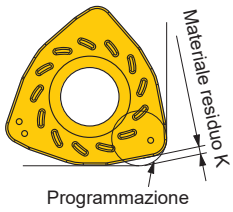
Inserti per fresatura

Fresatura a tuffo e circolare con inserti APKT e SDMT

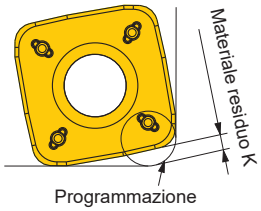
Raggio di punta programmato approx.

Inserto	ca. R [mm]	Materiale residuo K [mm]
WPGT050315ZSR	2,0	0,5
WPGT060415ZSR	2,5	0,7
WPGT080615ZSR	2,5	0,7
WPGT090725ZSR	4,5	1,2
SDMT06T208	1,6	0,5
SDMT09T312	2,5	0,87
SDMT120412	4,0	0,93
SDMT150620	4,0	1,38

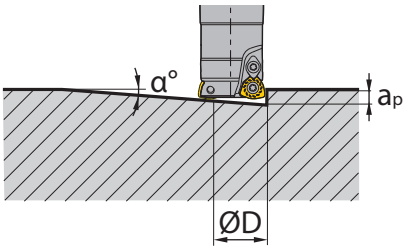
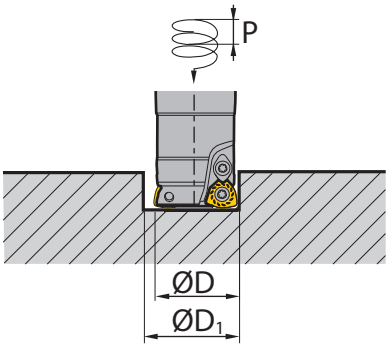
WPGT



SDMT



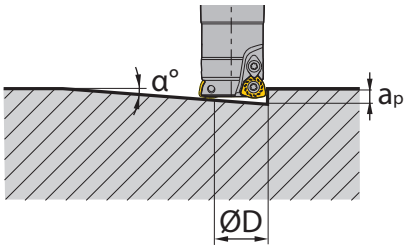
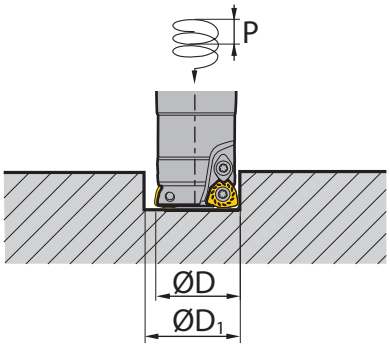
Inserto WPGT

		Fresatura a tuffo		Fresatura circolare	
		 $L_m = \frac{a_p}{\tan_\alpha}$ α: Angolo di immersione		 $P = \tan_\alpha x \pi x D_1$ α: Angolo di inclinazione dell'elica	
Inserto	Diametro ØD [mm]	Max. profondità di taglio a_p [mm]	Max. angolo di immersione α°	Diametro min. $ØD_1$ [mm]	Max. diametro [mm]
WP**05**	20	1,5	12	24	37
WP**06**	25	1,5	8,8	31	47
	32	1,5	5	45	61
	40	1,5	3,2	61	77
	50	1,5	2,8	81	97
WP**08**	40	1,5	9	52	77
	50	1,5	5,4	71	97
	63	1,5	4,3	97	123
	80	1,5	2,9	131	157
	100	1,5	2,1	171	197
	125	1,5	1,3	221	247
	160	1,5	1,1	291	317
WP**09**	50	3,0	7,2	70	96
	63	3,0	4,5	96	122
	80	3,0	2,8	130	156
	100	3,0	2,2	170	196
	125	3,0	1,6	220	246
	160	3,0	1,2	290	316

Per la fresatura a "tuffo" e circolare ridurre l'avanzamento.
Per le operazioni di foratura (assiale), impostare un avanzamento inferiore a 0,2 mm.
"Attenzione" - Durante la foratura possono prodursi trucioli lunghi.

Inserti per fresatura

Inserto SDMT

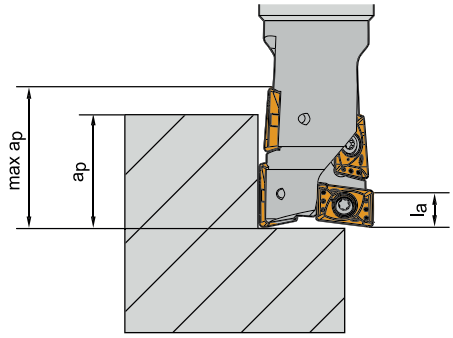
		Fresatura a tuffo		Fresatura circolare	
		 $L_m = \frac{a_p}{\tan_\alpha}$ α: Angolo di immersione		 $P = \tan_\alpha x \pi x D_1$ α: Angolo di inclinazione dell'elica	
Inserto	Diametro ØD [mm]	Max. profondità di taglio a_p [mm]	Max. angolo di immersione α°	Diametro min. $ØD_1$ [mm]	Max. diametro [mm]
SD**06**	20	0,8	3,6	30	38
	25	0,8	2,8	40	48
	32	0,8	1,6	52	60
	40	0,8	1,1	70	78
	50	0,8	0,8	90	98
	63	0,8	0,7	114	122
SD**09**	25	1,4	6,5	34	48
	32	1,4	4,5	48	62
	35	1,4	3,6	54	68
	50	1,4	1,8	84	98
	63	1,4	1,3	110	124
SD**12**	32	1,8	10,4	44	60
	40	1,8	5,7	60	76
	50	1,8	3,5	80	96
	63	1,8	2,5	106	122
	80	1,8	1,6	140	156
	100	1,8	1,2	180	196
SD**15**	40	2,2	7,3	54	76
	80	2,2	1,4	134	156
	100	2,2	1,0	174	196
	125	2,2	0,9	234	246
	160	2,2	0,6	304	316

Per la fresatura a "tuffo" e circolare ridurre l'avanzamento.
Per le operazioni di foratura (assiale), impostare un avanzamento inferiore a 0,2 mm.
"Attenzione" - Durante la foratura possono prodursi trucioli lunghi.

Inserti per fresatura

Strategie di fresatura EMP05

Fresatura a spallamento



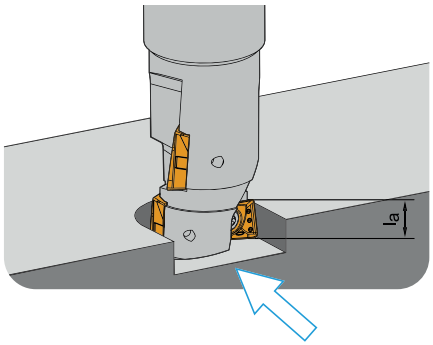
– Se la profondità di taglio è inferiore a l_a, nel processo di taglio sono coinvolti sia il tagliente sinistro che quello destro.

– Se la profondità di taglio è inferiore a l_a, nel processo di taglio è coinvolto il tagliente destro.

– Se la profondità di taglio a_p aumenta, è necessario ridurre la velocità di taglio e la velocità di avanzamento.

– Più lunga è la sporgenza della fresa, maggiore è la probabilità che si generino vibrazioni durante la lavorazione. Se si generano vibrazioni, ridurre i parametri di lavorazione fino a quando non si avverte più alcuna vibrazione.

Fresatura delle scanalature

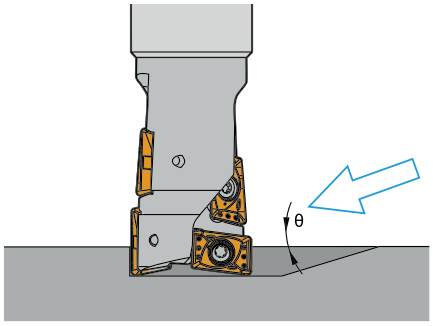


– Si consiglia di non superare la profondità di taglio per l_a fresatura delle scanalature.

– Per la fresatura delle scanalature, si consiglia di non superare il 70% della velocità di avanzamento per la fresatura a spallamento.

– Più lunga è la sporgenza della fresa, maggiore è la probabilità che si generino vibrazioni durante la lavorazione. Se si generano vibrazioni, ridurre i parametri di lavorazione fino a quando non si avverte più alcuna vibrazione.

Rampe



– È consigliabile che l'angolo di rampa non superi i 3° durante la fresatura in rampa di materiali P normali.

– Per la fresatura in rampa, si consiglia di non superare il 70% della velocità di avanzamento per la fresatura a spallamento con gli stessi parametri.

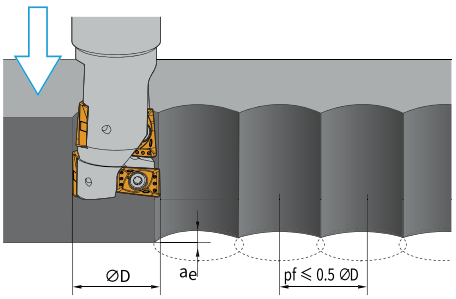
– È consigliabile che l'angolo di rampa per i materiali P con durezza superiore a HRC45 non superi 1°.

– Più lunga è la sporgenza della fresa, maggiore è la probabilità che si generino vibrazioni durante la lavorazione. Se si generano vibrazioni, ridurre i parametri di lavorazione fino a quando non si avverte più alcuna vibrazione.

Inserti per fresatura

Strategie di fresatura EMP05

Fresatura a tuffo

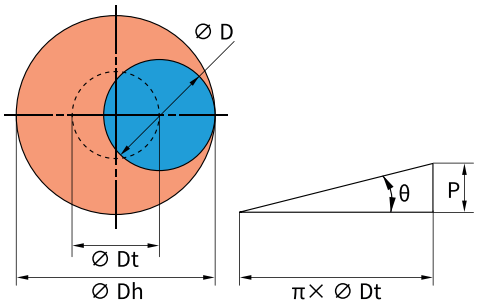


– Se si seleziona la strategia di "fresatura a tuffo", l'avanzamento deve essere da 1,5 a 1,8 volte quello della strategia di "foratura".

– Se la distanza tra i gradini è ≤ 0,5 ΦD, la larghezza di taglio radiale ae si riferisce alla tabella seguente:

ØD	Ø16	Ø20	Ø25	Ø32	Ø40	Ø50
ae	4,5	6	7,5	8,5	7,5	8,5

Fresatura con interpolazione elicoidale



– I parametri di taglio si riferiscono alla strategia di fresatura a spallamento, e la velocità di avanzamento è circa il 70% della strategia di fresatura a spallamento.

– Il diametro esterno della fresatura a spirale è da 1,2 a 1,8 volte il diametro della fresa.

– L'angolo di inclinazione si riferisce alla gamma di angoli della strategia di fresatura in rampa.

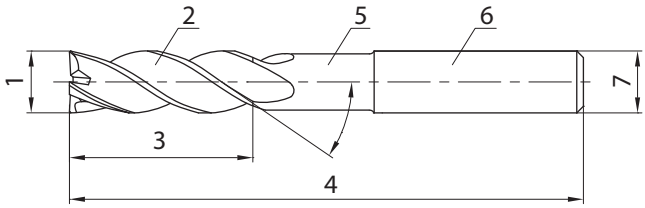
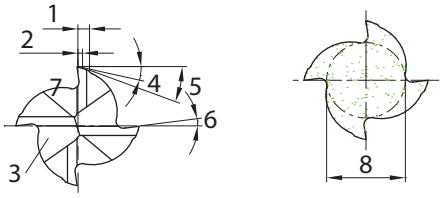
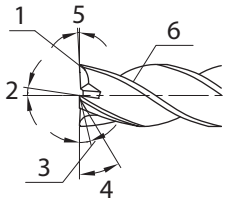
– Utilizzare aria compressa per rimuovere i trucioli dal foro lavorato.

– Il percorso del centro utensile risulta da ΦDt=ΦDh-ΦDc
Spirale utensile = 1 giro di avanzamento + angolo di rampa

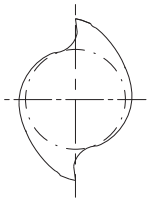
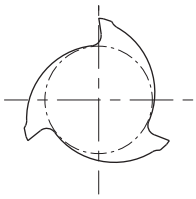
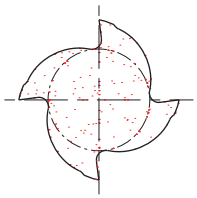
– La profondità del foro aumenta quando l'utensile ha compiuto un giro a spirale.

Frese in metallo duro integrale

Spiegazione dei termini

A		1. Diametro del tagliente 2. Tasca del truciolo 3. Lunghezza tagliente 4. Lunghezza totale 5. Collo 6. Codolo 7. Diametro stelo
B		1. Larghezza onatura, tagliente principale 2. Larghezza onatura, diametro 3. Scanalatura, frontale 4. Angolo di spoglia inferiore primario radiale 5. Angolo di spoglia inferiore secondario radiale 6. Angolo di spoglia radiale 7. Tagliente principale assiale 8. Diametro interno
C		1. Angolo esterno 2. Angolo di spoglia assiale 3. Angolo di spoglia inferiore assiale primario 4. Angolo di spoglia inferiore assiale secondario 5. Angolo d'inclinazione 6. Tagliente radiale

Denti, vano del truciolo e stabilità

Denti	2 taglienti	3 taglienti	4 taglienti
Sezione del taglio			
Percentuale tagliente	**54 %**	**56 %**	**60 %**
Vantaggi	- Tasca del truciolo grande - Buon deflusso del truciolo	- Buon deflusso del truciolo - Buona finitura superficiale	- Buona rigidità - Buona finitura superficiale
Applicazione	- Fresatura di fessure - Fresatura a spallamento - Esecuzione di fori	- Fresatura di fessure - Fresatura a spallamento - Finitura	- Fresatura di cave (piatte) - Fresatura a spallamento - Finitura

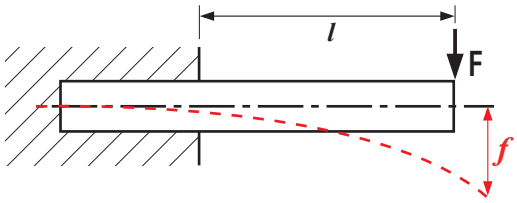
Lunghezza della sporgenza del tagliente e diametro del tagliente

Una minore sporgenza dell'utensile, si traduce in una maggiore stabilità della lavorazione.
La lavorazione può provocare flessioni dell'utensile e vibrazioni.

Incrementando la sporgenza dell'utensile del 100 %, il grado di deflessione (piegamento) viene aumentato di un fattore 8.

Riducendo la sporgenza del 20 % si riduce il grado di deflessione (piegamento) del 50 %.

Un aumento del 20 % del diametro dell'utensile riduce il grado di deflessione (piegamento) del 50 %.

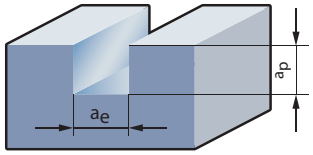


$$f = \frac{F \times l^3}{3 \times E \times I} = \frac{F \times l^3 \times 64}{3 \times E \times I}$$

Frese in metallo duro integrale

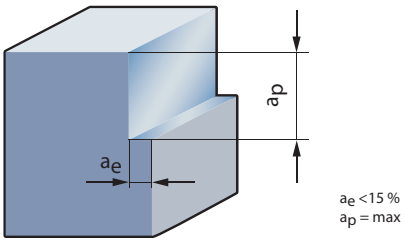
Strategie di lavorazione Frese HPC/UM (HSC)

HPC = High Performance Cutting
Sgrossatura con velocità di asportazione truciolo notevolmente maggiore a causa di velocità di taglio e avanzamento maggiori rispetto ai processi di lavorazione tradizionali.

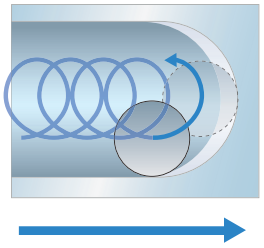


Fresature di cave dal pieno

HSC (UM) = High Speed Cutting
L'elevata velocità di taglio e velocità di avanzamento in combinazione con profondità di taglio inferiori comportano uno spessore del truciolo inferiore rispetto al taglio normale.

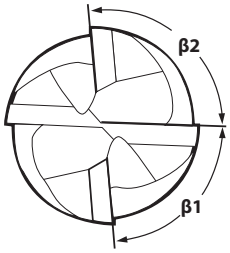


Rifilatura

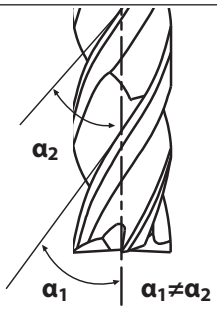


Fresatura trocoidale

La fresa UM è stata ottimizzata appositamente per la lavorazione HSC.



β1≠β2



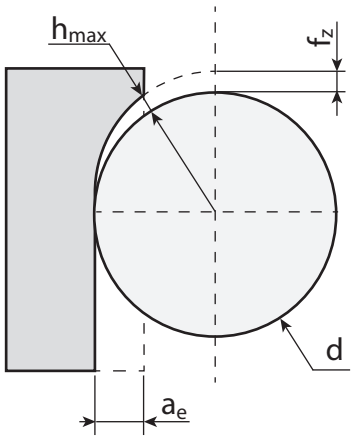
α1≠α2

Con questo utensile è possibile realizzare i massimi volumi di taglio.
Soprattutto su macchine altamente dinamiche con percorsi utensile ottimizzati questa fresa mostra tutto il suo potenziale.

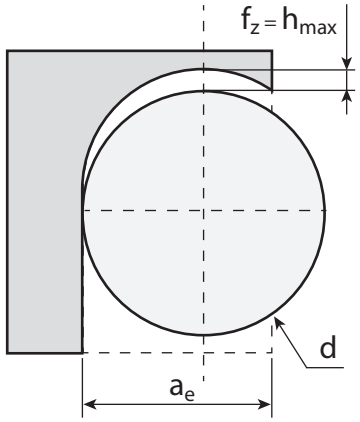
Frese in metallo duro integrale

Strategia HSC

La giusta strategia è importante. Durante la programmazione, è essenziale assicurarsi che l'avanzamento laterale sia rispettato. L'avanzamento laterale non dovrebbe normalmente superare il 15%. La profondità di incremento consente di utilizzare tutta la lunghezza del tagliente.



$a_e < d/2 \quad h_{max} < f_z$

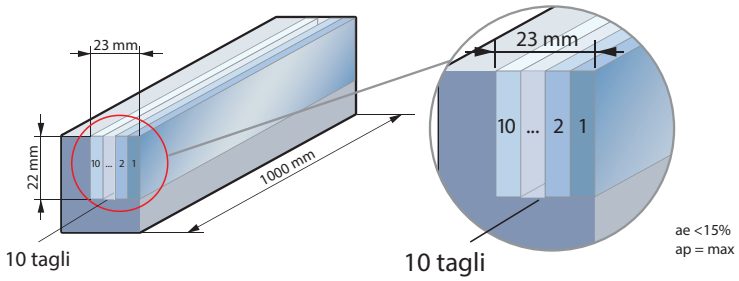


$a_e \geq d/2 \quad h_{max} = f_z$

$$h_{max} = 2f_z\sqrt{\frac{a_e}{d}\left(1-\frac{a_e}{d}\right)}$$

Quando si modifica l'avanzamento laterale, i parametri di taglio devono essere regolati.
La dimensione del calcolo è uno spessore del truciolo di circa 0,15-0,2 mm per i tipi comuni di acciaio.

Esempio

Utensile	Lavorazione
UM-4E-D20.0-W KMG405	 Strategia HSC

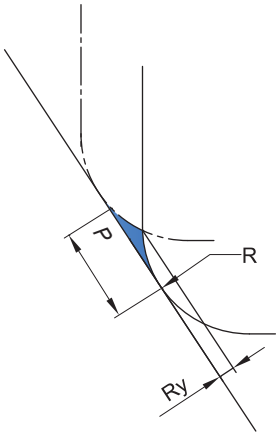
Materiale pezzo
16MnCr5 (1.7131) ca. 700 N/mm³

Dati di taglio	
V_c	550 m/min
n	8750 1/min
f_z	0,3 mm (**h_{max} = 0,19 mm**)
V_f	10500 mm/min
a_p	22 mm
a_e	2,3 mm

Risultato
Volume di materiale asportato **530 cm³/min**! tempo di lavoro 58 secondi! Spessore medio del truciolo 0,19mm.

Frese in metallo duro integrale

Valori di avanzamento per la profilatura con Frese a testa sferica e frese toroidali



$$Ry = R \times \{1 - \cos[\arcsin(fr/2R)]\}$$

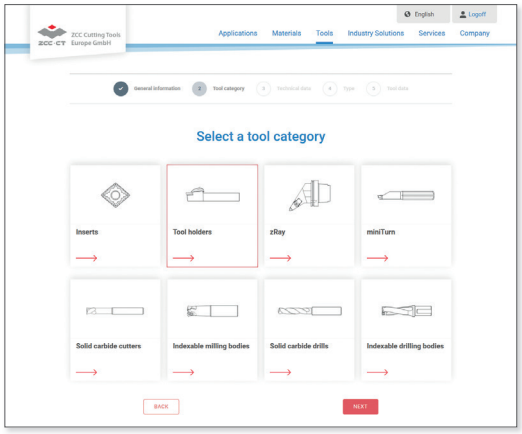
Ry: Valori teorici della qualità superficiale
P: Avanzamento
R: Raggio della fresa a testa semisferica o toroidale

R \ Ry	Avanzamento P									
	0,1	0,2	0,3	0,4	0,5	0,6	0,7	0,8	0,9	1,0
0,5	0,003	0,010	0,023	0,042	0,067	0,100				
1,0	0,001	0,005	0,011	0,020	0,032	0,046	0,063	0,083	0,107	
1,5	0,001	0,003	0,008	0,013	0,021	0,030	0,041	0,054	0,069	0,086
2,0	0,001	0,003	0,006	0,010	0,015	0,023	0,031	0,040	0,051	0,064
2,5	0,001	0,002	0,005	0,008	0,013	0,018	0,025	0,032	0,041	0,051
3,0		0,001	0,004	0,007	0,010	0,015	0,020	0,027	0,034	0,042
4,0		0,001	0,003	0,005	0,008	0,011	0,015	0,020	0,025	0,031
5,0		0,001	0,002	0,004	0,006	0,009	0,012	0,016	0,020	0,025
6,0			0,002	0,003	0,005	0,008	0,010	0,013	0,017	0,021
8,0			0,001	0,003	0,004	0,006	0,008	0,010	0,013	0,016
10,0			0,001	0,002	0,003	0,005	0,006	0,008	0,010	0,013
12,5			0,001	0,002	0,003	0,004	0,005	0,006	0,008	0,010

R \ Ry	Avanzamento P									
	1,1	1,2	1,3	1,4	1,5	1,6	1,7	1,8	1,9	2,0
0,5										
1,0										
1,5	0,104									
2,0	0,077	0,092	0,109							
2,5	0,061	0,073	0,086	0,100						
3,0	0,051	0,061	0,071	0,083	0,095	0,109				
4,0	0,038	0,045	0,053	0,062	0,071	0,081	0,091	0,103		
5,0	0,030	0,036	0,042	0,049	0,057	0,064	0,073	0,082	0,091	0,101
6,0	0,025	0,030	0,035	0,041	0,047	0,054	0,061	0,068	0,076	0,084
8,0	0,019	0,023	0,026	0,031	0,035	0,040	0,045	0,051	0,057	0,063
10,0	0,015	0,018	0,021	0,025	0,028	0,032	0,036	0,041	0,045	0,050
12,5	0,012	0,014	0,017	0,020	0,023	0,026	0,029	0,032	0,036	0,040

Andate direttamente all'utensile speciale personalizzato per operazioni di fresatura

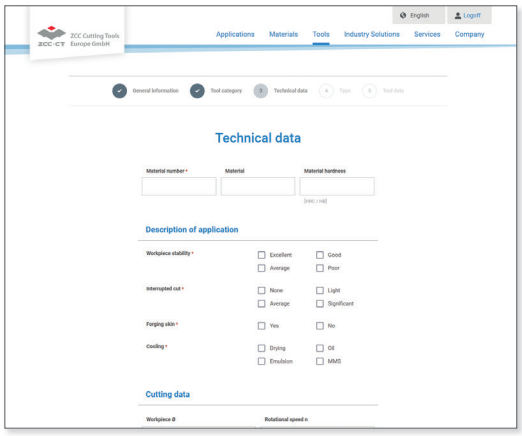
Lavorate con cicli di fresatura per cui è possibile ottenere vantaggi in termini commerciali, tecnici, logistici o di processo impiegando utensili ottimizzati su misura e specifici per le vostre esigenze? ZCC Cutting Tools Europe vi offre consulenza e supporto personali nella programmazione, implementazione e ordinazione dei prodotti. Con il nostro innovativo Onlinetool dedicato alle richieste di utensili speciali, riceverete la vostra offerta personalizzata con pochi semplici passaggi (https://www.zccct-europe.com/it/gli-utensili/gli-utensili-speciali).



Home page "Strumento online per utensili speciali" con Selezione della categoria dell'utensile

Selezione della categoria dell'utensile

Scansionando il codice QR presente nella pagina, sarete reindirizzati alla home page del nostro strumento online per la richiesta di utensili speciali e qui potrete iniziare subito con la categoria precedentemente selezionata. È semplicissimo.



Definizione dei parametri pertinenti dell'utensile

Definizione dei parametri dell'utensile

Successivamente potrete seguire comodamente la procedura. Potrete inoltre caricare parti di disegni, bozze e modelli 3D già esistenti in tutta sicurezza.

Con noi, il vostro utensile speciale è a portata di mano.
ZCC Cutting Tools Europe GmbH.

Effettuate subito l'accesso al nostro sito web per visualizzare il nuovo **Modulo per utensili speciali**.

PUNTA AD INSERTI

Punta ad inserti

Panoramica prodotti	**C2**
Panoramica rompitrucioli	**C3-C4**
Panoramica gradi	**C5-C7**
Campo di applicazione dei gradi	**C8**
Codice sistema – Corpo punta	**C9**
Corpo punta	**C10-C23**
Codice ISO – Inserti	**C24**
Inserti	**C25-C29**
Dati di taglio consigliati	**C30-C31**
Gli utensili speciali	**C206**

C

Punte ad inserti

ZD03	ZSD02	ZSD03	ZSD04	ZSD05	
16-58	15-63	15-63	15-63	15-63	Diametro
C22	C10	C13	C16	C19	Pagina

Foratura WSP

SPGT-EM	SPGT-PM	SPMX-EM	SPMX-LM	SPMX-XM	SPMX-XR	WCMX-53	WCMX-D	
05 06 07 09 11 14	05 06 07 09 11 14	05 06 07 09 11 14	05 06 07 09 11 14	05 06 07 09 11 14	05 06 07 09 11 14	03 04 05 06 08	06 08	Lunghezza tagl.
B299	B299	C26	C26	C25	C25	C28	C28	Pagina

WCMX-PG	
03 04 05 06 08	Lunghezza tagl.
C28	Pagina

Foratura

XM

P M

Geometria monolaterale per l'asportazione media. Geometria universale con un controllo del truciolo molto buono per acciaio e ghisa.

LM

P M

Geometria monolaterale per l'asportazione media. Geometria con taglio dolce per un controllo del truciolo molto buono per lavorazione di acciai dolci.

XR

P M

Geometria con taglio dolce con un ottimo controllo del truciolo per la lavorazione di acciai dolci

PM

P M K

Per la lavorazione di acciaio, acciaio inossidabile e ghise.

EM

P M S

Per la lavorazione di acciaio, acciaio inossidabile e materiali a difficile asportazione.

PG

P K

Per la lavorazione di acciaio e ghise.

Foratura

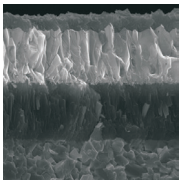
D	P	M	K

Per la lavorazione di acciaio, acciaio inossidabile e ghise.

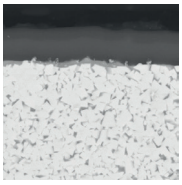
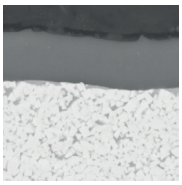
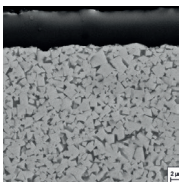
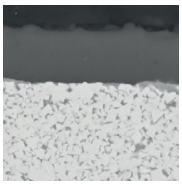
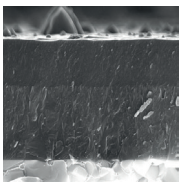
53	P	M	K	N

Per la lavorazione di acciaio, acciaio inossidabile e Metalli non ferrosi.

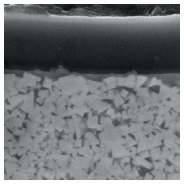
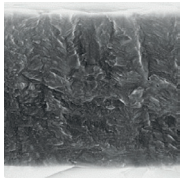
Metallo duro rivestito CVD

Grado	ISO	Microstruttura	Descrizione gradi
YB6338	P20 - P40 K20 - K40		Substrato in metallo duro rivestito in CVD P20–P40/K20–K40 per la lavorazione con velocità di taglio e avanzamento elevati di acciaio e materiali in ghisa.
YBD252	K20 - K35		Grado di metallo duro con rivestimento in CVD K20-K35 per lavorazioni da media fino alla sgrossatura di materiali in ghisa e acciaio. Elevata resistenza all´usura e alla rottura ad alte velocità di taglio.

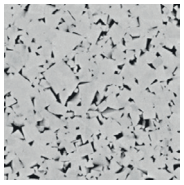
Metallo duro rivestito PVD

Grado	ISO	Microstruttura	Descrizione gradi
YBG105	S05 - S20		Grado di metallo duro con rivestimento multistrato in PVD S05-S20 adatto per lavorazioni dalla finitura all´asportazione media di superleghe ma anche di acciai inossidabili. Ottima resistenza all´usura e alla temperatura in una vasta gamma di applicazioni
YBG202	P10 - P30 M10 - M25		Grado di metallo duro con rivestimento in PVD P10–P30/M10–M25 per lavorazioni dalla finitura all'asportazione media di acciai inossidabili e acciaio (fresatura). Ottima resistenza all´usura in una vasta gamma di applicazioni.
YBS203	S15 - S25		Per la lavorazione di materiali resistenti al calore. Uno speciale substrato in metallo duro e la più recente tecnologia di rivestimento PVD consentono un'ottima resistenza all'usura, un'elevata resistenza alla rottura e un'alta stabilità termica.
YBG205	P10 - P30 M20 - M40 S15-S25		Grado di metallo duro P10 - P30/M20 - M40/S15 - S25 con rivestimento in PVD multistrato per lavorazioni che spaziano dalla finitura all'asportazione media di acciaio inossidabile, superleghe e acciaio (fresatura). Resistenza all'usura e resistenza termica ottimali in un ampio campo di applicazione.
YBG205H	P10 - P30 M20 - M40 S15 - S25		Metallo duro rivestito in PVD con rivestimento TiAlN per la finitura e la lavorazione media di acciaio, acciaio inox e materiali resistenti al calore. Il rivestimento offre elevata durezza, resistenza agli shock termici e alle cricche in un'ampia gamma di applicazioni.

Metallo duro rivestito PVD

Grado	ISO	Microstruttura	Descrizione gradi
YB9320	P10 - P30 M10 - M25		Grado di metallo duro P10 - P30/M10 - M25 con rivestimento in PVD multistrato per lavorazioni che spaziano dalla finitura all'asportazione media di acciaio inossidabile, superleghe e acciaio (scanalatura/fresatura). Resistenza all'usura ottimale grazie al
YBG212	P25 - P35 M25-M40		Grado di metallo duro con rivestimento in PVD P25–P35/M25–M40 per la lavorazione di acciaio e acciaio inossidabile. Particolarmente adatto come inserto di centraggio per la foratura.

Metallo duro non rivestito

Grado	ISO	Microstruttura	Descrizione gradi
YD201	K10 - K30 N10 - N30		Substrato in metallo duro non rivestito K10–K30/N10–N30 per l´asportazione media di alluminio e altri materiali.

Note

Campi di applicazione dei gradi – punta ad inserti

	ISO	HC[1] (CVD)	HC[1] (PVD)	HT	HW	PCBN & PCD
P	P01					
	P10	YBD252, YB6338	YBG202, YBG205(H), YBG212			
	P20					
	P30					
	P40					
M	M01					
	M10		YBG202, YB9320, YBG205(H), YBS203, YBG212			
	M20					
	M30					
	M40					
K	K01					
	K10	YBD252, YB6338	YBG202, YBG205(H), YBG212			
	K20					
	K30					
	K40					
N	N01					
	N10				YD201	
	N20					
	N30					
S	S01					
	S10		YBG202, YB9320, YBG205(H), YBS203, YBG212			
	S20					
	S30					
H	H01					
	H10					
	H20					
	H30					

P	Acciaio	N	Metalli non ferrosi
M	Acciaio inossidabile	S	Materiali a difficile asportazione
K	Ghisa	H	Materiali ad elevata durezza

HC[1] Carburo cementato rivestito
HT Cermet non rivestito
HW Metallo duro non rivestito

Punta ad inserti

ZSD	–	03	300	–	XP	–	32	S	P	09	–	02
1		2	3		4		5	6	7	8		9

Versione	
Code	Descrizione
ZSD	Punte ad inserti (SPMX*)
ZTD	Punte ad inserti (SPGT*)
ZD	Punte ad inserti (WCMX*)

1

Rapporto L/D	
Code	Descrizione
02	2 x D
03	3 x D
04	4 x D
05	5 x D

2

Diametro [mm]	
Code	Descrizione
130	13
...	

3

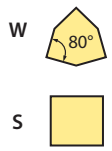
Versione del codolo	
Code	Descrizione
XP	Stelo Weldon

4

Diametro accoppiamento [mm]

5

Forma dell'inserto



6

Angolo di spoglia inferiore	
Code	Descrizione
C	7°
P	11°

7

Lunghezza tagliente [mm]		
Code	Forma dell'inserto	
	W	S
03	3,8	
04	4,3	
05	5,4	5
06	6,5	6
08	8,7	7,94
09		9,8
11		11,5
12		12,7
14		14,3

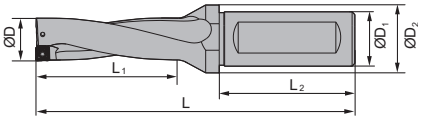
8

Numero di denti

9

Punta ad inserti

ZSD02



Articolo	✻	Stock	Dimensioni [mm]							Inserto
			ØD	ØD1	ØD2	L1	L2	L	kg	
ZSD02-150-XP20-SP05-02	✻	•	15	20	25	33	50	100	0,179	SPMX050204**
ZSD02-155-XP20-SP05-02	✻	•	15,5	20	25	34	50	101	0,185	SPMX050204**
ZSD02-160-XP20-SP05-02	✻	•	16	20	25	35	50	102	0,189	SPMX050204**
ZSD02-165-XP20-SP05-02	✻	•	16,5	20	25	36	50	103	0,193	SPMX050204**
ZSD02-170-XP20-SP05-02	✻	•	17	20	25	37	50	104	0,201	SPMX050204**
ZSD02-175-XP20-SP05-02	✻	•	17,5	20	25	38	50	105	0,207	SPMX050204**
ZSD02-180-XP25-SP06-02	✻	•	18	25	32	39	56	113	0,304	SPMX060204**
ZSD02-185-XP25-SP06-02	✻	•	18,5	25	32	40	56	114	0,308	SPMX060204**
ZSD02-190-XP25-SP06-02	✻	•	19	25	32	41	56	115	0,313	SPMX060204**
ZSD02-195-XP25-SP06-02	✻	•	19,5	25	32	42	56	116	0,317	SPMX060204**
ZSD02-200-XP25-SP06-02	✻	•	20	25	32	43	56	117	0,323	SPMX060204**
ZSD02-205-XP25-SP06-02	✻	•	20,5	25	32	44	56	118	0,327	SPMX060204**
ZSD02-210-XP25-SP06-02	✻	•	21	25	32	45	56	119	0,33	SPMX060204**
ZSD02-215-XP25-SP06-02	✻	•	21,5	25	32	46	56	120	0,341	SPMX060204**
ZSD02-220-XP25-SP06-02	✻	•	22	25	32	47	56	121	0,346	SPMX060204**
ZSD02-225-XP25-SP07-02	✻	•	22,5	25	32	48	56	122	0,34	SPMX07T308**
ZSD02-230-XP25-SP07-02	✻	•	23	25	32	49	56	123	0,348	SPMX07T308**
ZSD02-235-XP25-SP07-02	✻	•	23,5	25	32	50	56	124	0,353	SPMX07T308**
ZSD02-240-XP25-SP07-02	✻	•	24	25	32	51	56	125	0,36	SPMX07T308**
ZSD02-245-XP25-SP07-02	✻	•	24,5	25	32	52	56	126	0,367	SPMX07T308**
ZSD02-250-XP25-SP07-02	✻	•	25	25	32	53	56	127	0,373	SPMX07T308**
ZSD02-255-XP25-SP07-02	✻	•	25,5	25	32	54	56	128	0,382	SPMX07T308**
ZSD02-260-XP25-SP07-02	✻	•	26	25	32	55	56	129	0,391	SPMX07T308**
ZSD02-265-XP25-SP07-02	✻	○	26,5	25	32	56	56	130	0,4	SPMX07T308**
ZSD02-270-XP25-SP07-02	✻	•	27	25	32	57	56	131	0,409	SPMX07T308**
ZSD02-275-XP25-SP07-02	✻	•	27,5	25	32	58	56	132	0,418	SPMX07T308**
ZSD02-280-XP32-SP09-02	✻	•	28	32	37	59	60	139	0,599	SPMX090408**
ZSD02-285-XP32-SP09-02	✻	○	28,5	32	37	60	60	140	0,61	SPMX090408**
ZSD02-290-XP32-SP09-02	✻	•	29	32	37	60	60	141	0,619	SPMX090408**
ZSD02-295-XP32-SP09-02	✻	○	29,5	32	37	62	60	142	0,629	SPMX090408**
ZSD02-300-XP32-SP09-02	✻	•	30	32	37	61	60	143	0,64	SPMX090408**
ZSD02-305-XP32-SP09-02	✻	○	30,5	32	37	64	60	144	0,651	SPMX090408**
ZSD02-310-XP32-SP09-02	✻	•	31	32	37	65	60	145	0,663	SPMX090408**

• In magazzino ○ Su richiesta

✻ Raffreddamento interno

Codice sistema C9 | Scelta gradi C8 | Informazioni tecniche C193 | Dati di taglio C30

Articolo	✻	Stock	Dimensioni [mm]							Inserto
			ØD	ØD1	ØD2	L1	L2	L	kg	
ZSD02-315-XP32-SP09-02	✻	○	31,5	32	37	66	60	146	0,674	SPMX090408**
ZSD02-320-XP32-SP09-02	✻	●	32	32	37	67	60	147	0,687	SPMX090408**
ZSD02-325-XP32-SP09-02	✻	○	32,5	32	37	68	60	148	0,7	SPMX090408**
ZSD02-330-XP32-SP09-02	✻	●	33	32	37	69	60	149	0,713	SPMX090408**
ZSD02-335-XP32-SP09-02	✻	○	33,5	32	37	70	60	150	0,727	SPMX090408**
ZSD02-340-XP40-SP11-02	✻	●	34	40	47	71	70	166	1,101	SPMX110408**
ZSD02-350-XP40-SP11-02	✻	●	35	40	47	73	70	168	1,136	SPMX110408**
ZSD02-360-XP40-SP11-02	✻	●	36	40	47	75	70	170	1,166	SPMX110408**
ZSD02-370-XP40-SP11-02	✻	●	37	40	47	77	70	172	1,202	SPMX110408**
ZSD02-380-XP40-SP11-02	✻	●	38	40	47	79	70	174	1,235	SPMX110408**
ZSD02-390-XP40-SP11-02	✻	●	39	40	47	81	70	176	1,271	SPMX110408**
ZSD02-400-XP40-SP11-02	✻	●	40	40	47	83	70	178	1,311	SPMX110408**
ZSD02-410-XP40-SP11-02	✻	●	41	40	47	85	70	180	1,347	SPMX110408**
ZSD02-420-XP40-SP11-02	✻	○	42	40	52	87	70	189	1,491	SPMX110408**
ZSD02-430-XP40-SP14-02	✻	○	43	40	52	89	70	191	1,496	SPMX140512**
ZSD02-440-XP40-SP14-02	✻	○	44	40	52	91	70	193	1,499	SPMX140512**
ZSD02-450-XP40-SP14-02	✻	○	45	40	52	93	70	195	1,535	SPMX140512**
ZSD02-460-XP40-SP14-02	✻	○	46	40	52	95	70	197	1,562	SPMX140512**
ZSD02-470-XP40-SP14-02	✻	○	47	40	52	97	70	199	1,644	SPMX140512**
ZSD02-480-XP40-SP14-02	✻	○	48	40	52	99	70	201	1,697	SPMX140512**
ZSD02-490-XP40-SP14-02	✻	○	49	40	52	102	70	203	1,757	SPMX140512**
ZSD02-500-XP40-SP14-02	✻	○	50	40	52	103	70	205	1,817	SPMX140512**
ZSD02-510-XP50-SP14-02	✻	○	51	50	57	105	80	217	2,46	SPMX140512**
ZSD02-520-XP50-SP14-02	✻	○	52	50	57	107	80	219	2,527	SPMX140512**
ZSD02-530-XP50-SP14-02	✻	○	53	50	57	109	80	221	2,594	SPMX140512**
ZSD02-540-XP50-SP09-04	✻	○	54	50	57	111	80	223	2,612	SPMX090408**
ZSD02-550-XP50-SP09-04	✻	○	55	50	57	113	80	225	2,673	SPMX090408**
ZSD02-560-XP50-SP09-04	✻	○	56	50	57	115	80	227	2,747	SPMX090408**
ZSD02-570-XP50-SP09-04	✻	○	57	50	57	117	80	229	2,816	SPMX090408**
ZSD02-580-XP50-SP09-04	✻	○	58	50	57	119	80	231	2,889	SPMX090408**
ZSD02-590-XP50-SP09-04	✻	○	59	50	57	121	80	233	2,967	SPMX090408**
ZSD02-600-XP50-SP09-04	✻	○	60	50	57	123	80	235	3,115	SPMX090408**
ZSD02-610-XP50-SP09-04	✻	○	61	50	57	125	80	237	3,195	SPMX090408**
ZSD02-620-XP50-SP09-04	✻	○	62	50	57	127	80	239	3,285	SPMX090408**
ZSD02-630-XP50-SP09-04	✻	○	63	50	57	129	80	241	3,368	SPMX090408**

● In magazzino ○ Su richiesta

✻ Raffreddamento interno

Parti di ricambio

	Inserto	**SPMX050204****	**SPMX060204****	**SPMX07T308****	**SPMX090408****	**SPMX110408****	**SPMX140512****
	Vite	I60M2×4.3 (0,5Nm)	I60M2.2×5.5 (0,8Nm)	I60M2.5×6.5 (1,0Nm)	I60M3.5×8 (2,7Nm)	I60M4×10 (3,4Nm)	I60M5×13 (6,7Nm)
	Chiave	WT06IP	WT07IP	WT07IP	WT15IP	WT15IP	WT20IP

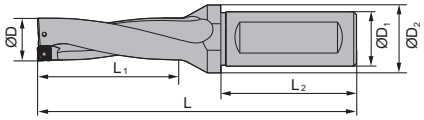
Codice sistema C9 Scelta gradi C8 Informazioni tecniche C193 Dati di taglio C30

Inserto
C26

Codice sistema C9 | Scelta gradi C8 | Informazioni tecniche C193 | Dati di taglio C30

Punta ad inserti

ZSD03



Articolo	✻	Stock	Dimensioni [mm]							Inserto
			ØD	ØD1	ØD2	L1	L2	L	kg	
ZSD03-150-XP20-SP05-02	✻	•	15	20	25	48	50	114	0,189	SPMX050204**
ZSD03-155-XP20-SP05-02	✻	•	15,5	20	25	50	50	116	0,192	SPMX050204**
ZSD03-160-XP20-SP05-02	✻	•	16	20	25	51	50	117	0,201	SPMX050204**
ZSD03-165-XP20-SP05-02	✻	•	16,5	20	25	53	50	119	0,203	SPMX050204**
ZSD03-170-XP20-SP05-02	✻	•	17	20	25	54	50	120	0,205	SPMX050204**
ZSD03-175-XP20-SP05-02	✻	•	17,5	20	25	56	50	122	0,206	SPMX050204**
ZSD03-180-XP25-SP06-02	✻	•	18	25	32	57	56	131	0,319	SPMX060204**
ZSD03-185-XP25-SP06-02	✻	•	18,5	25	32	59	56	133	0,326	SPMX060204**
ZSD03-190-XP25-SP06-02	✻	•	19	25	32	60	56	134	0,332	SPMX060204**
ZSD03-195-XP25-SP06-02	✻	•	19,5	25	32	62	56	136	0,339	SPMX060204**
ZSD03-200-XP25-SP06-02	✻	•	20	25	32	63	56	137	0,344	SPMX060204**
ZSD03-205-XP25-SP06-02	✻	•	20,5	25	32	65	56	139	0,352	SPMX060204**
ZSD03-210-XP25-SP06-02	✻	•	21	25	32	66	56	140	0,368	SPMX060204**
ZSD03-215-XP25-SP06-02	✻	•	21,5	25	32	68	56	142	0,37	SPMX060204**
ZSD03-220-XP25-SP06-02	✻	•	22	25	32	69	56	143	0,375	SPMX060204**
ZSD03-225-XP25-SP07-02	✻	•	22,5	25	32	71	56	145	0,397	SPMX07T308**
ZSD03-230-XP25-SP07-02	✻	•	23	25	32	72	56	147	0,383	SPMX07T308**
ZSD03-235-XP25-SP07-02	✻	•	23,5	25	32	74	56	149	0,395	SPMX07T308**
ZSD03-240-XP25-SP07-02	✻	•	24	25	32	75	56	150	0,406	SPMX07T308**
ZSD03-245-XP25-SP07-02	✻	•	24,5	25	32	77	56	152	0,423	SPMX07T308**
ZSD03-250-XP25-SP07-02	✻	•	25	25	32	78	56	153	0,431	SPMX07T308**
ZSD03-255-XP25-SP07-02	✻	•	25,5	25	32	80	56	155	0,44	SPMX07T308**
ZSD03-260-XP25-SP07-02	✻	•	26	25	32	81	56	156	0,453	SPMX07T308**
ZSD03-265-XP25-SP07-02	✻	•	26,5	25	32	83	56	158	0,467	SPMX07T308**
ZSD03-270-XP25-SP07-02	✻	•	27	25	32	84	56	160	0,504	SPMX07T308**
ZSD03-275-XP25-SP07-02	✻	•	27,5	25	32	86	56	162	0,682	SPMX07T308**
ZSD03-280-XP32-SP09-02	✻	•	28	32	37	87	60	169	0,707	SPMX090408**
ZSD03-285-XP32-SP09-02	✻	○	28,5	32	37	89	60	171	0,689	SPMX090408**
ZSD03-290-XP32-SP09-02	✻	•	29	32	37	90	60	172	0,739	SPMX090408**
ZSD03-295-XP32-SP09-02	✻	○	29,5	32	37	92	60	174	0,72	SPMX090408**
ZSD03-300-XP32-SP09-02	✻	•	30	32	37	93	60	175	0,754	SPMX090408**
ZSD03-305-XP32-SP09-02	✻	•	30,5	32	37	95	60	177	0,754	SPMX090408**
ZSD03-310-XP32-SP09-02	✻	•	31	32	37	96	60	178	0,771	SPMX090408**

• In magazzino ○ Su richiesta

✻ Raffreddamento interno

Codice sistema C9 | Scelta gradi C8 | Informazioni tecniche C193 | Dati di taglio C30

Punta ad inserti Corpo punta

Articolo	✻	Stock	Dimensioni [mm] ØD	ØD1	ØD2	L1	L2	L	kg	Inserto
ZSD03-315-XP32-SP09-02	✻	○	31,5	32	37	98	60	180	0,788	SPMX090408**
ZSD03-318-XP32-SP09-02	✻	○	31,8	32	37	98	60	180	0,768	SPMX090408**
ZSD03-320-XP32-SP09-02	✻	●	32	32	37	99	60	181	0,806	SPMX090408**
ZSD03-325-XP32-SP09-02	✻	○	32,5	32	37	101	60	183	0,825	SPMX090408**
ZSD03-330-XP32-SP09-02	✻	●	33	32	37	102	60	184	0,847	SPMX090408**
ZSD03-340-XP40-SP11-02	✻	●	34	40	47	105	70	200	1,208	SPMX110408**
ZSD03-350-XP40-SP11-02	✻	●	35	40	47	108	70	203	1,248	SPMX110408**
ZSD03-360-XP40-SP11-02	✻	●	36	40	47	111	70	206	1,302	SPMX110408**
ZSD03-370-XP40-SP11-02	✻	●	37	40	47	114	70	209	1,341	SPMX110408**
ZSD03-375-XP40-SP11-02	✻	○	37,5	40	47	116	70	211	1,475	SPMX110408**
ZSD03-380-XP40-SP11-02	✻	●	38	40	47	117	70	212	1,395	SPMX110408**
ZSD03-385-XP40-SP11-02	✻	○	38,5	40	47	119	70	214	1,42	SPMX110408**
ZSD03-390-XP40-SP11-02	✻	●	39	40	47	120	70	215	1,447	SPMX110408**
ZSD03-400-XP40-SP11-02	✻	●	40	40	47	123	70	218	1,505	SPMX110408**
ZSD03-410-XP40-SP11-02	✻	●	41	40	47	126	70	221	1,549	SPMX110408**
ZSD03-420-XP40-SP11-02	✻	○	42	40	52	129	70	231	1,716	SPMX110408**
ZSD03-430-XP40-SP14-02	✻	●	43	40	52	132	70	234	1,656	SPMX140512**
ZSD03-440-XP40-SP14-02	✻	○	44	40	52	135	70	237	1,708	SPMX140512**
ZSD03-450-XP40-SP14-02	✻	○	45	40	52	138	70	240	1,776	SPMX140512**
ZSD03-460-XP40-SP14-02	✻	○	46	40	52	141	70	243	1,851	SPMX140512**
ZSD03-470-XP40-SP14-02	✻	○	47	40	52	144	70	245	1,924	SPMX140512**
ZSD03-478-XP32-SP14-02	✻	○	47,8	40	52	146	70	248	1,986	SPMX140512**
ZSD03-480-XP40-SP14-02	✻	○	48	40	52	147	70	249	2,003	SPMX140512**
ZSD03-490-XP40-SP14-02	✻	○	49	40	52	150	70	252	2,094	SPMX140512**
ZSD03-500-XP40-SP14-02	✻	○	50	40	52	153	70	255	2,184	SPMX140512**
ZSD03-510-XP50-SP14-02	✻	○	51	50	57	156	80	268	2,882	SPMX140512**
ZSD03-520-XP50-SP14-02	✻	○	52	50	57	159	80	271	2,974	SPMX140512**
ZSD03-530-XP50-SP14-02	✻	○	53	50	57	162	80	274	3,071	SPMX140512**
ZSD03-540-XP50-SP09-04	✻	○	54	50	57	165	80	277	3,116	SPMX090408**
ZSD03-550-XP50-SP09-04	✻	○	55	50	57	168	80	280	3,208	SPMX090408**
ZSD03-560-XP50-SP09-04	✻	○	56	50	57	171	80	283	3,315	SPMX090408**
ZSD03-570-XP50-SP09-04	✻	○	57	50	57	174	80	286	3,499	SPMX090408**
ZSD03-580-XP50-SP09-04	✻	○	58	50	57	177	80	289	3,53	SPMX090408**
ZSD03-590-XP50-SP09-04	✻	○	59	50	57	180	80	292	3,649	SPMX090408**
ZSD03-600-XP50-SP09-04	✻	○	60	50	57	183	80	295	3,838	SPMX090408**
ZSD03-610-XP50-SP09-04	✻	○	61	50	57	186	80	298	3,961	SPMX090408**
ZSD03-620-XP50-SP09-04	✻	○	62	50	57	189	80	301	4,103	SPMX090408**
ZSD03-630-XP50-SP09-04	✻	○	63	50	57	192	80	304	4,238	SPMX090408**

● In magazzino ○ Su richiesta

✻ Raffreddamento interno

Parti di ricambio

	Inserto	SPMX050204**	SPMX060204**	SPMX07T308**	SPMX090408**	SPMX110408**	SPMX140512**
	Vite	I60M2×4.3 (0,5Nm)	I60M2.2×5.5 (0,8Nm)	I60M2.5×6.5 (1,0Nm)	I60M3.5×8 (2,7Nm)	I60M4×10 (3,4Nm)	I60M5×13 (6,7Nm)
	Chiave	WT06IP	WT07IP	WT07IP	WT15IP	WT15IP	WT20IP

Codice sistema C9 Scelta gradi C8 Informazioni tecniche C193 Dati di taglio C30

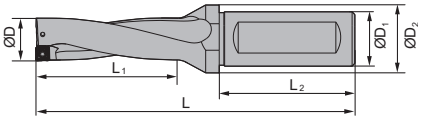
Inserto
C26

A Tornitura
B Fresatura
C Foratura
D Informazioni tecniche
E Indice

Codice sistema C9 | Scelta gradi C8 | Informazioni tecniche C193 | Dati di taglio C30

Punta ad inserti

ZSD04



Articolo	✻	Stock	Dimensioni [mm]							Inserto
			ØD	ØD1	ØD2	L1	L2	L	kg	
ZSD04-150-XP20-SP05-02	✻	•	15	20	25	63	50	129	0,2	SPMX050204**
ZSD04-155-XP20-SP05-02	✻	•	15,5	20	25	65	50	131	0,203	SPMX050204**
ZSD04-160-XP20-SP05-02	✻	•	16	20	25	67	50	133	0,207	SPMX050204**
ZSD04-165-XP20-SP05-02	✻	•	16,5	20	25	69	50	135	0,214	SPMX050204**
ZSD04-170-XP20-SP05-02	✻	•	17	20	25	71	50	137	0,218	SPMX050204**
ZSD04-175-XP20-SP05-02	✻	•	17,5	20	25	73	50	139	0,222	SPMX050204**
ZSD04-180-XP25-SP06-02	✻	•	18	25	32	75	56	149	0,34	SPMX060204**
ZSD04-185-XP25-SP06-02	✻	•	18,5	25	32	77	56	151	0,341	SPMX060204**
ZSD04-190-XP25-SP06-02	✻	•	19	25	32	79	56	153	0,369	SPMX060204**
ZSD04-195-XP25-SP06-02	✻	•	19,5	25	32	81	56	155	0,382	SPMX060204**
ZSD04-200-XP25-SP06-02	✻	•	20	25	32	83	56	157	0,367	SPMX060204**
ZSD04-205-XP25-SP06-02	✻	•	20,5	25	32	85	56	159	0,37	SPMX060204**
ZSD04-210-XP25-SP06-02	✻	•	21	25	32	87	56	161	0,413	SPMX060204**
ZSD04-215-XP25-SP06-02	✻	•	21,5	25	32	89	56	163	0,426	SPMX060204**
ZSD04-220-XP25-SP06-02	✻	•	22	25	32	91	56	165	0,441	SPMX060204**
ZSD04-225-XP25-SP07-02	✻	•	22,5	25	32	93	56	167	0,407	SPMX07T308**
ZSD04-230-XP25-SP07-02	✻	•	23	25	32	95	56	170	0,421	SPMX07T308**
ZSD04-235-XP25-SP07-02	✻	•	23,5	25	32	97	56	172	0,483	SPMX07T308**
ZSD04-240-XP25-SP07-02	✻	•	24	25	32	99	56	174	0,502	SPMX07T308**
ZSD04-245-XP25-SP07-02	✻	•	24,5	25	32	101	56	176	0,517	SPMX07T308**
ZSD04-250-XP25-SP07-02	✻	•	25	25	32	103	56	178	0,52	SPMX07T308**
ZSD04-255-XP25-SP07-02	✻	•	25,5	25	32	105	56	181	0,5	SPMX07T308**
ZSD04-260-XP25-SP07-02	✻	•	26	25	32	107	56	182	0,512	SPMX07T308**
ZSD04-265-XP25-SP07-02	✻	•	26,5	25	32	109	56	184	0,52	SPMX07T308**
ZSD04-270-XP25-SP07-02	✻	•	27	25	32	111	56	187	0,617	SPMX07T308**
ZSD04-275-XP25-SP07-02	✻	•	27,5	25	32	113	56	190	0,642	SPMX07T308**
ZSD04-280-XP32-SP09-02	✻	○	28	32	37	115	60	199	0,748	SPMX090408**
ZSD04-285-XP32-SP09-02	✻	○	28,5	32	37	117	60	201	0,81	SPMX090408**
ZSD04-290-XP32-SP09-02	✻	•	29	32	37	119	60	203	0,793	SPMX090408**
ZSD04-295-XP32-SP09-02	✻	○	29,5	32	37	121	60	205	0,883	SPMX090408**
ZSD04-300-XP32-SP09-02	✻	•	30	32	37	123	60	207	0,832	SPMX090408**
ZSD04-305-XP32-SP09-02	✻	•	30,5	32	37	125	60	209	0,854	SPMX090408**
ZSD04-310-XP32-SP09-02	✻	•	31	32	37	127	60	211	0,872	SPMX090408**

• In magazzino ○ Su richiesta

✻ Raffreddamento interno

Codice sistema C9 | Scelta gradi C8 | Informazioni tecniche C193 | Dati di taglio C30

Articolo	✻	Stock	Dimensioni [mm]							Inserto
			ØD	ØD1	ØD2	L1	L2	L	kg	
ZSD04-315-XP32-SP09-02	✻	○	31,5	32	37	129	60	213	0,894	SPMX090408**
ZSD04-320-XP32-SP09-02	✻	•	32	32	37	131	60	215	0,922	SPMX090408**
ZSD04-325-XP32-SP09-02	✻	○	32,5	32	37	133	60	217	0,946	SPMX090408**
ZSD04-330-XP32-SP09-02	✻	•	33	32	37	135	60	219	0,973	SPMX090408**
ZSD04-335-XP32-SP09-02	✻	○	33,5	32	37	137	60	221	1	SPMX090408**
ZSD04-340-XP40-SP11-02	✻	•	34	40	47	139	70	234	1,326	SPMX110408**
ZSD04-350-XP40-SP11-02	✻	•	35	40	47	143	70	238	1,384	SPMX110408**
ZSD04-360-XP40-SP11-02	✻	•	36	40	47	147	70	242	1,445	SPMX110408**
ZSD04-370-XP40-SP11-02	✻	•	37	40	47	151	70	246	1,499	SPMX110408**
ZSD04-380-XP40-SP11-02	✻	•	38	40	47	155	70	250	1,563	SPMX110408**
ZSD04-390-XP40-SP11-02	✻	•	39	40	47	159	70	254	1,629	SPMX110408**
ZSD04-400-XP40-SP11-02	✻	•	40	40	47	163	70	258	1,697	SPMX110408**
ZSD04-405-XP40-SP11-02	✻	•	40,5	40	47	165	70	260	1,737	SPMX110408**
ZSD04-410-XP40-SP11-02	✻	•	41	40	47	167	70	262	1,775	SPMX110408**
ZSD04-420-XP40-SP11-02	✻	○	42	40	52	171	70	273	1,948	SPMX110408**
ZSD04-430-XP40-SP14-02	✻	○	43	40	52	175	70	277	1,952	SPMX140512**
ZSD04-440-XP40-SP14-02	✻	○	44	40	52	179	70	281	1,962	SPMX140512**
ZSD04-450-XP40-SP14-02	✻	○	45	40	52	183	70	285	2,06	SPMX140512**
ZSD04-460-XP40-SP14-02	✻	○	46	40	52	187	70	289	2,157	SPMX140512**
ZSD04-470-XP40-SP14-02	✻	•	47	40	52	191	70	293	2,256	SPMX140512**
ZSD04-480-XP40-SP14-02	✻	○	48	40	52	195	70	297	2,361	SPMX140512**
ZSD04-490-XP40-SP14-02	✻	○	49	40	52	199	70	301	2,489	SPMX140512**
ZSD04-500-XP40-SP14-02	✻	○	50	40	52	203	70	305	2,589	SPMX140512**
ZSD04-510-XP50-SP14-02	✻	○	51	50	57	207	80	319	3,292	SPMX140512**
ZSD04-520-XP50-SP14-02	✻	○	52	50	57	211	80	323	3,435	SPMX140512**
ZSD04-530-XP50-SP14-02	✻	○	53	50	57	215	80	327	3,574	SPMX140512**
ZSD04-540-XP50-SP09-04	✻	○	54	50	57	219	80	331	3,604	SPMX090408**
ZSD04-550-XP50-SP09-04	✻	○	55	50	57	223	80	335	3,731	SPMX090408**
ZSD04-560-XP50-SP09-04	✻	○	56	50	57	227	80	339	3,868	SPMX090408**
ZSD04-570-XP50-SP09-04	✻	○	57	50	57	231	80	343	4,01	SPMX090408**
ZSD04-580-XP50-SP09-04	✻	○	58	50	57	235	80	347	4,156	SPMX090408**
ZSD04-590-XP50-SP09-04	✻	○	59	50	57	239	80	351	4,312	SPMX090408**
ZSD04-600-XP50-SP09-04	✻	○	60	50	57	243	80	355	4,558	SPMX090408**
ZSD04-610-XP50-SP09-04	✻	○	61	50	57	247	80	359	4,72	SPMX090408**
ZSD04-620-XP50-SP09-04	✻	○	62	50	57	251	80	363	4,886	SPMX090408**
ZSD04-630-XP50-SP09-04	✻	○	63	50	57	255	80	367	5,068	SPMX090408**

• In magazzino ○ Su richiesta

✻ Raffreddamento interno

Parti di ricambio

	Inserto	SPMX050204**	SPMX060204**	SPMX07T308**	SPMX090408**	SPMX110408**	SPMX140512**
	Vite	I60M2×4.3 (0,5Nm)	I60M2.2×5.5 (0,8Nm)	I60M2.5×6.5 (1,0Nm)	I60M3.5×8 (2,7Nm)	I60M4×10 (3,4Nm)	I60M5×13 (6,7Nm)
	Chiave	WT06IP	WT07IP	WT07IP	WT15IP	WT15IP	WT20IP

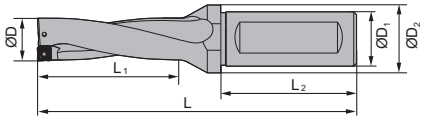
Codice sistema C9 Scelta gradi C8 Informazioni tecniche C193 Dati di taglio C30

Inserto
C26

Codice sistema C9 | Scelta gradi C8 | Informazioni tecniche C193 | Dati di taglio C30

Punta ad inserti

ZSD05



Articolo	✻	Stock	Dimensioni [mm]							Inserto
			ØD	ØD1	ØD2	L1	L2	L	kg	
ZSD05-150-XP20-SP05-02	✻	•	15	20	25	78	50	144	0,206	SPMX050204**
ZSD05-155-XP20-SP05-02	✻	•	15,5	20	25	81	50	147	0,214	SPMX050204**
ZSD05-160-XP20-SP05-02	✻	•	16	20	25	83	50	149	0,219	SPMX050204**
ZSD05-165-XP20-SP05-02	✻	•	16,5	20	25	86	50	152	0,223	SPMX050204**
ZSD05-170-XP20-SP05-02	✻	•	17	20	25	88	50	154	0,23	SPMX050204**
ZSD05-175-XP20-SP05-02	✻	•	17,5	20	25	91	50	157	0,239	SPMX050204**
ZSD05-180-XP25-SP06-02	✻	•	18	25	32	93	56	167	0,355	SPMX060204**
ZSD05-185-XP25-SP06-02	✻	•	18,5	25	32	96	56	170	0,36	SPMX060204**
ZSD05-190-XP25-SP06-02	✻	•	19	25	32	98	56	172	0,369	SPMX060204**
ZSD05-195-XP25-SP06-02	✻	•	19,5	25	32	101	56	175	0,382	SPMX060204**
ZSD05-200-XP25-SP06-02	✻	•	20	25	32	103	56	177	0,39	SPMX060204**
ZSD05-205-XP25-SP06-02	✻	•	20,5	25	32	106	56	180	0,401	SPMX060204**
ZSD05-210-XP25-SP06-02	✻	•	21	25	32	108	56	182	0,413	SPMX060204**
ZSD05-215-XP25-SP06-02	✻	•	21,5	25	32	111	56	185	0,426	SPMX060204**
ZSD05-220-XP25-SP06-02	✻	•	22	25	32	113	56	187	0,441	SPMX060204**
ZSD05-225-XP25-SP07-02	✻	•	22,5	25	32	116	56	190	0,442	SPMX07T308**
ZSD05-230-XP25-SP07-02	✻	•	23	25	32	118	56	194	0,461	SPMX07T308**
ZSD05-235-XP25-SP07-02	✻	•	23,5	25	32	121	56	197	0,483	SPMX07T308**
ZSD05-240-XP25-SP07-02	✻	•	24	25	32	123	56	199	0,497	SPMX07T308**
ZSD05-245-XP25-SP07-02	✻	•	24,5	25	32	126	56	202	0,517	SPMX07T308**
ZSD05-250-XP25-SP07-02	✻	•	25	25	32	128	56	204	0,533	SPMX07T308**
ZSD05-255-XP25-SP07-02	✻	•	25,5	25	32	131	56	207	0,555	SPMX07T308**
ZSD05-260-XP25-SP07-02	✻	•	26	25	32	133	56	209	0,571	SPMX07T308**
ZSD05-265-XP25-SP07-02	✻	•	26,5	25	32	136	56	212	0,593	SPMX07T308**
ZSD05-270-XP25-SP07-02	✻	•	27	25	32	138	56	214	0,617	SPMX07T308**
ZSD05-275-XP25-SP07-02	✻	•	27,5	25	32	141	56	217	0,642	SPMX07T308**
ZSD05-280-XP32-SP09-02	✻	•	28	32	37	143	60	223	0,791	SPMX090408**
ZSD05-285-XP32-SP09-02	✻	○	28,5	32	37	146	60	226	0,814	SPMX090408**
ZSD05-290-XP32-SP09-02	✻	•	29	32	37	148	60	228	0,837	SPMX090408**
ZSD05-295-XP32-SP09-02	✻	○	29,5	32	37	151	60	231	0,861	SPMX090408**
ZSD05-300-XP32-SP09-02	✻	•	30	32	37	153	60	233	0,943	SPMX090408**
ZSD05-310-XP32-SP09-02	✻	•	31	32	37	158	60	238	0,943	SPMX090408**
ZSD05-315-XP32-SP09-02	✻	○	31,5	32	37	161	60	241	0,972	SPMX090408**

• In magazzino ○ Su richiesta

✻ Raffreddamento interno

Codice sistema C9 | Scelta gradi C8 | Informazioni tecniche C193 | Dati di taglio C30

Punta ad inserti Corpo punta

Articolo	✻	Stock	Dimensioni [mm] ØD	ØD1	ØD2	L1	L2	L	kg	Inserto
ZSD05-320-XP32-SP09-02	✻	•	32	32	37	163	60	243	1,001	SPMX090408**
ZSD05-325-XP32-SP09-02	✻	○	32,5	32	37	166	60	246	1,033	SPMX090408**
ZSD05-330-XP32-SP09-02	✻	•	33	32	37	168	60	249	1,067	SPMX090408**
ZSD05-335-XP32-SP09-02	✻	○	33,5	32	37	171	60	253	1,106	SPMX090408**
ZSD05-340-XP40-SP11-02	✻	•	34	40	47	173	70	268	1,44	SPMX110408**
ZSD05-350-XP40-SP11-02	✻	•	35	40	47	178	70	273	1,505	SPMX110408**
ZSD05-360-XP40-SP11-02	✻	•	36	40	47	183	70	278	1,575	SPMX110408**
ZSD05-370-XP40-SP11-02	✻	•	37	40	47	188	70	283	1,723	SPMX110408**
ZSD05-380-XP40-SP11-02	✻	•	38	40	47	193	70	288	1,723	SPMX110408**
ZSD05-390-XP40-SP11-02	✻	•	39	40	47	198	70	293	1,808	SPMX110408**
ZSD05-400-XP40-SP11-02	✻	•	40	40	47	203	70	298	1,894	SPMX110408**
ZSD05-410-XP40-SP11-02	✻	•	41	40	47	208	70	303	1,991	SPMX110408**
ZSD05-420-XP40-SP11-02	✻	○	42	40	52	213	70	315	2,182	SPMX110408**
ZSD05-430-XP40-SP14-02	✻	•	43	40	52	218	70	320	2,11	SPMX140512**
ZSD05-440-XP40-SP14-02	✻	•	44	40	52	223	70	325	2,22	SPMX140512**
ZSD05-450-XP40-SP14-02	✻	•	45	40	52	228	70	330	2,331	SPMX140512**
ZSD05-460-XP40-SP14-02	✻	•	46	40	52	233	70	335	2,45	SPMX140512**
ZSD05-470-XP40-SP14-02	✻	○	47	40	52	238	70	340	2,582	SPMX140512**
ZSD05-480-XP40-SP14-02	✻	•	48	40	52	243	70	345	2,693	SPMX140512**
ZSD05-490-XP40-SP14-02	✻	•	19	40	52	248	70	350	2,823	SPMX140512**
ZSD05-500-XP40-SP14-02	✻	•	50	40	52	253	70	355	2,958	SPMX140512**
ZSD05-510-XP50-SP14-02	✻	○	51	50	57	258	80	370	3,7	SPMX140512**
ZSD05-520-XP50-SP14-02	✻	○	52	50	57	263	80	375	3,848	SPMX140512**
ZSD05-530-XP50-SP14-02	✻	○	53	50	57	268	80	380	3,998	SPMX140512**
ZSD05-540-XP50-SP09-04	✻	○	54	50	57	273	80	385	4,035	SPMX090408**
ZSD05-550-XP50-SP09-04	✻	○	55	50	57	278	80	390	4,203	SPMX090408**
ZSD05-560-XP50-SP09-04	✻	○	56	50	57	283	80	395	4,368	SPMX090408**
ZSD05-570-XP50-SP09-04	✻	○	57	50	57	288	80	400	4,671	SPMX090408**
ZSD05-580-XP50-SP09-04	✻	○	58	50	57	293	80	405	4,866	SPMX090408**
ZSD05-590-XP50-SP09-04	✻	○	59	50	57	298	80	410	5,047	SPMX090408**
ZSD05-600-XP50-SP09-04	✻	○	60	50	57	303	80	415	5,192	SPMX090408**
ZSD05-610-XP50-SP09-04	✻	○	61	50	57	308	80	420	5,4	SPMX090408**
ZSD05-620-XP50-SP09-04	✻	○	62	50	57	313	80	425	5,619	SPMX090408**
ZSD05-630-XP50-SP09-04	✻	○	63	50	57	318	80	430	5,834	SPMX090408**

• In magazzino ○ Su richiesta

✻ Raffreddamento interno

Parti di ricambio

	Inserto	SPMX050204**	SPMX060204**	SPMX07T308**	SPMX090408**	SPMX110408**	SPMX140512**
	Vite	I60M2×4.3 (0,5Nm)	I60M2.2×5.5 (0,8Nm)	I60M2.5×6.5 (1,0Nm)	I60M3.5×8 (2,7Nm)	I60M4×10 (3,4Nm)	I60M5×13 (6,7Nm)
	Chiave	WT06IP	WT07IP	WT07IP	WT15IP	WT15IP	WT20IP

Codice sistema C9 Scelta gradi C8 Informazioni tecniche C193 Dati di taglio C30

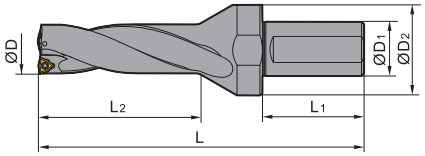
Inserto
C26

A Tornitura
B Fresatura
C Foratura
D Informazioni tecniche
E Indice

Codice sistema C9 | Scelta gradi C8 | Informazioni tecniche C193 | Dati di taglio C30

Punta ad inserti

ZD03



Articolo	✻	Stock	Dimensioni [mm]							Inserto
			ØD	ØD1	ØD2	L1	L2	L	kg	
ZD03-160-XP25-WC03-02	✻	•	16	25	32	56	52	129	0,33	WCMX0302**
ZD03-170-XP25-WC03-02	✻	•	17	25	32	56	55	133	0,33	WCMX0302**
ZD03-180-XP25-WC03-02	✻	•	18	25	32	56	58	137	0,35	WCMX0302**
ZD03-190-XP25-WC03-02	✻	•	19	25	32	56	61	140	0,36	WCMX0302**
ZD03-200-XP25-WC03-02	✻	•	20	25	32	56	64	143	0,37	WCMX0302**
ZD03-210-XP25-WC04-02	✻	•	21	25	45	56	67	153	0,51	WCMX0402**
ZD03-220-XP25-WC04-02	✻	•	22	25	45	56	70	156	0,54	WCMX0402**
ZD03-230-XP25-WC04-02	✻	•	23	25	45	56	73	159	0,55	WCMX0402**
ZD03-240-XP25-WC04-02	✻	•	24	25	45	56	76	162	0,57	WCMX0402**
ZD03-250-XP25-WC04-02	✻	•	25	25	45	56	79	165	0,6	WCMX0402**
ZD03-260-XP32-WC05-02	✻	•	26	32	55	60	83	176	0,93	WCMX0503**
ZD03-270-XP32-WC05-02	✻	•	27	32	55	60	86	180	0,97	WCMX0503**
ZD03-280-XP32-WC05-02	✻	•	28	32	55	60	89	184	1,01	WCMX0503**
ZD03-290-XP32-WC05-02	✻	•	29	32	55	60	92	188	1,05	WCMX0503**
ZD03-300-XP32-WC05-02	✻	•	30	32	55	60	95	192	1,08	WCMX0503**
ZD03-310-XP40-WC06-02	✻	•	31	40	60	70	98	203	1,44	WCMX06T3**
ZD03-320-XP40-WC06-02	✻	•	32	40	60	70	101	206	1,48	WCMX06T3**
ZD03-330-XP40-WC06-02	✻	•	33	40	60	70	104	209	1,52	WCMX06T3**
ZD03-340-XP40-WC06-02	✻	•	34	40	60	70	107	212	1,55	WCMX06T3**
ZD03-350-XP40-WC06-02	✻	•	35	40	60	70	110	215	1,61	WCMX06T3**
ZD03-360-XP40-WC06-02	✻	•	36	40	60	70	113	218	1,66	WCMX06T3**
ZD03-370-XP40-WC06-02	✻	•	37	40	60	70	116	221	1,71	WCMX06T3**
ZD03-380-XP40-WC06-02	✻	•	38	40	60	70	119	225	1,76	WCMX06T3**
ZD03-390-XP40-WC06-02	✻	•	39	40	60	70	122	228	1,82	WCMX06T3**
ZD03-400-XP40-WC06-02	✻	•	40	40	60	70	125	231	1,93	WCMX06T3**
ZD03-410-XP40-WC06-02	✻	•	41	40	60	70	128	234	1,94	WCMX06T3**
ZD03-420-XP40-WC08-02	✻	•	42	40	60	70	131	239	2,18	WCMX0804**
ZD03-430-XP40-WC08-02	✻	•	43	40	60	70	134	242	2,245	WCMX0804**
ZD03-440-XP40-WC08-02	✻	•	44	40	60	70	137	245	2,34	WCMX0804**
ZD03-450-XP40-WC08-02	✻	•	45	40	60	70	140	248	2,34	WCMX0804**
ZD03-460-XP40-WC08-02	✻	•	46	40	60	70	143	251	2,49	WCMX0804**
ZD03-470-XP40-WC08-02	✻	•	47	40	60	70	146	253	2,88	WCMX0804**
ZD03-480-XP40-WC08-02	✻	•	48	40	70	70	149	255	2,55	WCMX0804**

• In magazzino ○ Su richiesta

✻ Raffreddamento interno

Codice sistema C9 | Scelta gradi C8 | Informazioni tecniche C193 | Dati di taglio C30

Articolo	✻	Stock	Dimensioni [mm]							Inserto
			ØD	ØD1	ØD2	L1	L2	L	kg	
ZD03-490-XP40-WC08-02	✻	○	49	40	70	70	152	257	2,619	WCMX0804**
ZD03-500-XP40-WC08-02	✻	●	50	40	70	70	155	259	2,62	WCMX0804**
ZD03-520-XP40-WC08-02	✻	○	52	40	70	70	70	263	2,808	WCMX0804**
ZD03-530-XP40-WC08-02	✻	○	53	40	70	70	164	265	2,906	WCMX0804**
ZD03-540-XP40-WC08-02	✻	●	54	40	70	70	167	267	2,983	WCMX0804**
ZD03-550-XP40-WC08-02	✻	○	55	40	70	70	170	269	3,126	WCMX0804**
ZD03-560-XP40-WC08-02	✻	○	56	40	70	70	173	271	3,157	WCMX0804**
ZD03-580-XP40-WC08-02	✻	●	58	40	70	70	179	275	3,501	WCMX0804**

● In magazzino ○ Su richiesta

✻ Raffreddamento interno

Parti di ricambio

	Inserto	**WCMX0302****	**WCMX0402****	**WCMX0503****	**WCMX06T3****	**WCMX0804****
	Vite	I60M2.5×6.5 (1,0Nm)	I60M2.5×6.5T (1,0Nm)	I60M3×7 (1,8Nm)	I60M3×7 (1,8Nm)	I60M3.5×10.4 (2,7Nm)
	Chiave	WT06IP	WT07IP	WT15IP	WT15IP	WT20IP

Inserto

Media Lavor.

C28

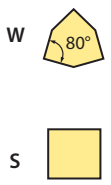
Codice sistema C9 | Scelta gradi C8 | Informazioni tecniche C193 | Dati di taglio C30

Punta ad inserti

Codice ISO – inserti

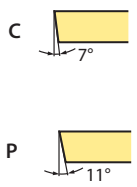
W	C	M	X	08	04	12	R	–	PG
1	2	3	4	5	6	7	8		9

Forma dell'inserto



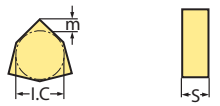
1

Angolo di spoglia inferiore



2

Grado di tolleranza



Code	I.C [mm]	m [mm]	S [mm]
G	±0,025	±0,025	±0,130
M	±0,05–0,13	±0,08–0,18	±0,130

3

Caratteristiche di fissaggio (metrico)

Forma dell'inserto

T	
X	Speciale

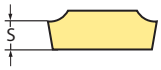
4

Lunghezza tagliente [mm]

I.C [mm]	Forma dell'inserto S	Forma dell'inserto W
3,8		**03**
4,3		**04**
5,4		**05**
6,35	**06**	
6,5		**06**
8,0		**08**
8,7	**08**	
9,252	**09**	
12,7	**12**	

5

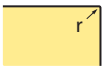
Spessore dell'inserto S [mm]



Code	S	Code	S
00	0,79	**05**	5,56
T0	0,99	**T5**	5,95
01	1,59	**06**	6,35
T1	1,98	**T6**	6,75
02	2,38	**07**	7,94
T2	2,58	**09**	9,52
03	3,18	**T9**	9,72
T3	3,97	**11**	11,11
04	4,76	**12**	12,70
T4	4,96		

6

Raggio di punta r [mm]



Code	r
04	0,4
08	0,8
12	1,2

7

Direzione di taglio

Code	Descrizione
R	Destra
L	Sinistra

8

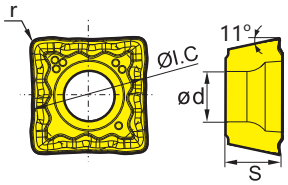
Panoramica rompitrucioli (da p. C3)

9

SPMX	L	I.C	S	d
05 02	5	5	2,38	2,2
06 02	6	6	2,38	2,5
07 T3	7,94	7,94	3,97	2,8
09 04	9,8	9,8	4,3	4,1
11 04	11,5	11,5	4,76	4,4
14 05	14,3	14,3	5,2	5,5

Inserti - Foratura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

SP** Inserti - Fresatura			HC[1] (CVD)							HC[1] (PVD)							HW				
		P	⊛	⊛							⊛		⊛	⊛	⊛	⊛					
		M	⊛							⊛	⊛	⊛	⊛	⊛	⊛	⊛					
		K		⊛																	
		N															⊛				
		S									⊛	⊛	⊛	⊛	⊛						
		H																			
ISO		r	YB6338	YBD252						YBG105	YBG202	YBS203	YBG205	YBG205H	YB9320	YBG212	YD201				
XM	**SPMX050204-XM**	0,4	○												●						
	SPMX060204-XM	0,4	○									●			●						
	SPMX07T308-XM	0,8	●									●			●						
	SPMX090408-XM	0,8	○												●						
	SPMX110408-XM	0,8	○												●						
	SPMX140512-XM	1,2	○												●						
XR	**SPMX050204-XR**	0,4												●							
	SPMX060204-XR	0,4												●							
	SPMX07T308-XR	0,8												●							
	SPMX090408-XR	0,8												●							
	SPMX110408-XR	0,8												●							
	SPMX140512-XR	1,2												●							

● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito
HW Carburo cementato non rivestito

Portautensile

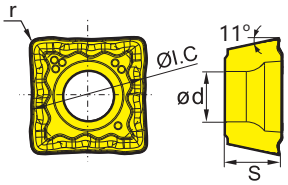
ZSD02	ZSD03	ZSD04	ZSD05
C10	C13	C16	C19

Codice sistema C24 | Scelta gradi C8 | Informazioni tecniche C293 | Dati di taglio C30

SPMX	L	I.C	S	d
05 02	5	5	2,38	2,2
06 02	6	6	2,38	2,5
07 T3	7,94	7,94	3,97	2,8
09 04	9,8	9,8	4,3	4,1
11 04	11,5	11,5	4,76	4,4
14 05	14,3	14,3	5,2	5,5

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli

Inserti - Foratura



SP** Inserti - Fresatura		HC[1] (CVD)								HC[1] (PVD)								HW				
	P	✲	✲								✲		✲	✲	✲	✲						
	M	✲								✲	✲	✲	✲	✲	✲	✲						
	K		✲																			
	N																	✲				
	S										✲	✲	✲	✲	✲							
	H																					
ISO	r	YB6338	YBD252							YBG105	YBG202	YBS203	YBG205	YBG205H	YB9320	YBG212		YD201				
EM	SPMX050204-EM	0,4										○			●							
	SPMX060204-EM	0,4										○			●							
	SPMX07T308-EM	0,8										○			●							
	SPMX090408-EM	0,8										○			●							
	SPMX110408-EM	0,8										○			●							
	SPMX140512-EM	1,2										○			●							
LM	SPMX050204-LM	0,4													○							
	SPMX060204-LM	0,4													○							
	SPMX07T308-LM	0,8													○							
	SPMX090408-LM	0,8													○							
	SPMX110408-LM	0,8													○							
	SPMX140512-LM	1,2													○							

● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito
HW Carburo cementato non rivestito

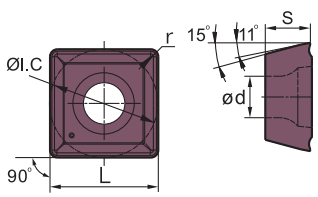
Portautensile			
ZSD02	ZSD03	ZSD04	ZSD05
C10	C13	C16	C19

Codice sistema C24 Scelta gradi C8 Informazioni tecniche C293 Dati di taglio C30

SPGT	L	I.C	S	d
05 02	5	5	2,38	2,2
06 02	6	6	2,38	2,6
07 T3	7,94	7,94	3,97	2,8
09 04	9,8	9,8	4,76	4,2
11 04	11,5	11,5	4,76	4,4
14 05	14,3	14,3	5,2	5,75

Buone condizioni di lavorazione
Condizioni di lavorazione normali
Condizioni di lavorazione sfavorevoli

Inserti - Foratura



SP ** Inserti - Foratura			HC[1] (CVD)								HC[1] (PVD)								HW						
		P	⊛	⊛								⊛		⊛	⊛	⊛	⊛								
		M	⊛								⊛	⊛	⊛	⊛	⊛	⊛	⊛								
		K		⊛																					
		N																	⊛						
		S										⊛	⊛	⊛	⊛	⊛									
		H																							
ISO		r	YB6338	YBD252							YBG105	YBG202	YBS203	YBG205	YBG205H	YB9320	YBG212		YD201						
PM	**SPGT050204-PM**	0,4	○											○			○								
	SPGT060204-PM	0,4	○											○			○								
	SPGT07T308-PM	0,8	●											●	○		●								
	SPGT090408-PM	0,8	●											●			●								
	SPGT110408-PM	0,8	●											●			●								
	SPGT140512-PM	1,2	●											●			●								
EM	**SPGT050204-EM**	0,4												○			○								
	SPGT060204-EM	0,4												○			○								
	SPGT07T308-EM	0,8												●			●								
	SPGT090408-EM	0,8												●			●								
	SPGT110408-EM	0,8												●			●								
	SPGT140512-EM	1,2												●			●								

● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito
HW Carburo cementato non rivestito

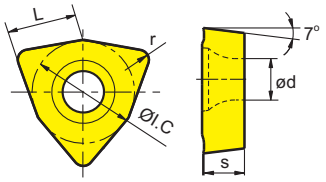
A Tornitura
B Fresatura
C Foratura
D Informazioni tecniche
E Indice

Codice sistema C24 | Scelta gradi C8 | Informazioni tecniche C293 | Dati di taglio C30

WCMX	L	I.C	S	d
03 02	3,8	5,56	2,38	2,8
04 02	4,3	6,35	2,38	3,1
05 03	5,4	7,94	3,18	3,2
06 T3	6,5	9,525	3,97	3,7
08 04	8,7	12,7	4,76	4,3

Inserti - Foratura

- Buone condizioni di lavorazione
- Condizioni di lavorazione normali
- Condizioni di lavorazione sfavorevoli



WC ** Inserti - Foratura		HC[1] (CVD)								HC[1] (PVD)								HW					
P		⊛	⊛								⊛		⊛	⊛	⊛	⊛							
M		⊛								⊛	⊛	⊛	⊛	⊛	⊛	⊛							
K			⊛																				
N																		⊛					
S											⊛	⊛	⊛	⊛	⊛								
H																							
ISO	r	YB6338	YBD252							YBG105	YBG202	YBS203	YBG205	YBG205H	YB9320	YBG212		YD201					
53																							
WCMX030208R-53	0,8		●								○												
WCMX040208R-53	0,8		●								○												
WCMX050308R-53	0,8		●								○												
WCMX06T308R-53	0,8		●								○							○					
WCMX080412R-53	1,2		●								○												
D																							
WCMX06T308-D	0,8		○																				
WCMX080412-D	1,2		○																				
PG																							
WCMX030208R-PG	0,8										○												
WCMX040208R-PG	0,8										○												
WCMX050308R-PG	0,8		○								○		○										
WCMX06T308R-PG	0,8										○												
WCMX080412R-PG	1,2										○												

● In magazzino ○ Su richiesta

HC[1] Carburo cementato rivestito
HW Carburo cementato non rivestito

Portautensile
ZD03

C22

Codice sistema C24 | Scelta gradi C8 | Informazioni tecniche C293 | Dati di taglio C30

Note

Punta ad inserti

Gruppo materiali		Composizione/Struttura/Trattamento termico		HB	Gruppo di sgrossatura	ZSD* SPMX04		ZSD* SPMX05/06		
						v_c [m/min]	f [mm]	v_c [m/min]	f [mm]	
P	Acciaio non legato	ca. 0,15 % C	Temprato	125	1	200-300	0,05-0,08	200-300	0,05-0,10	
		ca. 0,45 % C	Temprato	190	2	200-300	0,05-0,08	200-300	0,05-0,10	
		ca. 0,45 % C	pre-temprato	250	3	200-300	0,05-0,08	200-300	0,05-0,10	
		ca. 0,75 % C	Temprato	270	4	200-300	0,05-0,08	200-300	0,05-0,10	
		ca. 0,75 % C	pre-temprato	300	5	200-300	0,05-0,08	200-300	0,05-0,10	
	Acciaio al carbonio		Temprato	180	6	140-220	0,05-0,08	140-220	0,05-0,10	
			pre-temprato	275	7	140-220	0,05-0,08	140-220	0,05-0,10	
			pre-temprato	300	8	140-220	0,05-0,08	140-220	0,05-0,10	
			pre-temprato	350	9	140-220	0,05-0,08	140-220	0,05-0,10	
	Acciaio alto legato e acciaio alto legato per utensili		Temprato	200	10	120-180	0,05-0,08	120-180	0,05-0,10	
			temprato e rinvenuto	325	11	120-180	0,05-0,08	120-180	0,05-0,10	
M	Acciaio inossidabile	ferritico/martensitico	Temprato	200	12	110-230	0,05-0,08	110-230	0,05-0,10	
		martensitico	pre-temprato	240	13	110-230	0,05-0,08	110-230	0,05-0,10	
		austenitico	quencing	180	14	110-230	0,05-0,08	110-230	0,05-0,10	
		austenitico-ferritico		230	15	110-230	0,05-0,08	110-230	0,05-0,10	
K	Ghisa grigia	perlitico/ferritico		180	16	170-240	0,05-0,08	170-240	0,05-0,10	
		perlitico (martensitico)		260	17	170-240	0,05-0,08	170-240	0,05-0,10	
	Ghisa sferodale	ferritico		160	18	130-200	0,05-0,08	130-200	0,05-0,10	
		perlitico		250	19	130-200	0,05-0,08	130-200	0,05-0,10	
	Ghisa malleabile	ferritico		130	20	120-220	0,05-0,08	120-220	0,05-0,10	
		perlitico		230	21	120-220	0,05-0,08	120-220	0,05-0,10	
N	Lavorazioni plastiche di leghe di alluminio	non invecchiabile		60	22					
		invecchiabile	indurito	100	23					
	Leghe di alluminio fuso	≤ 12 % Si, non invecchiabile		75	24					
		≤ 12 % Si, invecchiabile	indurito	90	25					
		> 12 % Si, non invecchiabile		130	26					
	Rame e leghe di rame (bronzo/ottone)	Leghe per macchine di tipo multiplo, PB > 1 %		110	27					
		CuZn, CuSnZn		90	28					
		CuSn, rame senza piombo e rame elettrolitico		100	29					
S	Leghe resistenti al calore	Base Fe	Temprato	200	30					
			indurito	280	31					
		Base Ni o Co	Temprato	250	32					
			indurito	350	33					
			fuso	320	34					
	Leghe di titanio	Titanio puro		R_m 400	35					
		Leghe Alpha + Beta	indurito	R_m 1050	36					
H	Acciaio temprato		temprato e rinvenuto	55 HRC	37					
			temprato e rinvenuto	60 HRC	38					
	Ghisa dura		fuso	400	39					
	Ghise temprate		temprato e rinvenuto	55 HRC	40					
X	Materiali non metallici	Termoplastiche			41					
		Termoindurenti			42					
		Vetroresina VTR			43					
		Plastica rinforzata in fibra di carbonio			44					
		Grafite			45					
		Legno			46					

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.
Per profondità di foratura di 5xD, i dati di taglio devono essere adattati al corrispondente campo di applicazione.
Esempi di materiali per gruppi di taglio sono disponibili a pagina D11.

	ZSD*		ZSD*		ZTD*		ZTD*		ZTD*		ZD03		ZD03		
	SPMX07/09		SPMX11/14		SPGT05/06		SPGT07/09		SPGT11/14		WCMX03-05		WCMX06-08		
	v_c [m/min]	f [mm]	v_c [m/min]	f [mm]	v_c [m/min]	f [mm]	v_c [m/min]	f [mm]	v_c [m/min]	f [mm]	v_c [m/min]	f [mm]	v_c [m/min]	f [mm]	
	200-300	0,06-0,14	200-300	0,08-0,17	200-300	0,05-0,08	200-300	0,06-0,11	200-300	0,08-0,14	200-300	0,05-0,08	200-300	0,06-0,11	
	200-300	0,06-0,14	200-300	0,08-0,17	200-300	0,05-0,08	200-300	0,06-0,11	200-300	0,08-0,14	200-300	0,05-0,08	200-300	0,06-0,11	
	200-300	0,06-0,14	200-300	0,08-0,17	200-300	0,05-0,08	200-300	0,06-0,11	200-300	0,08-0,14	200-300	0,05-0,08	200-300	0,06-0,11	
	200-300	0,06-0,14	200-300	0,08-0,17	200-300	0,05-0,08	200-300	0,06-0,11	200-300	0,08-0,14	200-300	0,05-0,08	200-300	0,06-0,11	
	200-300	0,06-0,14	200-300	0,08-0,17	200-300	0,05-0,08	200-300	0,06-0,11	200-300	0,08-0,14	200-300	0,05-0,08	200-300	0,06-0,11	
	140-220	0,06-0,14	140-220	0,09-0,19	140-220	0,05-0,08	140-220	0,07-0,12	140-220	0,09-0,16	140-220	0,05-0,08	140-220	0,07-0,12	
	140-220	0,06-0,14	140-220	0,09-0,19	140-220	0,05-0,08	140-220	0,07-0,12	140-220	0,09-0,16	140-220	0,05-0,08	140-220	0,07-0,12	
	140-220	0,06-0,14	140-220	0,09-0,19	140-220	0,05-0,08	140-220	0,07-0,12	140-220	0,09-0,16	140-220	0,05-0,08	140-220	0,07-0,12	
	140-220	0,06-0,14	140-220	0,09-0,19	140-220	0,05-0,08	140-220	0,07-0,12	140-220	0,09-0,16	140-220	0,05-0,08	140-220	0,07-0,12	
	120-180	0,06-0,14	120-180	0,09-0,19	120-180	0,05-0,08	120-180	0,07-0,12	120-180	0,09-0,16	120-180	0,05-0,08	120-180	0,07-0,12	
	120-180	0,06-0,14	120-180	0,09-0,19	120-180	0,05-0,08	120-180	0,07-0,12	120-180	0,09-0,16	120-180	0,05-0,08	120-180	0,07-0,12	
	110-230	0,06-0,14	110-230	0,08-0,17	110-230	0,05-0,08	110-230	0,06-0,11	110-230	0,08-0,14	110-230	0,05-0,08	110-230	0,06-0,11	
	110-230	0,06-0,14	110-230	0,08-0,17	110-230	0,05-0,08	110-230	0,06-0,11	110-230	0,08-0,14	110-230	0,05-0,08	110-230	0,06-0,11	
	110-230	0,06-0,14	110-230	0,08-0,17	110-230	0,05-0,08	110-230	0,06-0,11	110-230	0,08-0,14	110-230	0,05-0,08	110-230	0,06-0,11	
	110-230	0,06-0,14	110-230	0,08-0,17	110-230	0,05-0,08	110-230	0,06-0,11	110-230	0,08-0,14	110-230	0,05-0,08	110-230	0,06-0,11	
	170-240	0,08-0,16	170-240	0,12-0,24	170-240	0,05-0,08	170-240	0,08-0,14	170-240	0,12-0,21	170-240	0,05-0,08	170-240	0,08-0,14	
	170-240	0,08-0,16	170-240	0,12-0,24	170-240	0,05-0,08	170-240	0,08-0,14	170-240	0,12-0,21	170-240	0,05-0,08	170-240	0,08-0,14	
	130-200	0,08-0,16	130-200	0,12-0,24	130-200	0,05-0,08	130-200	0,08-0,14	130-200	0,12-0,21	130-200	0,05-0,08	130-200	0,08-0,14	
	130-200	0,08-0,16	130-200	0,12-0,24	130-200	0,05-0,08	130-200	0,08-0,14	130-200	0,12-0,21	130-200	0,05-0,08	130-200	0,08-0,14	
	120-220	0,08-0,16	120-220	0,12-0,24	120-220	0,05-0,08	120-220	0,08-0,14	120-220	0,12-0,21	120-220	0,05-0,08	120-220	0,08-0,14	
	120-220	0,08-0,16	120-220	0,12-0,24	120-220	0,05-0,08	120-220	0,08-0,14	120-220	0,12-0,21	120-220	0,05-0,08	120-220	0,08-0,14	

PUNTE IN METALLO DURO INTEGRALE

Punte in metallo duro integrale

Panoramica prodotti	**C34-C36**
Panoramica gradi	**C37**
Codice sistema – Punte in metallo duro integrale	**C38-C40**
Serie SU	**C41-C78**
Serie SP/SL/UL	**C79-C106**
Serie GD	**C107-C116**
Serie UD	**C117-C128**
Serie FD	**C129-C131**
Serie SH	**C132**
Serie SC	**C133-C137**
Centrino – Serie SC	**C138-C141**
Dati di taglio consigliati	**C142-C147**
Misure per la risoluzione dei problemi	**C194-C197**
Informazioni tecniche	**C199-C201**
Gli utensili speciali	**C148-C149**

C

Punte in metallo duro integrale

Panoramica prodotti

	Prodotti	Punte in metallo duro integrale	L/D	✻	Ø	Applicazione						Versione	Pagina
						P	M	K	N	S	H		
SU	1534SU03		3xD		0,9-20	✔	✔	✔				Punta elicoidale	C42
	1534SU03C		3xD	✻	3-20	✔	✔	✔				Punta elicoidale	C42
	1634SU03		3xD		3-21	✔	✔	✔				Punta elicoidale	C68
	1634SU03C		3xD		3-20	✔	✔	✔				Punta elicoidale	C68
	1536SU05		5xD		2-20	✔	✔	✔				Punta elicoidale	C54
	1536SU05C		5xD	✻	3-20	✔	✔	✔				Punta elicoidale	C54
	1636SU05C		5xD	✻	3-20	✔	✔	✔				Punta elicoidale	C73
	1538SU08C		8xD	✻	3-18	✔	✔	✔				Punta elicoidale	C65
	1557SU03		3xD		M4-M16	✔	✔	✔				Punta a gradino	C77
SP SL UL	1588SL10C		10xD	✻	3-14	✔	✔	✔	✔	✔		Punta lunga	C83
	1588SL12C		12xD	✻	3-21	✔	✔	✔	✔	✔		Punta lunga	C86
	1588SL15C		15xD	✻	3-14	✔	✔	✔	✔	✔		Punta lunga	C90
	1588SL20C		20xD	✻	3-14	✔	✔	✔	✔	✔		Punta lunga	C93
	1588SL30C		30xD	✻	3-10	✔	✔	✔	✔	✔		Punta lunga	C96
	1588UL10C		10xD	✻	3-20	✔	✔			✔		Punta lunga	C98
	1588UL20C		20xD	✻	3-14	✔	✔			✔		Punta lunga	C101
	1588UL30C		30xD	✻	3-10	✔	✔			✔		Punta lunga	C104
	1534SP03C		3xD	✻	3,03-20,03	✔	✔	✔	✔	✔		Punta pilota	C80
GD	1534GD03C		3xD	✻	3-20	✔		✔				Punta elicoidale	C108
	1536GD05C		5xD	✻	3-20	✔		✔				Punta elicoidale	C111
	1636GD05C		5xD	✻	5-20	✔		✔				Punta elicoidale	C115
UD	1534UD03C		3xD	✻	3-20	✔	✔			✔		Punta elicoidale	C118
	1536UD05C		5xD	✻	3-20	✔	✔			✔		Punta elicoidale	C123
FD	1534FD03C		3xD	✻	3-20	✔	✔	✔	✔			Punta elicoidale	C130
SH	1534SH03		3xD		3-16						✔	Punta elicoidale	C132
SC	1101SC05		5xD		2-16				✔			Punta elicoidale	C136
	1105SC03		3xD		2-16				✔			Punta elicoidale	C133

✔ Molto adatto ✔ Adatto

✻ Con raffreddamento interno SC*: Centrino

Punte in metallo duro integrale

	Prodotti	Punte in metallo duro integrale	L/D	✻	Ø	Applicazione						Versione	Pagina
						P	M	K	N	S	H		
SC*	1143SC90		-		5-20	✔	✔	✔	✔			Centrino	C138
	1143SC120		-	✻	5-20	✔	✔	✔	✔			Centrino	C139
	1143SC142			✻	5-20	✔	✔	✔	✔			Centrino	C140

✔ Molto adatto ✔ Adatto

✻ Con raffreddamento interno SC*: Centrino

Note

Metallo duro rivestito PVD

Grado	Descrizione gradi
KDG303	Grado di metallo duro con rivestimento in PVD P10–P20/M10–M20/K10–K20 per la lavorazione di acciaio, acciaio inossidabile e materiali in ghisa. Resistenza all'usura e tenacità bilanciate per un ampio spettro di applicazioni.
KDG304	Substrato in metallo duro rivestito PVD per lavorazione di acciaio e materiali fusi. Tenacità ottimizzata per velocità di avanzamento elevate.
KDG305	Substrato in metallo duro rivestito PVD per la lavorazione di acciaio inossidabile e HRSA. Elevata sicurezza nella lavorazione grazie alla resistenza all'usura.

Metallo duro non rivestito

Grado	Descrizione gradi
YK20F	Substrato in metallo duro non rivestito K20 per la lavorazione di acciaio, materiali in ghisa e metalli non ferrosi.
YK30F	Substrato in metallo duro non rivestito K30 per la lavorazione di acciaio, acciaio inossidabile, materiali in ghisa e metalli non ferrosi.

1	5	3	6	SU	05	(C)	– 0850	(S)
1	2	3	4	5	6	7	8	9

Versione	
Code	Descrizione
1	Punte

1

Versione del codolo	
Code	Descrizione
1	Codolo cilindrico
2	Codolo DIN 10 a 4 spigoli
3	Codolo cilindrico DIN 1809 a 2 superfici
5	Codolo cilindrico DIN 6535 HA
6	Stelo Weldon DIN 6535 HB
7	Stelo Whistle-Notch DIN 6535 HE
9	Stelo a conicità Morse

2

Tipologia punta	
Code	Descrizione
0	Punta elicoidale
3	Punta elicoidale universale
4	Centrino
5	Punta a gradino
6	Punta a tre taglienti
7	Punta con scanalature diritte
8	Punta lunga

3

Lunghezza utensile	
Code	Descrizione
1	DIN 338
2	DIN 1897
3	QJ/ZZQ(TO)01.001.002
4	DIN 6537 K
5	DIN 6539
6	DIN 6537 L
7	Secondo la norma del costruttore ZCC-C
8	Secondo la norma del costruttore ZCC-D
9	Secondo la norma del costruttore ZCC-E

4

Applicazione	
Code	Descrizione
FD	Punta piatta con angolo a 180° per tutte le applicazioni
UD	Punta elicoidale per materiali tenaci
GD	Punta elicoidale per velocità di avanzamento elevate
SU	Punta elicoidale per lavorazione generica
SL	Punta elicoidale per forature profonde
SLK	Punta lunga per ghise
SP	Punta pilota
SH	Punta elicoidale per materiali ad elevata durezza
SC	Punta elicoidale per metalli non ferrosi e ghise
PA	Punta a tre taglienti per metalli non ferrosi e ghise

5

Punte in metallo duro integrale

Rapporto L/D		Angolo	
Punte		Centrino	
Code	Descrizione	Code	Descrizione
03	3 x D	**90**	90°
05	5 x D	**120**	120°
08	8 x D		
10	10 x D		
12	12 x D		
15	15 x D		
20	20 x D		
30	30 x D		

6

Con raffreddamento interno

7

Diametro foro [mm]	
Code	Descrizione
0200	2,0
0850	8,5
1800	18,0
...	

8

Diametro stelo [mm]	
Code	Descrizione
S	4,0
XS	3,0

9

a Foratura **b** Perforazione in materiale solido **c** Punta a gradino **d** Bulinatura

Note

INFORMAZIONI IMPORTANTI

Raccomandazione di impiego per la **serie SU**

Calcolo per avanzamento

Gruppo ISO	Materiale	Velocità di taglio v_c (m/min)	Fattore per l' avanzamento F_m
P	Acciaio debolmente legato	180	0,015
	Acciaio altamente legato	120	0,012
M	Acciai inossidabili	80	0,01
K	Ghisa	250	0,018
	Acciaio fuso	180	0,015
S	HRSA	45	0,008
N	Alluminio	400	0,02

Formula:	Avanzamento per giro (F_n)	$D \times F_m$
Esempio:	Diametro punta (D)	10 mm
	Materiale	acero de alta aleación

$$F_n = 10\ \text{mm} \times 0{,}012 = 0{,}12\ \text{mm/g}$$

Fig.: 1536SU05C

SU Punta 3xD

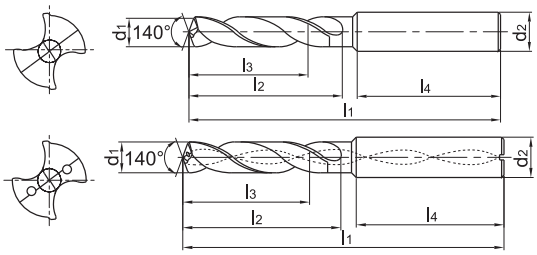
Lavorazione generica

1534SU03/1534SU03C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento esterno

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG303
1534SU03-0090S		0,9	4	47	4,2	3,4	37,9	○
1534SU03-0100S		1	4	47	4,7	3,8	37,6	●
1534SU03-0105S		1,05	4	47	4,9	3,9	37,5	●
1534SU03-0110S		1,1	4	47	5,2	4,1	37,2	○
1534SU03-0115S		1,15	4	47	5,4	4,3	37,1	○
1534SU03-0120S		1,2	4	47	5,6	4,5	37	●
1534SU03-0125S		1,25	4	47	5,9	4,7	36,8	○
1534SU03-0130S		1,3	4	47	6,1	4,9	36,6	●
1534SU03-0135S		1,35	4	47	6,3	5,1	36,5	○
1534SU03-0140S		1,4	4	47	6,6	5,3	36,3	○
1534SU03-0145S		1,45	4	47	6,8	5,4	36,2	○
1534SU03-0147S		1,47	4	47	6,9	5,5	36,1	●
1534SU03-0150S		1,5	4	47	7,1	5,6	36	●
1534SU03-0155S		1,55	4	47	7,3	5,8	35,8	○
1534SU03-0160S		1,6	4	47	7,5	6	35,7	●
1534SU03-0165S		1,65	4	47	7,8	6,2	35,5	○
1534SU03-0170S		1,7	4	47	8	6,4	35,4	●
1534SU03-0175S		1,75	4	47	8,2	6,6	35,2	○
1534SU03-0180S		1,8	4	47	8,5	6,8	35	●
1534SU03-0185S		1,85	4	47	8,7	6,9	34,9	○
1534SU03-0190S		1,9	4	47	8,9	7,1	34,8	●
1534SU03-0195S		1,95	4	47	9,2	7,3	34,5	○
1534SU03-0200		2	6	62	20	14	36	●
1534SU03-0205		2,05	6	62	20	14	36	○
1534SU03-0207		2,07	6	62	20	14	36	○
1534SU03-0210		2,1	6	62	20	14	36	●
1534SU03-0215		2,15	6	62	20	14	36	○
1534SU03-0220		2,2	6	62	20	14	36	●
1534SU03-0225		2,25	6	62	20	14	36	○
1534SU03-0230		2,33	3	59	13,8	14	36	●
1534SU03-0240		2,4	6	62	20	14	36	●
1534SU03-0245		2,45	6	62	20	14	36	○
1534SU03-0250		2,5	6	62	20	14	36	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

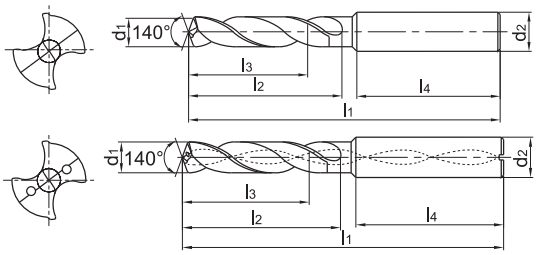
SU Punta 3xD — Lavorazione generica

1534SU03/1534SU03C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento esterno

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG303
1534SU03-0255		2,55	6	62	20	14	36	○
1534SU03-0260		2,6	6	62	20	14	36	●
1534SU03-0270		2,7	6	62	20	14	36	●
1534SU03-0275		2,75	6	62	20	14	36	○
1534SU03-0280		2,8	6	62	20	14	36	●
1534SU03-0285		2,85	6	62	20	14	36	○
1534SU03-0290		2,9	6	62	20	14	36	●
1534SU03-0295		2,95	6	62	20	14	36	○
1534SU03-0300		3	6	62	20	14	36	●
1534SU03C-0300	✻	3	6	62	20	14	36	●
1534SU03-0305		3,05	6	62	20	14	36	○
1534SU03C-0305	✻	3,05	6	62	20	14	36	○
1534SU03-0310		3,1	6	62	20	14	36	●
1534SU03C-0310	✻	3,1	6	62	20	14	36	●
1534SU03-0315		3,15	6	62	20	14	36	○
1534SU03-0320		3,2	6	62	20	14	36	●
1534SU03C-0320	✻	3,2	6	62	20	14	36	●
1534SU03-0325		3,25	6	62	20	14	36	●
1534SU03C-0325	✻	3,25	6	62	20	14	36	●
1534SU03-0330		3,3	6	62	20	14	36	●
1534SU03C-0330	✻	3,3	6	62	20	14	36	●
1534SU03-0335		3,35	6	62	20	14	36	○
1534SU03-0340		3,4	6	62	20	14	36	●
1534SU03C-0340	✻	3,4	6	62	20	14	36	●
1534SU03-0345		3,45	6	62	20	14	36	●
1534SU03-0350		3,5	6	62	20	14	36	●
1534SU03C-0350	✻	3,5	6	62	20	14	36	●
1534SU03-0360		3,6	6	62	20	14	36	●
1534SU03C-0360	✻	3,6	6	62	20	14	36	●
1534SU03-0365		3,65	6	62	20	14	36	○
1534SU03-0370		3,7	6	62	20	14	36	●
1534SU03C-0370	✻	3,7	6	62	20	14	36	●
1534SU03-0380		3,8	6	66	24	17	36	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

SU Punta 3xD

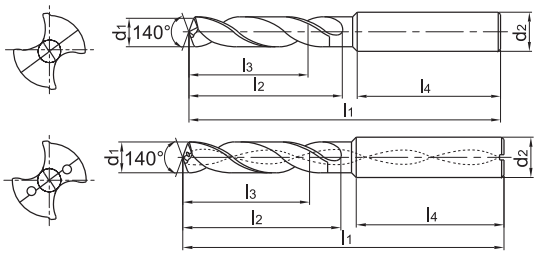
Lavorazione generica

1534SU03/1534SU03C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento esterno

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG303
1534SU03C-0380	✻	3,8	6	66	24	17	36	●
1534SU03-0390		3,9	6	66	24	17	36	●
1534SU03C-0390	✻	3,9	6	66	24	17	36	●
1534SU03-0400		4	6	66	24	17	36	●
1534SU03C-0400	✻	4	6	66	24	17	36	●
1534SU03-0405		4,05	6	66	24	17	36	○
1534SU03-0410		4,1	6	66	24	17	36	●
1534SU03C-0410	✻	4,1	6	66	24	17	36	●
1534SU03-0415		4,15	6	66	24	17	36	○
1534SU03-0420		4,2	6	66	24	17	36	●
1534SU03C-0420	✻	4,2	6	66	24	17	36	●
1534SU03-0425		4,25	6	66	24	17	36	○
1534SU03C-0425	✻	4,25	6	66	24	17	36	○
1534SU03-0430		4,3	6	66	24	17	36	●
1534SU03C-0430	✻	4,3	6	66	24	17	36	●
1534SU03-0435		4,35	6	66	24	17	36	○
1534SU03-0440		4,4	6	66	24	17	36	●
1534SU03C-0440	✻	4,4	6	66	24	17	36	●
1534SU03-0450		4,5	6	66	24	17	36	●
1534SU03C-0450	✻	4,5	6	66	24	17	36	●
1534SU03-0455		4,55	6	66	24	17	36	○
1534SU03-0460		4,6	6	66	24	17	36	●
1534SU03C-0460	✻	4,6	6	66	24	17	36	●
1534SU03-0465		4,65	6	66	24	17	36	●
1534SU03C-0465	✻	4,65	6	66	24	17	36	●
1534SU03-0470		4,7	6	66	24	17	36	●
1534SU03C-0470	✻	4,7	6	66	24	17	36	●
1534SU03-0475		4,75	6	66	28	20	36	○
1534SU03-0480		4,8	6	66	28	20	36	●
1534SU03C-0480	✻	4,8	6	66	28	20	36	●
1534SU03-0490		4,9	6	66	28	20	36	●
1534SU03C-0490	✻	4,9	6	66	28	20	36	●
1534SU03-0500		5	6	66	28	20	36	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

SU Punta 3xD

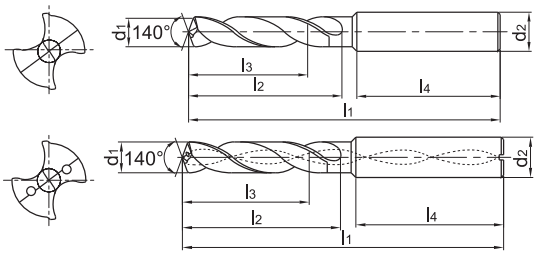
Lavorazione generica

1534SU03/1534SU03C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento esterno

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG303
1534SU03C-0500	✻	5	6	66	28	20	36	●
1534SU03C-0504		5,04	6	66	28	20	36	○
1534SU03-0505		5,05	6	66	28	20	36	●
1534SU03-0510		5,1	6	66	28	20	36	●
1534SU03C-0510	✻	5,1	6	66	28	20	36	●
1534SU03-0520		5,2	6	66	28	20	36	●
1534SU03C-0520	✻	5,2	6	66	28	20	36	●
1534SU03-0525		5,25	6	66	28	20	36	●
1534SU03-0530		5,3	6	66	28	20	36	●
1534SU03C-0530	✻	5,3	6	66	28	20	36	●
1534SU03-0535		5,35	6	66	28	20	36	○
1534SU03-0540		5,4	6	66	28	20	36	●
1534SU03C-0540	✻	5,4	6	66	28	20	36	●
1534SU03-0550		5,5	6	66	28	20	36	●
1534SU03C-0550	✻	5,5	6	66	28	20	36	●
1534SU03-0555		5,55	6	66	28	20	36	●
1534SU03C-0555	✻	5,55	6	66	28	20	36	●
1534SU03-0560		5,6	6	66	28	20	36	●
1534SU03C-0560	✻	5,6	6	66	28	20	36	●
1534SU03-0570		5,7	6	66	28	20	36	●
1534SU03C-0570	✻	5,7	6	66	28	20	36	●
1534SU03-0580		5,8	6	66	28	20	36	●
1534SU03C-0580	✻	5,8	6	66	28	20	36	●
1534SU03-0590		5,9	6	66	28	20	36	●
1534SU03C-0590	✻	5,9	6	66	28	20	36	●
1534SU03-0600		6	6	66	28	20	36	●
1534SU03C-0600	✻	6	6	66	28	20	36	●
1534SU03-0610		6,1	8	79	34	24	36	●
1534SU03C-0610	✻	6,1	8	79	34	24	36	●
1534SU03-0620		6,2	8	79	34	24	36	●
1534SU03C-0620	✻	6,2	8	79	34	24	36	●
1534SU03-0630		6,3	8	79	34	24	36	●
1534SU03C-0630	✻	6,3	8	79	34	24	36	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

SU Punta 3xD

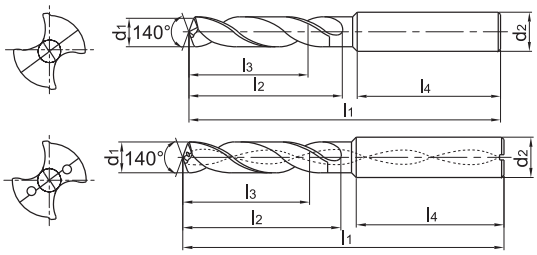
Lavorazione generica

1534SU03/1534SU03C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento esterno

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG303
1534SU03C-0635	✻	6,35	8	79	34	24	36	○
1534SU03-0640		6,4	8	79	34	24	36	●
1534SU03C-0640	✻	6,4	8	79	34	24	36	●
1534SU03-0645		6,45	8	79	34	24	36	●
1534SU03-0650		6,5	8	79	34	24	36	●
1534SU03C-0650	✻	6,5	8	79	34	24	36	●
1534SU03C-0657		6,57	8	79	34	24	36	○
1534SU03-0660		6,6	8	79	34	24	36	●
1534SU03C-0660	✻	6,6	8	79	34	24	36	●
1534SU03-0670		6,7	8	79	34	24	36	●
1534SU03C-0670	✻	6,7	8	79	34	24	36	●
1534SU03-0675		6,75	8	79	34	24	36	●
1534SU03C-0675	✻	6,75	8	79	34	24	36	●
1534SU03-0680		6,8	8	79	34	24	36	●
1534SU03C-0680	✻	6,8	8	79	34	24	36	●
1534SU03-0690		6,9	8	79	34	24	36	●
1534SU03C-0690	✻	6,9	8	79	34	24	36	●
1534SU03-0700		7	8	79	34	24	36	●
1534SU03C-0700	✻	7	8	79	34	24	36	●
1534SU03-0710		7,1	8	79	41	29	36	●
1534SU03C-0710	✻	7,1	8	79	41	29	36	●
1534SU03-0720		7,2	8	79	41	29	36	●
1534SU03C-0720	✻	7,2	8	79	41	29	36	●
1534SU03-0730		7,3	8	79	41	29	36	●
1534SU03C-0730	✻	7,3	8	79	41	29	36	●
1534SU03-0740		7,4	8	79	41	29	36	●
1534SU03C-0740	✻	7,4	8	79	41	29	36	●
1534SU03-0745		7,45	8	79	41	29	36	○
1534SU03C-0745	✻	7,45	8	79	41	29	36	○
1534SU03-0750		7,5	8	79	41	29	36	●
1534SU03C-0750	✻	7,5	8	79	41	29	36	●
1534SU03-0760		7,6	8	79	41	29	36	●
1534SU03C-0760	✻	7,6	8	79	41	29	36	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

SU Punta 3xD

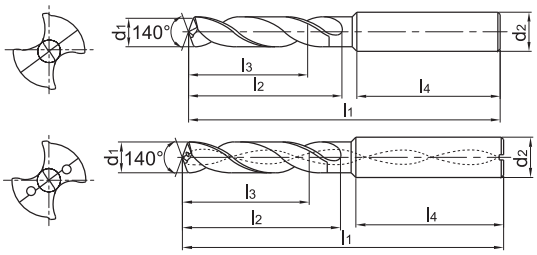
Lavorazione generica

1534SU03/1534SU03C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento esterno

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG303
1534SU03-0770		7,7	8	79	41	29	36	●
1534SU03C-0770	✻	7,7	8	79	41	29	36	●
1534SU03-0780		7,8	8	79	41	29	36	●
1534SU03C-0780	✻	7,8	8	79	41	29	36	●
1534SU03-0790		7,9	8	79	41	29	36	●
1534SU03C-0790	✻	7,9	8	79	41	29	36	●
1534SU03-0800		8	8	79	41	29	36	●
1534SU03C-0800	✻	8	8	79	41	29	36	●
1534SU03-0810		8,1	10	89	47	35	40	●
1534SU03C-0810	✻	8,1	10	89	47	35	40	●
1534SU03-0820		8,2	10	89	47	35	40	●
1534SU03C-0820	✻	8,2	10	89	47	35	40	●
1534SU03-0830		8,3	10	89	47	35	40	●
1534SU03C-0830	✻	8,3	10	89	47	35	40	●
1534SU03-0840		8,4	10	89	47	35	40	●
1534SU03C-0840	✻	8,4	10	89	47	35	40	●
1534SU03-0850		8,5	10	89	47	35	40	●
1534SU03C-0850	✻	8,5	10	89	47	35	40	●
1534SU03-0860		8,6	10	89	47	35	40	●
1534SU03C-0860	✻	8,6	10	89	47	35	40	●
1534SU03-0870		8,7	10	89	47	35	40	●
1534SU03C-0870	✻	8,7	10	89	47	35	40	●
1534SU03-0880		8,8	10	89	47	35	40	●
1534SU03C-0880	✻	8,8	10	89	47	35	40	●
1534SU03-0890		8,9	10	89	47	35	40	●
1534SU03C-0890	✻	8,9	10	89	47	35	40	●
1534SU03-0900		9	10	89	47	35	40	●
1534SU03C-0900	✻	9	10	89	47	35	40	●
1534SU03-0910		9,1	10	89	47	35	40	●
1534SU03C-0910	✻	9,1	10	89	47	35	40	●
1534SU03-0920		9,2	10	89	47	35	40	●
1534SU03C-0920	✻	9,2	10	89	47	35	40	●
1534SU03-0930		9,3	10	89	47	35	40	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

SU Punta 3xD

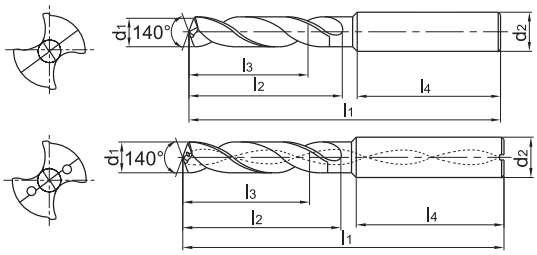
Lavorazione generica

1534SU03/1534SU03C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento esterno

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG303
1534SU03C-0930	✻	9,3	10	89	47	35	40	●
1534SU03-0935		9,35	10	89	47	35	40	○
1534SU03C-0935	✻	9,35	10	89	47	35	40	○
1534SU03-0940		9,4	10	89	47	35	40	●
1534SU03C-0940	✻	9,4	10	89	47	35	40	●
1534SU03-0945		9,45	10	89	47	35	40	○
1534SU03C-0945	✻	9,45	10	89	47	35	40	○
1534SU03-0950		9,5	10	89	47	35	40	●
1534SU03C-0950	✻	9,5	10	89	47	35	40	●
1534SU03-0960		9,6	10	89	47	35	40	●
1534SU03C-0960	✻	9,6	10	89	47	35	40	●
1534SU03-0970		9,7	10	89	47	35	40	●
1534SU03C-0970	✻	9,7	10	89	47	35	40	●
1534SU03-0980		9,8	10	89	47	35	40	●
1534SU03C-0980	✻	9,8	10	89	47	35	40	●
1534SU03-0990		9,9	10	89	47	35	40	●
1534SU03C-0990	✻	9,9	10	89	47	35	40	●
1534SU03-1000		10	10	89	47	35	40	●
1534SU03C-1000	✻	10	10	89	47	35	40	●
1534SU03-1010		10,1	12	102	55	40	45	●
1534SU03C-1010	✻	10,1	12	102	55	40	45	●
1534SU03-1020		10,2	12	102	55	40	45	●
1534SU03C-1020	✻	10,2	12	102	55	40	45	●
1534SU03-1025		10,25	12	102	55	40	45	●
1534SU03C-1025	✻	10,25	12	102	55	40	45	●
1534SU03-1030		10,3	12	102	55	40	45	●
1534SU03C-1030	✻	10,3	12	102	55	40	45	●
1534SU03-1040		10,4	12	102	55	40	45	●
1534SU03C-1040	✻	10,4	12	102	55	40	45	●
1534SU03-1050		10,5	12	102	55	40	45	●
1534SU03C-1050	✻	10,5	12	102	55	40	45	●
1534SU03-1060		10,6	12	102	55	40	45	●
1534SU03C-1060	✻	10,6	12	102	55	40	45	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

SU Punta 3xD

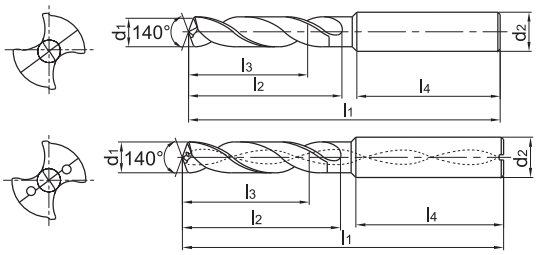
Lavorazione generica

1534SU03/1534SU03C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento esterno

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG303
1534SU03-1070		10,7	12	102	55	40	45	●
1534SU03C-1070	✻	10,7	12	102	55	40	45	●
1534SU03-1080		10,8	12	102	55	40	45	●
1534SU03C-1080	✻	10,8	12	102	55	40	45	●
1534SU03-1090		10,9	12	102	55	40	45	●
1534SU03C-1090	✻	10,9	12	102	55	40	45	●
1534SU03-1100		11	12	102	55	40	45	●
1534SU03C-1100	✻	11	12	102	55	40	45	●
1534SU03C-1105	✻	11,05	12	102	55	40	45	●
1534SU03-1110		11,1	12	102	55	40	45	●
1534SU03C-1110	✻	11,1	12	102	55	40	45	●
1534SU03-1120		11,2	12	102	55	40	45	●
1534SU03C-1120	✻	11,2	12	102	55	40	45	●
1534SU03-1125		11,25	12	102	55	40	45	○
1534SU03C-1125	✻	11,25	12	102	55	40	45	○
1534SU03-1130		11,3	12	102	55	40	45	●
1534SU03C-1130	✻	11,3	12	102	55	40	45	●
1534SU03-1135		11,35	12	102	55	40	45	○
1534SU03C-1135	✻	11,35	12	102	55	40	45	○
1534SU03-1140		11,4	12	102	55	40	45	●
1534SU03C-1140	✻	11,4	12	102	55	40	45	●
1534SU03-1145		11,45	12	102	55	40	45	○
1534SU03C-1145	✻	11,45	12	102	55	40	45	○
1534SU03-1150		11,5	12	102	55	40	45	●
1534SU03C-1150	✻	11,5	12	102	55	40	45	●
1534SU03-1160		11,6	12	102	55	40	45	●
1534SU03C-1160	✻	11,6	12	102	55	40	45	●
1534SU03-1170		11,7	12	102	55	40	45	●
1534SU03C-1170	✻	11,7	12	102	55	40	45	●
1534SU03-1180		11,8	12	102	55	40	45	●
1534SU03C-1180	✻	11,8	12	102	55	40	45	●
1534SU03-1190		11,9	12	102	55	40	45	●
1534SU03C-1190	✻	11,9	12	102	55	40	45	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

SU Punta 3xD

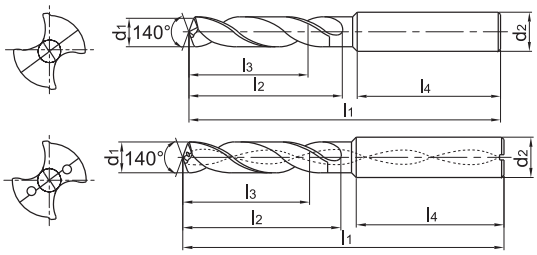
Lavorazione generica

1534SU03/1534SU03C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento esterno

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG303
1534SU03-1200		12	12	102	55	40	45	●
1534SU03C-1200	✻	12	12	102	55	40	45	●
1534SU03-1210		12,1	14	107	60	43	45	●
1534SU03C-1210	✻	12,1	14	107	60	43	45	●
1534SU03-1220		12,2	14	107	60	43	45	●
1534SU03C-1220	✻	12,2	14	107	60	43	45	●
1534SU03-1225		12,25	14	107	60	43	45	●
1534SU03C-1225	✻	12,25	14	107	60	43	45	●
1534SU03-1230		12,3	14	107	60	43	45	●
1534SU03C-1230	✻	12,3	14	107	60	43	45	●
1534SU03-1250		12,5	14	107	60	43	45	○
1534SU03C-1250	✻	12,5	14	107	60	43	45	●
1534SU03-1270		12,7	14	107	60	43	45	●
1534SU03C-1270	✻	12,7	14	107	60	43	45	●
1534SU03-1275		12,75	14	107	60	43	45	●
1534SU03C-1275	✻	12,75	14	107	60	43	45	●
1534SU03-1280		12,8	14	107	60	43	45	●
1534SU03C-1280	✻	12,8	14	107	60	43	45	●
1534SU03-1290		12,9	14	107	60	43	45	●
1534SU03-1300		13	14	107	60	43	45	●
1534SU03C-1300	✻	13	14	107	60	43	45	●
1534SU03-1310		13,1	14	107	60	43	45	●
1534SU03C-1310	✻	13,1	14	107	60	43	45	●
1534SU03-1330		13,3	14	107	60	43	45	●
1534SU03C-1330	✻	13,3	14	107	60	43	45	●
1534SU03C-1335	✻	13,35	14	107	60	43	45	●
1534SU03-1340		13,4	14	107	60	43	45	●
1534SU03-1350		13,5	14	107	60	43	45	●
1534SU03C-1350	✻	13,5	14	107	60	43	45	●
1534SU03-1360		13,6	14	107	60	43	45	●
1534SU03-1370		13,7	14	107	60	43	45	●
1534SU03C-1370	✻	13,7	14	107	60	43	45	●
1534SU03-1380		13,8	14	107	60	43	45	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

SU Punta 3xD

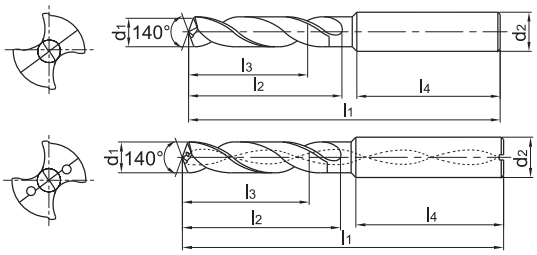
Lavorazione generica

1534SU03/1534SU03C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento esterno

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG303
1534SU03C-1380	✻	13,8	14	107	60	43	45	●
1534SU03-1390		13,9	14	107	60	43	45	●
1534SU03-1400		14	14	107	60	43	45	●
1534SU03C-1400	✻	14	14	107	60	43	45	●
1534SU03-1410		14,1	14	107	60	43	45	●
1534SU03C-1410	✻	14,1	16	107	60	43	45	○
1534SU03-1420		14,2	16	107	60	43	45	●
1534SU03C-1420	✻	14,2	16	107	60	43	45	●
1534SU03-1425		14,25	16	115	65	45	48	●
1534SU03C-1425	✻	14,25	16	115	65	45	48	●
1534SU03-1430		14,3	16	115	65	45	48	●
1534SU03C-1430	✻	14,3	16	115	65	45	48	●
1534SU03-1440		14,4	16	115	65	45	48	●
1534SU03-1450		14,5	16	115	65	45	48	●
1534SU03C-1450	✻	14,5	16	115	65	45	48	●
1534SU03-1460		14,6	16	115	65	45	48	●
1534SU03-1470		14,7	16	115	65	45	48	●
1534SU03C-1470	✻	14,7	16	115	65	45	48	●
1534SU03-1475		14,75	16	115	65	45	48	●
1534SU03C-1475	✻	14,75	16	115	65	45	48	●
1534SU03-1480		14,8	16	115	65	45	48	●
1534SU03C-1480	✻	14,8	16	115	65	45	48	●
1534SU03-1490		14,9	16	115	65	45	48	●
1534SU03-1500		15	16	115	65	45	48	●
1534SU03C-1500	✻	15	16	115	65	45	48	●
1534SU03-1510		15,1	16	115	65	45	48	●
1534SU03C-1510	✻	15,1	16	115	65	45	48	●
1534SU03C-1520	✻	15,2	16	115	65	45	48	○
1534SU03-1530		15,3	16	115	65	45	48	●
1534SU03C-1535	✻	15,35	16	115	65	45	48	○
1534SU03-1540		15,4	16	115	65	45	48	●
1534SU03-1550		15,5	16	115	65	45	48	●
1534SU03C-1550	✻	15,5	16	115	65	45	48	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

SU Punta 3xD

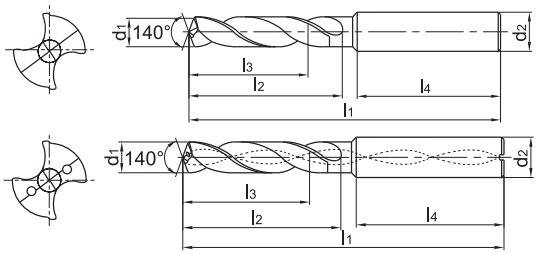
Lavorazione generica

1534SU03/1534SU03C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento esterno

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG303
1534SU03-1560		15,6	16	115	65	45	48	●
1534SU03-1570		15,7	16	115	65	45	48	●
1534SU03-1580		15,8	16	115	65	45	48	●
1534SU03C-1580	✻	15,8	16	115	65	45	48	●
1534SU03-1600		16	16	115	65	45	48	●
1534SU03C-1600	✻	16	16	115	65	45	48	●
1534SU03-1610		16,1	18	123	73	51	48	●
1534SU03-1640		16,4	18	123	73	51	48	●
1534SU03C-1640	✻	16,4	18	123	73	51	48	○
1534SU03-1650		16,5	18	123	73	51	48	●
1534SU03C-1650	✻	16,5	18	123	73	51	48	●
1534SU03-1675		16,75	18	123	73	51	48	●
1534SU03C-1675	✻	16,75	18	123	73	51	48	●
1534SU03-1680		16,8	18	123	73	51	48	●
1534SU03C-1680	✻	16,8	18	123	73	51	48	●
1534SU03-1700		17	18	123	73	51	48	●
1534SU03C-1700	✻	17	18	123	73	51	48	●
1534SU03C-1720	✻	17,2	18	123	73	51	48	○
1534SU03-1750		17,5	18	123	73	51	48	●
1534SU03C-1750	✻	17,5	18	123	73	51	48	●
1534SU03-1770		17,7	18	123	73	51	48	●
1534SU03-1780		17,8	18	123	73	51	48	●
1534SU03C-1780	✻	17,8	18	123	73	51	48	●
1534SU03-1800		18	18	123	73	51	48	●
1534SU03C-1800	✻	18	18	123	73	51	48	●
1534SU03-1850		18,5	20	131	79	55	50	●
1534SU03C-1850	✻	18,5	20	131	79	55	50	●
1534SU03-1880		18,8	20	131	79	55	50	●
1534SU03C-1880	✻	18,8	20	131	79	55	50	●
1534SU03-1900		19	20	131	79	55	50	●
1534SU03C-1900	✻	19	20	131	79	55	50	●
1534SU03-1950		19,5	20	131	79	55	50	●
1534SU03C-1950	✻	19,5	20	131	79	55	50	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

SU Punta 3xD

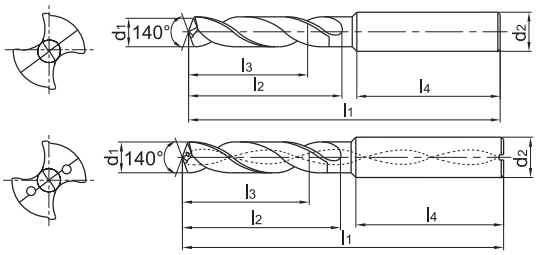
Lavorazione generica

1534SU03/1534SU03C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento esterno

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG303
1534SU03-1980		19,8	20	131	79	55	50	●
1534SU03C-1980	✻	19,8	20	131	79	55	50	●
1534SU03-2000		20	20	131	79	55	50	●
1534SU03C-2000	✻	20	20	131	79	55	50	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

SU Punta 5xD

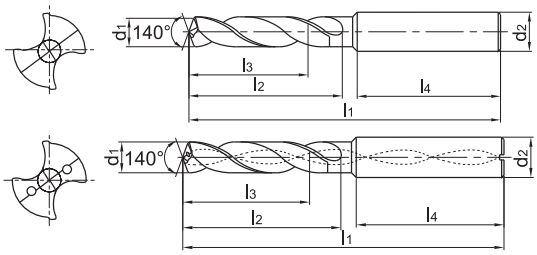
Lavorazione generica

1536SU05/1536SU05C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento esterno

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG303
1536SU05-0200		2	6	66	28	23	36	●
1536SU05-0205		2,05	6	66	28	23	36	○
1536SU05-0210		2,1	6	66	28	23	36	●
1536SU05-0215		2,15	6	66	28	23	36	○
1536SU05-0220		2,2	6	66	28	23	36	●
1536SU05-0230		2,3	6	66	28	23	36	●
1536SU05-0235		2,35	6	66	28	23	36	○
1536SU05-0240		2,4	6	66	28	23	36	●
1536SU05-0245		2,45	6	66	28	23	36	○
1536SU05-0250		2,5	6	66	28	23	36	●
1536SU05-0255		2,55	6	66	28	23	36	○
1536SU05-0260		2,6	6	66	28	23	36	●
1536SU05-0265		2,65	6	66	28	23	36	○
1536SU05-0270		2,7	6	66	28	23	36	●
1536SU05-0275		2,75	6	66	28	23	36	○
1536SU05-0280		2,8	6	66	28	23	36	●
1536SU05-0290		2,9	6	66	28	23	36	●
1536SU05-0300		3	6	66	28	23	36	●
1536SU05C-0300	✻	3	6	66	28	23	36	●
1536SU05-0305		3,05	6	66	28	23	36	○
1536SU05-0310		3,1	6	66	28	23	36	●
1536SU05C-0310	✻	3,1	6	66	28	23	36	●
1536SU05-0315		3,15	6	66	28	23	36	○
1536SU05-0320		3,2	6	66	28	23	36	●
1536SU05C-0320	✻	3,2	6	66	28	23	36	●
1536SU05-0325		3,25	6	66	28	23	36	●
1536SU05C-0325	✻	3,25	6	66	28	23	36	●
1536SU05-0330		3,3	6	66	28	23	36	●
1536SU05C-0330	✻	3,3	6	66	28	23	36	●
1536SU05-0335		3,35	6	66	28	23	36	○
1536SU05-0340		3,4	6	66	28	23	36	●
1536SU05C-0340	✻	3,4	6	66	28	23	36	●
1536SU05-0350		3,5	6	66	28	23	36	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

SU Punta 5xD

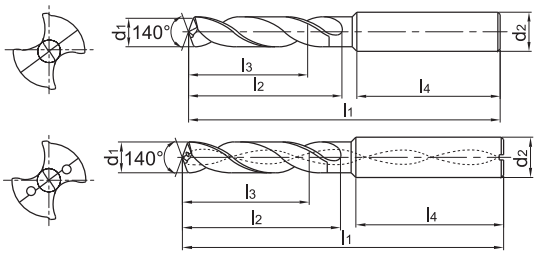
Lavorazione generica

1536SU05/1536SU05C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento esterno

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG303
1536SU05C-0350	✻	3,5	6	66	28	23	36	●
1536SU05-0355		3,55	6	66	28	23	36	○
1536SU05-0360		3,6	6	66	28	23	36	●
1536SU05C-0360	✻	3,6	6	66	28	23	36	●
1536SU05C-0362		3,62	6	66	28	23	36	○
1536SU05-0365		3,65	6	66	28	23	36	○
1536SU05-0370		3,7	6	66	28	23	36	●
1536SU05C-0370	✻	3,7	6	66	28	23	36	●
1536SU05-0375		3,75	6	74	36	29	36	○
1536SU05-0380		3,8	6	74	36	29	36	●
1536SU05C-0380	✻	3,8	6	74	36	29	36	●
1536SU05-0390		3,9	6	74	36	29	36	●
1536SU05C-0390	✻	3,9	6	74	36	29	36	●
1536SU05-0395		3,95	6	74	36	29	36	○
1536SU05-0400		4	6	74	36	29	36	●
1536SU05C-0400	✻	4	6	74	36	29	36	●
1536SU05-0410		4,1	6	74	36	29	36	●
1536SU05C-0410	✻	4,1	6	74	36	29	36	●
1536SU05-0420		4,2	6	74	36	29	36	●
1536SU05C-0420	✻	4,2	6	74	36	29	36	●
1536SU05-0425		4,25	6	74	36	29	36	●
1536SU05C-0425	✻	4,25	6	74	36	29	36	○
1536SU05-0430		4,3	6	74	36	29	36	●
1536SU05C-0430	✻	4,3	6	74	36	29	36	●
1536SU05-0435		4,35	6	74	36	29	36	○
1536SU05-0440		4,4	6	74	36	29	36	●
1536SU05C-0440	✻	4,4	6	74	36	29	36	●
1536SU05-0445		4,45	6	74	36	29	36	○
1536SU05-0450		4,5	6	74	36	29	36	●
1536SU05C-0450	✻	4,5	6	74	36	29	36	●
1536SU05-0455		4,55	6	74	36	29	36	○
1536SU05-0460		4,6	6	74	36	29	36	●
1536SU05C-0460	✻	4,6	6	74	36	29	36	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

SU Punta 5xD

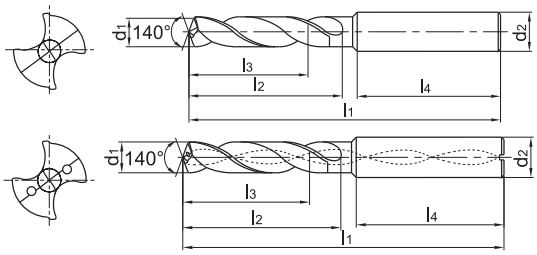
Lavorazione generica

1536SU05/1536SU05C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento esterno

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG303
1536SU05-0465		4,65	6	74	36	29	36	●
1536SU05C-0465	✻	4,65	6	74	36	29	36	●
1536SU05-0470		4,7	6	74	36	29	36	●
1536SU05C-0470	✻	4,7	6	74	36	29	36	●
1536SU05-0475		4,75	6	82	44	35	36	○
1536SU05-0480		4,8	6	82	44	35	36	●
1536SU05C-0480	✻	4,8	6	82	44	35	36	●
1536SU05-0485		4,85	6	82	44	35	36	○
1536SU05-0490		4,9	6	82	44	35	36	●
1536SU05C-0490	✻	4,9	6	82	44	35	36	●
1536SU05-0495		4,95	6	82	44	35	36	○
1536SU05-0500		5	6	82	44	35	36	●
1536SU05C-0500	✻	5	6	82	44	35	36	●
1536SU05-0510		5,1	6	82	44	35	36	●
1536SU05C-0510	✻	5,1	6	82	44	35	36	●
1536SU05-0520		5,2	6	82	44	35	36	●
1536SU05C-0520	✻	5,2	6	82	44	35	36	●
1536SU05C-0525	✻	5,25	6	82	44	35	36	○
1536SU05-0530		5,3	6	82	44	35	36	●
1536SU05C-0530	✻	5,3	6	82	44	35	36	●
1536SU05-0535		5,35	6	82	44	35	36	○
1536SU05-0540		5,4	6	82	44	35	36	●
1536SU05C-0540	✻	5,4	6	82	44	35	36	●
1536SU05-0550		5,5	6	82	44	35	36	●
1536SU05C-0550	✻	5,5	6	82	44	35	36	●
1536SU05-0555		5,55	6	82	44	35	36	●
1536SU05C-0555	✻	5,55	6	82	44	35	36	●
1536SU05-0560		5,6	6	82	44	35	36	●
1536SU05C-0560	✻	5,6	6	82	44	35	36	●
1536SU05-0570		5,7	6	82	44	35	36	●
1536SU05C-0570	✻	5,7	6	82	44	35	36	●
1536SU05-0580		5,8	6	82	44	35	36	●
1536SU05C-0580	✻	5,8	6	82	44	35	36	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

SU Punta 5xD

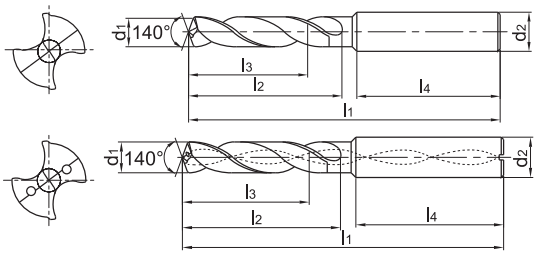
Lavorazione generica

1536SU05/1536SU05C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento esterno

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG303
1536SU05-0590		5,9	6	82	44	35	36	●
1536SU05C-0590	✻	5,9	6	82	44	35	36	●
1536SU05-0595		5,95	6	82	44	35	36	○
1536SU05-0600		6	6	82	44	35	36	●
1536SU05C-0600	✻	6	6	82	44	35	36	●
1536SU05C-0605		6,05	8	91	53	43	36	○
1536SU05-0610		6,1	8	91	53	43	36	●
1536SU05C-0610	✻	6,1	8	91	53	43	36	●
1536SU05-0620		6,2	8	91	53	43	36	●
1536SU05C-0620	✻	6,2	8	91	53	43	36	●
1536SU05-0630		6,3	8	91	53	43	36	●
1536SU05C-0630	✻	6,3	8	91	53	43	36	●
1536SU05C-0635	✻	6,35	8	91	53	43	36	●
1536SU05-0640		6,4	8	91	53	43	36	●
1536SU05C-0640	✻	6,4	8	91	53	43	36	●
1536SU05-0650		6,5	8	91	53	43	36	●
1536SU05C-0650	✻	6,5	8	91	53	43	36	●
1536SU05C-0655	✻	6,55	8	91	53	43	36	●
1536SU05-0660		6,6	8	91	53	43	36	●
1536SU05C-0660	✻	6,6	8	91	53	43	36	●
1536SU05-0670		6,7	8	91	53	43	36	●
1536SU05C-0670	✻	6,7	8	91	53	43	36	●
1536SU05-0675		6,75	8	91	53	43	36	●
1536SU05C-0675	✻	6,75	8	91	53	43	36	●
1536SU05-0680		6,8	8	91	53	43	36	●
1536SU05C-0680	✻	6,8	8	91	53	43	36	●
1536SU05-0690		6,9	8	91	53	43	36	●
1536SU05C-0690	✻	6,9	8	91	53	43	36	●
1536SU05-0700		7	8	91	53	43	36	●
1536SU05C-0700	✻	7	8	91	53	43	36	●
1536SU05-0705		7,05	8	91	53	43	36	●
1536SU05-0710		7,1	8	91	53	43	36	●
1536SU05C-0710	✻	7,1	8	91	53	43	36	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

SU Punta 5xD

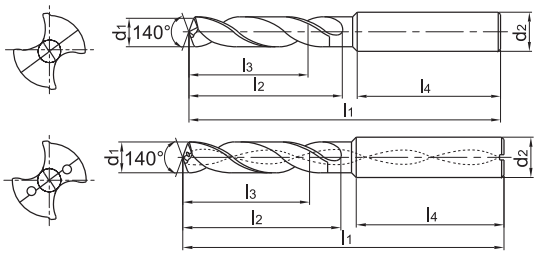
Lavorazione generica

1536SU05/1536SU05C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento esterno

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG303
1536SU05-0720		7,2	8	91	53	43	36	●
1536SU05C-0720	✻	7,2	8	91	53	43	36	●
1536SU05-0730		7,3	8	91	53	43	36	●
1536SU05C-0730	✻	7,3	8	91	53	43	36	●
1536SU05-0740		7,4	8	91	53	43	36	●
1536SU05C-0740	✻	7,4	8	91	53	43	36	●
1536SU05-0745		7,45	8	91	53	43	36	●
1536SU05C-0745	✻	7,45	8	91	53	43	36	●
1536SU05-0750		7,5	8	91	53	43	36	●
1536SU05C-0750	✻	7,5	8	91	53	43	36	●
1536SU05-0760		7,6	8	91	53	43	36	●
1536SU05C-0760	✻	7,6	8	91	53	43	36	●
1536SU05-0770		7,7	8	91	53	43	36	●
1536SU05C-0770	✻	7,7	8	91	53	43	36	●
1536SU05-0780		7,8	8	91	53	43	36	●
1536SU05C-0780	✻	7,8	8	91	53	43	36	●
1536SU05-0790		7,9	8	91	53	43	36	●
1536SU05C-0790	✻	7,9	8	91	53	43	36	●
1536SU05-0800		8	8	91	53	43	36	●
1536SU05C-0800	✻	8	8	91	53	43	36	●
1536SU05-0810		8,1	10	103	61	49	40	●
1536SU05C-0810	✻	8,1	10	103	61	49	40	●
1536SU05-0815		8,15	10	103	61	49	40	○
1536SU05C-0815	✻	8,15	10	103	61	49	40	○
1536SU05-0820		8,2	10	103	61	49	40	●
1536SU05C-0820	✻	8,2	10	103	61	49	40	●
1536SU05-0830		8,3	10	103	61	49	40	●
1536SU05C-0830	✻	8,3	10	103	61	49	40	●
1536SU05-0840		8,4	10	103	61	49	40	●
1536SU05C-0840	✻	8,4	10	103	61	49	40	●
1536SU05-0850		8,5	10	103	61	49	40	●
1536SU05C-0850	✻	8,5	10	103	61	49	40	●
1536SU05-0860		8,6	10	103	61	49	40	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

SU Punta 5xD

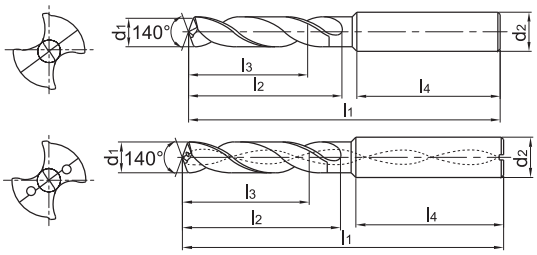
Lavorazione generica

1536SU05/1536SU05C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento esterno

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG303
1536SU05C-0860	✻	8,6	10	103	61	49	40	●
1536SU05-0865		8,65	10	103	61	49	40	○
1536SU05-0870		8,7	10	103	61	49	40	●
1536SU05C-0870	✻	8,7	10	103	61	49	40	●
1536SU05-0880		8,8	10	103	61	49	40	●
1536SU05C-0880	✻	8,8	10	103	61	49	40	●
1536SU05-0890		8,9	10	103	61	49	40	●
1536SU05C-0890	✻	8,9	10	103	61	49	40	●
1536SU05-0900		9	10	103	61	49	40	●
1536SU05C-0900	✻	9	10	103	61	49	40	●
1536SU05-0910		9,1	10	103	61	49	40	●
1536SU05C-0910	✻	9,1	10	103	61	49	40	●
1536SU05-0920		9,2	10	103	61	49	40	●
1536SU05C-0920	✻	9,2	10	103	61	49	40	●
1536SU05-0930		9,3	10	103	61	49	40	●
1536SU05C-0930	✻	9,3	10	103	61	49	40	●
1536SU05-0935		9,35	10	103	61	49	40	●
1536SU05C-0935	✻	9,35	10	103	61	49	40	○
1536SU05-0940		9,4	10	103	61	49	40	●
1536SU05C-0940	✻	9,4	10	103	61	49	40	●
1536SU05-0945		9,45	10	103	61	49	40	●
1536SU05C-0945	✻	9,45	10	103	61	49	40	○
1536SU05-0950		9,5	10	103	61	49	40	●
1536SU05C-0950	✻	9,5	10	103	61	49	40	●
1536SU05-0960		9,6	10	103	61	49	40	●
1536SU05C-0960	✻	9,6	10	103	61	49	40	●
1536SU05-0970		9,7	10	103	61	49	40	●
1536SU05C-0970	✻	9,7	10	103	61	49	40	●
1536SU05-0980		9,8	10	103	61	49	40	●
1536SU05C-0980	✻	9,8	10	103	61	49	40	●
1536SU05-0990		9,9	10	103	61	49	40	●
1536SU05C-0990	✻	9,9	10	103	61	49	40	●
1536SU05-1000		10	10	103	61	49	40	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

SU Punta 5xD

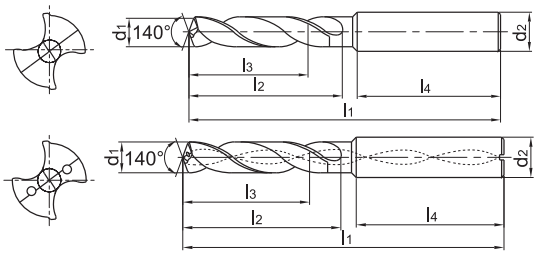
Lavorazione generica

1536SU05/1536SU05C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento esterno

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG303
1536SU05C-1000	✻	10	10	103	61	49	40	●
1536SU05C-1005	✻	10,05	12	118	71	56	45	○
1536SU05-1010		10,1	12	118	71	56	45	●
1536SU05C-1010	✻	10,1	12	118	71	56	45	●
1536SU05-1015		10,15	12	118	71	56	45	○
1536SU05C-1015	✻	10,15	12	118	71	56	45	●
1536SU05-1020		10,2	12	118	71	56	45	●
1536SU05C-1020	✻	10,2	12	118	71	56	45	●
1536SU05-1025		10,25	12	118	71	56	45	●
1536SU05C-1025	✻	10,25	12	118	71	56	45	●
1536SU05-1030		10,3	12	118	71	56	45	●
1536SU05C-1030	✻	10,3	12	118	71	56	45	●
1536SU05-1040		10,4	12	118	71	56	45	●
1536SU05C-1040	✻	10,4	12	118	71	56	45	●
1536SU05-1050		10,5	12	118	71	56	45	●
1536SU05C-1050	✻	10,5	12	118	71	56	45	●
1536SU05-1060		10,6	12	118	71	56	45	●
1536SU05C-1060	✻	10,6	12	118	71	56	45	●
1536SU05-1070		10,7	12	118	71	56	45	●
1536SU05C-1070	✻	10,7	12	118	71	56	45	●
1536SU05-1080		10,8	12	118	71	56	45	●
1536SU05C-1080	✻	10,8	12	118	71	56	45	●
1536SU05-1090		10,9	12	118	71	56	45	●
1536SU05C-1090	✻	10,9	12	118	71	56	45	●
1536SU05-1100		11	12	118	71	56	45	●
1536SU05C-1100	✻	11	12	118	71	56	45	●
1536SU05-1110		11,1	12	118	71	56	45	●
1536SU05C-1110	✻	11,1	12	118	71	56	45	○
1536SU05-1120		11,2	12	118	71	56	45	●
1536SU05C-1120	✻	11,2	12	118	71	56	45	●
1536SU05-1125		11,25	12	118	71	56	45	●
1536SU05C-1125	✻	11,25	12	118	71	56	45	○
1536SU05-1130		11,3	12	118	71	56	45	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

SU Punta 5xD

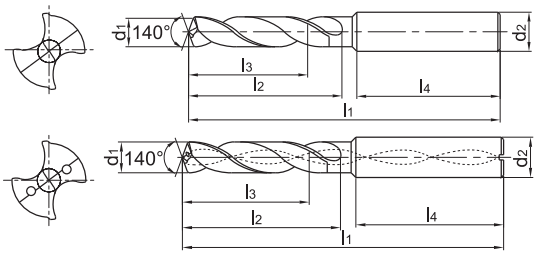
Lavorazione generica

1536SU05/1536SU05C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento esterno

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG303
1536SU05C-1130	✻	11,3	12	118	71	56	45	●
1536SU05-1135		11,35	12	118	71	56	45	●
1536SU05C-1135	✻	11,35	12	118	71	56	45	○
1536SU05-1140		11,4	12	118	71	56	45	●
1536SU05C-1140	✻	11,4	12	118	71	56	45	●
1536SU05-1145		11,45	12	118	71	56	45	○
1536SU05C-1145	✻	11,45	12	118	71	56	45	○
1536SU05-1150		11,5	12	118	71	56	45	●
1536SU05C-1150	✻	11,5	12	118	71	56	45	●
1536SU05-1160		11,6	12	118	71	56	45	●
1536SU05C-1160	✻	11,6	12	118	71	56	45	●
1536SU05-1170		11,7	12	118	71	56	45	●
1536SU05C-1170	✻	11,7	12	118	71	56	45	●
1536SU05-1180		11,8	12	118	71	56	45	●
1536SU05C-1180	✻	11,8	12	118	71	56	45	●
1536SU05-1190		11,9	12	118	71	56	45	●
1536SU05C-1190	✻	11,9	12	118	71	56	45	●
1536SU05-1200		12	12	118	71	56	45	●
1536SU05C-1200	✻	12	12	118	71	56	45	●
1536SU05-1210		12,1	14	124	77	60	45	●
1536SU05C-1210	✻	12,1	14	124	77	60	45	●
1536SU05C-1215	✻	12,15	14	124	77	60	45	○
1536SU05-1220		12,2	14	124	77	60	45	●
1536SU05C-1220	✻	12,2	14	124	77	60	45	●
1536SU05-1225		12,25	14	124	77	60	45	●
1536SU05C-1225	✻	12,25	14	124	77	60	45	●
1536SU05-1230		12,3	14	124	77	60	45	●
1536SU05C-1230	✻	12,3	14	124	77	60	45	●
1536SU05-1320		12,4	14	124	77	60	45	○
1536SU05-1240		12,4	14	124	77	60	45	○
1536SU05-1265		12,4	14	124	77	60	45	○
1536SU05C-1240	✻	12,4	14	124	77	60	45	○
1536SU05-1250		12,5	14	124	77	60	45	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

SU Punta 5xD

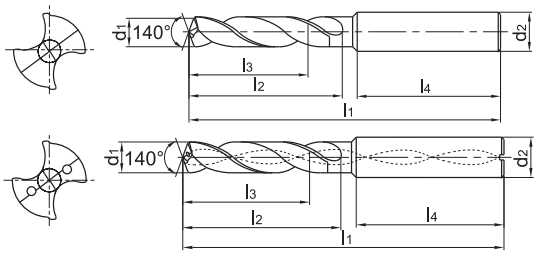
Lavorazione generica

1536SU05/1536SU05C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento esterno

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG303
1536SU05C-1250	✻	12,5	14	124	77	60	45	●
1536SU05C-1260	✻	12,6	14	124	77	60	45	●
1536SU05-1270		12,7	14	124	77	60	45	●
1536SU05C-1270	✻	12,7	14	124	77	60	45	●
1536SU05-1275		12,75	14	124	77	60	45	●
1536SU05C-1275	✻	12,75	14	124	77	60	45	●
1536SU05-1280		12,8	14	124	77	60	45	●
1536SU05C-1280	✻	12,8	14	124	77	60	45	●
1536SU05-1300		13	14	124	77	60	45	●
1536SU05C-1300	✻	13	14	124	77	60	45	●
1536SU05-1310		13,1	14	124	77	60	45	●
1536SU05C-1310	✻	13,1	14	124	77	60	45	●
1536SU05C-1320	✻	13,2	14	124	77	60	45	○
1536SU05C-1330	✻	13,3	14	124	77	60	45	○
1536SU05-1335		13,35	14	124	77	60	56	○
1536SU05C-1335	✻	13,35	14	124	77	60	56	○
1536SU05-1350		13,5	14	124	77	60	45	●
1536SU05C-1350	✻	13,5	14	124	77	60	45	●
1536SU05-1380		13,8	14	124	77	60	45	●
1536SU05C-1380	✻	13,8	14	124	77	60	45	●
1536SU05C-1390	✻	13,9	14	124	77	60	45	●
1536SU05-1400		14	14	124	77	60	45	●
1536SU05C-1400	✻	14	14	124	77	60	45	●
1536SU05-1410		14,1	16	124	77	60	45	●
1536SU05C-1410	✻	14,1	16	124	77	60	45	○
1536SU05-1420		14,2	16	124	77	60	45	●
1536SU05C-1420	✻	14,2	16	124	77	60	45	●
1536SU05-1425		14,25	16	133	83	63	48	●
1536SU05C-1425	✻	14,25	16	133	83	63	48	●
1536SU05-1430		14,3	16	133	83	63	48	●
1536SU05C-1430	✻	14,3	16	133	83	63	48	●
1536SU05C-1440	✻	14,4	16	133	83	63	48	●
1536SU05-1450		14,5	16	133	83	63	48	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

SU Punta 5xD

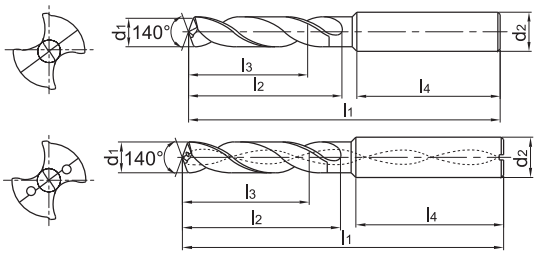
Lavorazione generica

1536SU05/1536SU05C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento esterno

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG303
1536SU05C-1450	✻	14,5	16	133	83	63	48	●
1536SU05-1460		14,6	16	133	83	63	48	○
1536SU05C-1470	✻	14,7	16	133	83	63	48	●
1536SU05-1475		14,75	16	133	83	63	48	●
1536SU05C-1475	✻	14,75	16	133	83	63	48	●
1536SU05-1480		14,8	16	133	83	63	48	●
1536SU05C-1480	✻	14,8	16	133	83	63	48	●
1536SU05-1500		15	16	133	83	63	48	●
1536SU05C-1500	✻	15	16	133	83	63	48	●
1536SU05-1510		15,1	16	133	83	63	48	●
1536SU05C-1510	✻	15,1	16	133	83	63	48	●
1536SU05-1515		15,15	16	133	83	63	48	○
1536SU05C-1530	✻	15,3	16	133	83	63	48	●
1536SU05-1535		15,35	16	133	83	63	48	○
1536SU05C-1535	✻	15,35	16	133	83	63	48	○
1536SU05-1550		15,5	16	133	83	63	48	●
1536SU05C-1550	✻	15,5	16	133	83	63	48	●
1536SU05-1560		15,6	16	133	83	63	48	●
1536SU05C-1560	✻	15,6	16	133	83	63	48	●
1536SU05C-1570	✻	15,7	16	133	83	63	48	○
1536SU05-1580		15,8	16	133	83	63	48	●
1536SU05C-1580	✻	15,8	16	133	83	63	48	●
1536SU05C-1590	✻	15,9	16	133	83	63	48	○
1536SU05-1600		16	16	133	83	63	48	●
1536SU05C-1600	✻	16	16	133	83	63	48	●
1536SU05-1710		16,2	18	143	93	71	48	●
1536SU05-1620		16,2	18	143	93	71	48	○
1536SU05C-1620	✻	16,2	18	143	93	71	48	○
1536SU05-1650		16,5	18	143	93	71	48	●
1536SU05C-1650	✻	16,5	18	143	93	71	48	●
1536SU05-1675		16,75	18	143	93	71	48	●
1536SU05C-1675	✻	16,75	18	143	93	71	48	●
1536SU05-1680		16,8	18	143	93	71	48	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

SU Punta 5xD

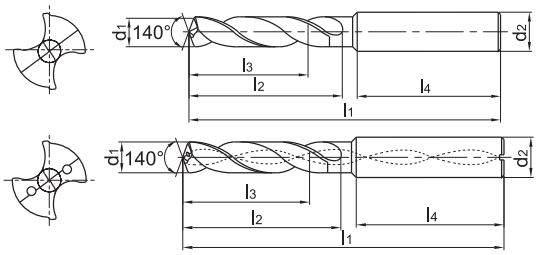
Lavorazione generica

1536SU05/1536SU05C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento esterno

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG303
1536SU05C-1680	✻	16,8	18	143	93	71	48	●
1536SU05-1700		17	18	143	93	71	48	●
1536SU05C-1700	✻	17	18	143	93	71	48	●
1536SU05C-1710	✻	17,1	18	143	93	71	48	●
1536SU05C-1730	✻	17,3	18	143	93	71	48	●
1536SU05-1750		17,5	18	143	93	71	48	●
1536SU05C-1750	✻	17,5	18	143	93	71	48	●
1536SU05-1780		17,8	18	143	93	71	48	●
1536SU05C-1780	✻	17,8	18	143	93	71	48	●
1536SU05-1800		18	18	143	93	71	48	●
1536SU05C-1800	✻	18	18	143	93	71	48	●
1536SU05-1850		18,5	20	153	101	77	50	●
1536SU05C-1850	✻	18,5	20	153	101	77	50	●
1536SU05-1860		18,6	20	153	101	77	50	○
1536SU05-1880		18,8	20	153	101	77	50	●
1536SU05C-1880	✻	18,8	20	153	101	77	50	●
1536SU05-1900		19	20	153	101	77	50	●
1536SU05C-1900	✻	19	20	153	101	77	50	●
1536SU05C-1930	✻	19,3	20	153	101	77	50	○
1536SU05-1950		19,5	20	153	101	77	50	●
1536SU05C-1950	✻	19,5	20	153	101	77	50	●
1536SU05-1980		19,8	20	153	101	77	50	●
1536SU05C-1980	✻	19,8	20	153	101	77	50	●
1536SU05-2000		20	20	153	101	77	50	●
1536SU05C-2000	✻	20	20	153	101	77	50	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

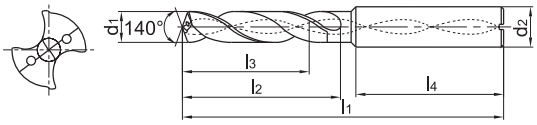
SU Punta 8xD

Lavorazione generica

1538SU08C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h5)	l_1	l_2	l_3	l_4	KDG303
1538SU08C-0300	✻	3	6	72	34	29	36	●
1538SU08C-0310	✻	3,1	6	72	34	29	36	●
1538SU08C-0320	✻	3,2	6	72	34	29	36	●
1538SU08C-0330	✻	3,3	6	72	34	29	36	●
1538SU08C-0340	✻	3,4	6	72	34	29	36	●
1538SU08C-0350	✻	3,5	6	72	34	29	36	●
1538SU08C-0360	✻	3,6	6	72	34	29	36	●
1538SU08C-0370	✻	3,7	6	72	34	29	36	●
1538SU08C-0380	✻	3,8	6	81	43	36	36	●
1538SU08C-0390	✻	3,9	6	81	43	36	36	●
1538SU08C-0400	✻	4	6	81	43	36	36	●
1538SU08C-0410	✻	4,1	6	81	43	36	36	●
1538SU08C-0420	✻	4,2	6	81	43	36	36	●
1538SU08C-0430	✻	4,3	6	81	43	36	36	●
1538SU08C-0440	✻	4,4	6	81	43	36	36	●
1538SU08C-0450	✻	4,5	6	81	43	36	36	●
1538SU08C-0460	✻	4,6	6	81	43	36	36	●
1538SU08C-0470	✻	4,7	6	81	43	36	36	●
1538SU08C-0480	✻	4,8	6	95	57	48	36	●
1538SU08C-0490	✻	4,9	6	95	57	48	36	●
1538SU08C-0500	✻	5	6	95	57	48	36	●
1538SU08C-0505	✻	5,05	6	95	57	48	36	○
1538SU08C-0510	✻	5,1	6	95	57	48	36	●
1538SU08C-0520	✻	5,2	6	95	57	48	36	●
1538SU08C-0530	✻	5,3	6	95	57	48	36	●
1538SU08C-0540	✻	5,4	6	95	57	48	36	●
1538SU08C-0550	✻	5,5	6	95	57	48	36	●
1538SU08C-0560	✻	5,6	6	95	57	48	36	●
1538SU08C-0570	✻	5,7	6	95	57	48	36	●
1538SU08C-0580	✻	5,8	6	95	57	48	36	●
1538SU08C-0590	✻	5,9	6	95	57	48	36	●
1538SU08C-0600	✻	6	6	95	57	48	36	●
1538SU08C-0610	✻	6,1	8	114	76	66	36	●
1538SU08C-0620	✻	6,2	8	114	76	66	36	●
1538SU08C-0630	✻	6,3	8	114	76	66	36	●
1538SU08C-0640	✻	6,4	8	114	76	66	36	●
1538SU08C-0650	✻	6,5	8	114	76	66	36	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

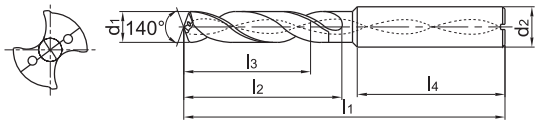
SU Punta 8xD

Lavorazione generica

1538SU08C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h5)	l_1	l_2	l_3	l_4	KDG303
1538SU08C-0660	✻	6,6	8	114	76	66	36	●
1538SU08C-0670	✻	6,7	8	114	76	66	36	●
1538SU08C-0680	✻	6,8	8	114	76	66	36	●
1538SU08C-0690	✻	6,9	8	114	76	66	36	●
1538SU08C-0700	✻	7	8	116	76	66	36	●
1538SU08C-0710	✻	7,1	8	116	76	66	36	●
1538SU08C-0720	✻	7,2	8	116	76	66	36	●
1538SU08C-0730	✻	7,3	8	116	76	66	36	●
1538SU08C-0740	✻	7,4	8	116	76	66	36	●
1538SU08C-0750	✻	7,5	8	116	76	66	36	●
1538SU08C-0760	✻	7,6	8	116	76	66	36	●
1538SU08C-0770	✻	7,7	8	116	76	66	36	●
1538SU08C-0780	✻	7,8	8	116	76	66	36	●
1538SU08C-0790	✻	7,9	8	116	76	66	36	●
1538SU08C-0800	✻	8	8	116	76	66	36	●
1538SU08C-0810	✻	8,1	10	142	95	83	40	●
1538SU08C-0820	✻	8,2	10	142	95	83	40	●
1538SU08C-0830	✻	8,3	10	142	95	83	40	●
1538SU08C-0840	✻	8,4	10	142	95	83	40	●
1538SU08C-0850	✻	8,5	10	142	95	83	40	●
1538SU08C-0860	✻	8,6	10	142	95	83	40	●
1538SU08C-0870	✻	8,7	10	142	95	83	40	●
1538SU08C-0880	✻	8,8	10	142	95	83	40	●
1538SU08C-0890	✻	8,9	10	142	95	83	40	●
1538SU08C-0900	✻	9	10	142	95	83	40	●
1538SU08C-0910	✻	9,1	10	142	95	83	40	●
1538SU08C-0920	✻	9,2	10	142	95	83	40	●
1538SU08C-0930	✻	9,3	10	142	95	83	40	●
1538SU08C-0940	✻	9,4	10	142	95	83	40	●
1538SU08C-0950	✻	9,5	10	142	95	83	40	●
1538SU08C-0960	✻	9,6	10	142	95	83	40	●
1538SU08C-0970	✻	9,7	10	142	95	83	40	●
1538SU08C-0980	✻	9,8	10	142	95	83	40	●
1538SU08C-0990	✻	9,9	10	142	95	83	40	●
1538SU08C-1000	✻	10	10	142	95	83	40	●
1538SU08C-1010	✻	10,1	12	162	114	99	45	●
1538SU08C-1020	✻	10,2	12	162	114	99	45	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

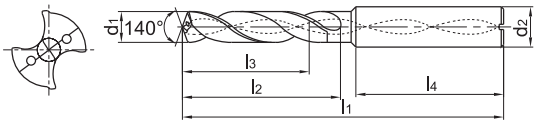
SU Punta 8xD

Lavorazione generica

1538SU08C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h5)	l_1	l_2	l_3	l_4	KDG303
1538SU08C-1030	✻	10,3	12	162	114	99	45	●
1538SU08C-1040	✻	10,4	12	162	114	99	45	●
1538SU08C-1050	✻	10,5	12	162	114	99	45	●
1538SU08C-1060	✻	10,6	12	162	114	99	45	●
1538SU08C-1070	✻	10,7	12	162	114	99	45	●
1538SU08C-1080	✻	10,8	12	162	114	99	45	●
1538SU08C-1090	✻	10,9	12	162	114	99	45	●
1538SU08C-1100	✻	11	12	162	114	99	45	●
1538SU08C-1110	✻	11,1	12	162	114	99	45	●
1538SU08C-1120	✻	11,2	12	162	114	99	45	●
1538SU08C-1130	✻	11,3	12	162	114	99	45	●
1538SU08C-1140	✻	11,4	12	162	114	99	45	●
1538SU08C-1150	✻	11,5	12	162	114	99	45	●
1538SU08C-1160	✻	11,6	12	162	114	99	45	●
1538SU08C-1170	✻	11,7	12	162	114	99	45	●
1538SU08C-1180	✻	11,8	12	162	114	99	45	●
1538SU08C-1190	✻	11,9	12	162	114	99	45	●
1538SU08C-1200	✻	12	12	162	114	99	45	●
1538SU08C-1220	✻	12,2	14	178	133	116	45	○
1538SU08C-1250	✻	12,5	14	178	133	116	45	●
1538SU08C-1270	✻	12,7	14	178	133	116	45	●
1538SU08C-1280	✻	12,8	14	178	133	116	45	●
1538SU08C-1300	✻	13	14	178	133	116	45	●
1538SU08C-1310		13,1	14	178	133	116	45	○
1538SU08C-1350	✻	13,5	14	178	133	116	45	●
1538SU08C-1400	✻	14	14	178	133	116	45	●
1538SU08C-1420	✻	14,2	16	204	152	132	48	○
1538SU08C-1450	✻	14,5	16	204	152	132	48	●
1538SU08C-1460	✻	14,6	16	204	152	132	48	○
1538SU08C-1470	✻	14,7	16	204	152	132	48	○
1538SU08C-1480	✻	14,8	16	204	152	132	48	●
1538SU08C-1500	✻	15	16	204	152	132	48	●
1538SU08C-1550	✻	15,5	16	204	152	132	48	●
1538SU08C-1600	✻	16	16	204	152	132	48	●
1538SU08C-1610	✻	16,1	18	223	171	149	48	○
1538SU08C-1650	✻	16,5	18	223	171	149	48	●
1538SU08C-1700	✻	17	18	223	171	149	48	●
1538SU08C-1750	✻	17,5	18	223	171	149	48	●
1538SU08C-1800	✻	18	18	223	171	149	48	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

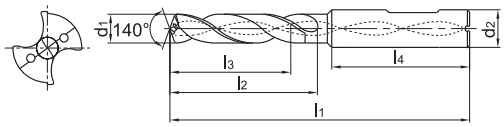
SU Punta 3xD

Lavorazione generica

1634SU03C

– Versione del codolo DIN 6535HB
– Uscita refrigerante assiale

Raffreddamento esterno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG303
1634SU03C-0300	✻	3	6	62	20	14	36	●
1634SU03C-0310	✻	3,1	6	62	20	14	36	●
1634SU03C-0320	✻	3,2	6	62	20	14	36	●
1634SU03C-0325	✻	3,25	6	62	20	14	36	○
1634SU03C-0330	✻	3,3	6	62	20	14	36	●
1634SU03C-0340	✻	3,4	6	62	20	14	36	●
1634SU03C-0350	✻	3,5	6	62	20	14	36	●
1634SU03C-0360	✻	3,6	6	62	20	14	36	●
1634SU03C-0370	✻	3,7	6	62	20	14	36	●
1634SU03C-0380	✻	3,8	6	66	24	17	36	●
1634SU03C-0390	✻	3,9	6	66	24	17	36	●
1634SU03C-0400	✻	4	6	66	24	17	36	●
1634SU03C-0410	✻	4,1	6	66	24	17	36	●
1634SU03C-0420	✻	4,2	6	66	24	17	36	●
1634SU03C-0430	✻	4,3	6	66	24	17	36	●
1634SU03C-0440	✻	4,4	6	66	24	17	36	●
1634SU03C-0450	✻	4,5	6	66	24	17	36	●
1634SU03C-0460	✻	4,6	6	66	24	17	36	●
1634SU03C-0465	✻	4,65	6	66	24	17	36	○
1634SU03C-0470	✻	4,7	6	66	24	17	36	●
1634SU03C-0480	✻	4,8	6	66	28	20	36	●
1634SU03C-0490	✻	4,9	6	66	28	20	36	●
1634SU03C-0500	✻	5	6	66	28	20	36	●
1634SU03C-0510	✻	5,1	6	66	28	20	36	●
1634SU03C-0520	✻	5,2	6	66	28	20	36	●
1634SU03C-0530	✻	5,3	6	66	28	20	36	●
1634SU03C-0540	✻	5,4	6	66	28	20	36	●
1634SU03C-0550	✻	5,5	6	66	28	20	36	●
1634SU03C-0555	✻	5,55	6	66	28	20	36	●
1634SU03C-0560	✻	5,6	6	66	28	20	36	●
1634SU03C-0570	✻	5,7	6	66	28	20	36	●
1634SU03C-0580	✻	5,8	6	66	28	20	36	●
1634SU03C-0590	✻	5,9	6	66	28	20	36	●
1634SU03C-0600	✻	6	6	66	28	20	36	●
1634SU03C-0610	✻	6,1	8	79	34	24	36	●
1634SU03C-0620	✻	6,2	8	79	34	24	36	●
1634SU03C-0630	✻	6,3	8	79	34	24	36	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

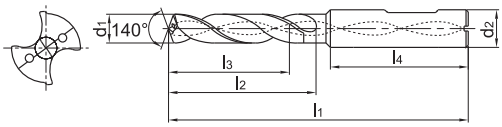
SU Punta 3xD

Lavorazione generica

1634SU03C

– Versione del codolo DIN 6535HB
– Uscita refrigerante assiale

Raffreddamento esterno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG303
1634SU03C-0640	✻	6,4	8	79	34	24	36	●
1634SU03C-0650	✻	6,5	8	79	34	24	36	●
1634SU03C-0660	✻	6,6	8	79	34	24	36	●
1634SU03C-0670	✻	6,7	8	79	34	24	36	●
1634SU03C-0675	✻	6,75	8	79	34	24	36	○
1634SU03C-0680	✻	6,8	8	79	34	24	36	●
1634SU03C-0690	✻	6,9	8	79	34	24	36	●
1634SU03C-0700	✻	7	8	79	34	24	36	●
1634SU03C-0710	✻	7,1	8	79	41	29	36	●
1634SU03C-0720	✻	7,2	8	79	41	29	36	●
1634SU03C-0730	✻	7,3	8	79	41	29	36	●
1634SU03C-0740	✻	7,4	8	79	41	29	36	●
1634SU03C-0745	✻	7,45	8	79	41	29	36	○
1634SU03C-0750	✻	7,5	8	79	41	29	36	●
1634SU03C-0760	✻	7,6	8	79	41	29	36	●
1634SU03C-0770	✻	7,7	8	79	41	29	36	●
1634SU03C-0780	✻	7,8	8	79	41	29	36	●
1634SU03C-0790	✻	7,9	8	79	41	29	36	●
1634SU03C-0800	✻	8	8	79	41	29	36	●
1634SU03C-0805		8,05	10	89	47	35	40	○
1634SU03C-0810	✻	8,1	10	89	47	35	40	●
1634SU03C-0820	✻	8,2	10	89	47	35	40	●
1634SU03C-0830	✻	8,3	10	89	47	35	40	●
1634SU03C-0840	✻	8,4	10	89	47	35	40	●
1634SU03C-0850	✻	8,5	10	89	47	35	40	●
1634SU03C-0860	✻	8,6	10	89	47	35	40	●
1634SU03C-0870	✻	8,7	10	89	47	35	40	●
1634SU03C-0880	✻	8,8	10	89	47	35	40	●
1634SU03C-0890	✻	8,9	10	89	47	35	40	●
1634SU03C-0900	✻	9	10	89	47	35	40	●
1634SU03C-0910	✻	9,1	10	89	47	35	40	●
1634SU03C-0920	✻	9,2	10	89	47	35	40	●
1634SU03C-0930	✻	9,3	10	89	47	35	40	●
1634SU03C-0940	✻	9,4	10	89	47	35	40	●
1634SU03C-0945	✻	9,45	10	89	47	35	40	○
1634SU03C-0950	✻	9,5	10	89	47	35	40	●
1634SU03C-0960	✻	9,6	10	89	47	35	40	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

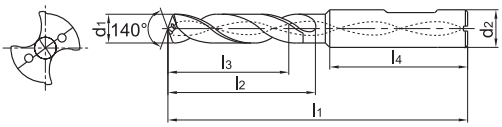
SU Punta 3xD

Lavorazione generica

1634SU03C

– Versione del codolo DIN 6535HB
– Uscita refrigerante assiale

Raffreddamento esterno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG303
1634SU03C-0970	✻	9,7	10	89	47	35	40	●
1634SU03C-0980	✻	9,8	10	89	47	35	40	●
1634SU03C-0990	✻	9,9	10	89	47	35	40	●
1634SU03C-1000	✻	10	10	89	47	35	40	●
1634SU03C-1010	✻	10,1	12	102	55	40	45	●
1634SU03C-1020	✻	10,2	12	102	55	40	45	●
1634SU03C-1025	✻	10,25	12	102	55	40	45	○
1634SU03C-1030	✻	10,3	12	102	55	40	45	●
1634SU03C-1040	✻	10,4	12	102	55	40	45	●
1634SU03C-1050	✻	10,5	12	102	55	40	45	●
1634SU03C-1060	✻	10,6	12	102	55	40	45	●
1634SU03C-1070	✻	10,7	12	102	55	40	45	●
1634SU03C-1080	✻	10,8	12	102	55	40	45	●
1634SU03C-1090	✻	10,9	12	102	55	40	45	●
1634SU03C-1100	✻	11	12	102	55	40	45	●
1634SU03C-1110	✻	11,1	12	102	55	40	45	●
1634SU03C-1120	✻	11,2	12	102	55	40	45	●
1634SU03C-1130	✻	11,3	12	102	55	40	45	●
1634SU03C-1135	✻	11,35	12	102	55	40	45	○
1634SU03C-1140	✻	11,4	12	102	55	40	45	●
1634SU03C-1145	✻	11,45	12	102	55	40	45	○
1634SU03C-1150	✻	11,5	12	102	55	40	45	●
1634SU03C-1160	✻	11,6	12	102	55	40	45	●
1634SU03C-1170	✻	11,7	12	102	55	40	45	●
1634SU03C-1180	✻	11,8	12	102	55	40	45	●
1634SU03C-1190	✻	11,9	12	102	55	40	45	●
1634SU03C-1200	✻	12	12	102	55	40	45	●
1634SU03C-1210	✻	12,1	14	107	60	43	45	●
1634SU03C-1220	✻	12,2	14	107	60	43	45	●
1634SU03C-1225	✻	12,25	14	107	60	43	45	○
1634SU03C-1230	✻	12,3	14	107	60	43	45	●
1634SU03C-1240	✻	12,4	14	107	60	43	45	○
1634SU03C-1250	✻	12,5	14	107	60	43	45	●
1634SU03C-1260	✻	12,6	14	107	60	43	45	○
1634SU03C-1270	✻	12,7	14	107	60	43	45	●
1634SU03C-1275	✻	12,75	14	107	60	43	45	○
1634SU03C-1280	✻	12,8	14	107	60	43	45	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

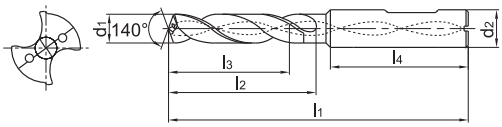
SU Punta 3xD

Lavorazione generica

1634SU03C

– Versione del codolo DIN 6535HB
– Uscita refrigerante assiale

Raffreddamento esterno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG303
1634SU03C-1290	✻	12,9	14	107	60	43	45	●
1634SU03C-1300	✻	13	14	107	60	43	45	●
1634SU03C-1310	✻	13,1	14	107	60	43	45	●
1634SU03C-1320	✻	13,2	14	107	60	43	45	●
1634SU03C-1330	✻	13,3	14	107	60	43	45	○
1634SU03C-1335	✻	13,35	14	107	60	43	45	○
1634SU03C-1340	✻	13,4	14	107	60	43	45	●
1634SU03C-1350	✻	13,5	14	107	60	43	45	●
1634SU03C-1360	✻	13,6	14	107	60	43	45	○
1634SU03C-1370	✻	13,7	14	107	60	43	45	○
1634SU03C-1380	✻	13,8	14	107	60	43	45	●
1634SU03C-1390	✻	13,9	14	107	60	43	45	○
1634SU03C-1400	✻	14	14	107	60	43	45	●
1634SU03C-1410	✻	14,1	16	107	60	43	45	○
1634SU03C-1420	✻	14,2	16	107	60	43	45	○
1634SU03C-1425	✻	14,25	16	115	65	45	48	○
1634SU03C-1430	✻	14,3	16	115	65	45	48	○
1634SU03C-1450	✻	14,5	16	115	65	45	48	●
1634SU03C-1460	✻	14,6	16	115	65	45	48	○
1634SU03C-1470	✻	14,7	16	115	65	45	48	○
1634SU03C-1475	✻	14,75	16	115	65	45	48	○
1634SU03C-1480	✻	14,8	16	115	65	45	48	●
1634SU03C-1490	✻	14,9	16	115	65	45	48	○
1634SU03C-1500	✻	15	16	115	65	45	48	●
1634SU03C-1510	✻	15,1	16	115	65	45	48	○
1634SU03C-1530	✻	15,3	16	115	65	45	48	○
1634SU03C-1535	✻	15,35	16	115	65	45	48	○
1634SU03C-1550	✻	15,5	16	115	65	45	48	○
1634SU03C-1580	✻	15,8	16	115	65	45	48	○
1634SU03C-1600	✻	16	16	115	65	45	48	●
1634SU03C-1650	✻	16,5	18	123	73	51	48	○
1634SU03C-1675	✻	16,75	18	123	73	51	48	○
1634SU03C-1680	✻	16,8	18	123	73	51	48	○
1634SU03C-1700	✻	17	18	123	73	51	48	●
1634SU03C-1750	✻	17,5	18	123	73	51	48	●
1634SU03C-1780	✻	17,8	18	123	73	51	48	○
1634SU03C-1800	✻	18	18	123	73	51	48	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

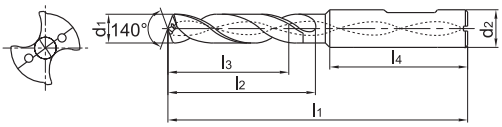
SU Punta 3xD

Lavorazione generica

1634SU03C

– Versione del codolo DIN 6535HB
– Uscita refrigerante assiale

Raffreddamento esterno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG303
1634SU03C-1850	✻	18,5	20	131	79	55	50	○
1634SU03C-1880	✻	18,8	20	131	79	55	50	○
1634SU03C-1900	✻	19	20	131	79	55	50	○
1634SU03C-1950	✻	19,5	20	131	79	55	50	●
1634SU03C-1980	✻	19,8	20	131	79	55	50	○
1634SU03C-2000	✻	20	20	131	79	55	50	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

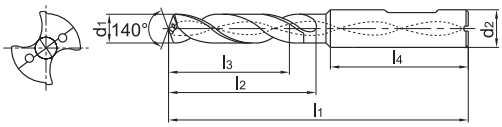
SU Punta 5xD

Lavorazione generica

1636SU05C

– Versione del codolo DIN 6535HB
– Uscita refrigerante assiale

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG303
1636SU05C-0300	✻	3	6	62	20	14	36	●
1636SU05C-0310	✻	3,1	6	66	28	23	36	●
1636SU05C-0320	✻	3,2	6	66	28	23	36	●
1636SU05C-0325	✻	3,25	6	66	28	23	36	○
1636SU05C-0330	✻	3,3	6	66	28	23	36	●
1636SU05C-0340	✻	3,4	6	66	28	23	36	●
1636SU05C-0350	✻	3,5	6	66	28	23	36	●
1636SU05C-0360	✻	3,6	6	66	28	23	36	●
1636SU05C-0370	✻	3,7	6	66	28	23	36	●
1636SU05C-0380	✻	3,8	6	74	36	29	36	●
1636SU05C-0390	✻	3,9	6	74	36	29	36	●
1636SU05C-0400	✻	4	6	74	36	29	36	●
1636SU05C-0410	✻	4,1	6	74	36	29	36	●
1636SU05C-0420	✻	4,2	6	74	36	29	36	●
1636SU05C-0430	✻	4,3	6	74	36	29	36	●
1636SU05C-0440	✻	4,4	6	74	36	29	36	●
1636SU05C-0450	✻	4,5	6	74	36	29	36	●
1636SU05C-0460	✻	4,6	6	74	36	29	36	●
1636SU05C-0465	✻	4,65	6	74	36	29	36	●
1636SU05C-0470	✻	4,7	6	74	36	29	36	●
1636SU05C-0480	✻	4,8	6	82	44	35	36	●
1636SU05C-0490	✻	4,9	6	82	44	35	36	●
1636SU05C-0500	✻	5	6	82	44	35	36	●
1636SU05C-0510	✻	5,1	6	82	44	35	36	●
1636SU05C-0520	✻	5,2	6	82	44	35	36	●
1636SU05C-0530	✻	5,3	6	82	44	35	36	●
1636SU05C-0540	✻	5,4	6	82	44	35	36	●
1636SU05C-0550	✻	5,5	6	82	44	35	36	●
1636SU05C-0555	✻	5,55	6	82	44	35	36	●
1636SU05C-0560	✻	5,6	6	82	44	35	36	●
1636SU05C-0570	✻	5,7	6	82	44	35	36	●
1636SU05C-0580	✻	5,8	6	82	44	35	36	●
1636SU05C-0590	✻	5,9	6	82	44	35	36	●
1636SU05C-0600	✻	6	6	82	44	35	36	●
1636SU05C-0610	✻	6,1	8	91	53	43	36	●
1636SU05C-0620	✻	6,2	8	91	53	43	36	●
1636SU05C-0630	✻	6,3	8	91	53	43	36	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

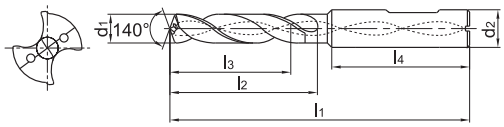
SU Punta 5xD

Lavorazione generica

1636SU05C

– Versione del codolo DIN 6535HB
– Uscita refrigerante assiale

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG303
1636SU05C-0640	✻	6,4	8	91	53	43	36	●
1636SU05C-0650	✻	6,5	8	91	53	43	36	●
1636SU05C-0660	✻	6,6	8	91	53	43	36	●
1636SU05C-0670	✻	6,7	8	91	53	43	36	●
1636SU05C-0675	✻	6,75	8	91	53	43	36	●
1636SU05C-0680	✻	6,8	8	91	53	43	36	●
1636SU05C-0690	✻	6,9	8	91	53	43	36	●
1636SU05C-0700	✻	7	8	91	53	43	36	●
1636SU05C-0710	✻	7,1	8	91	53	43	36	●
1636SU05C-0720	✻	7,2	8	91	53	43	36	●
1636SU05C-0730	✻	7,3	8	91	53	43	36	●
1636SU05C-0740	✻	7,4	8	91	53	43	36	●
1636SU05C-0745	✻	7,45	8	91	53	43	36	●
1636SU05C-0750	✻	7,5	8	91	53	43	36	●
1636SU05C-0760	✻	7,6	8	91	53	43	36	●
1636SU05C-0770	✻	7,7	8	91	53	43	36	●
1636SU05C-0780	✻	7,8	8	91	53	43	36	●
1636SU05C-0790	✻	7,9	8	91	53	43	36	●
1636SU05C-0800	✻	8	8	91	53	43	36	●
1636SU05C-0810	✻	8,1	10	103	61	49	40	●
1636SU05C-0820	✻	8,2	10	103	61	49	40	●
1636SU05C-0830	✻	8,3	10	103	61	49	40	●
1636SU05C-0840	✻	8,4	10	103	61	49	40	●
1636SU05C-0850	✻	8,5	10	103	61	49	40	●
1636SU05C-0860	✻	8,6	10	103	61	49	40	●
1636SU05C-0870	✻	8,7	10	103	61	49	40	●
1636SU05C-0880	✻	8,8	10	103	61	49	40	●
1636SU05C-0890	✻	8,9	10	103	61	49	40	●
1636SU05C-0900	✻	9	10	103	61	49	40	●
1636SU05C-0910	✻	9,1	10	103	61	49	40	●
1636SU05C-0920	✻	9,2	10	103	61	49	40	●
1636SU05C-0930	✻	9,3	10	103	61	49	40	●
1636SU05C-0935	✻	9,35	10	103	61	49	40	○
1636SU05C-0940	✻	9,4	10	103	61	49	40	●
1636SU05C-0945	✻	9,45	10	103	61	49	40	○
1636SU05C-0950	✻	9,5	10	103	61	49	40	●
1636SU05C-0960	✻	9,6	10	103	61	49	40	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

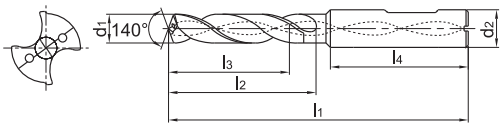
SU Punta 5xD

Lavorazione generica

1636SU05C

– Versione del codolo DIN 6535HB
– Uscita refrigerante assiale

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG303
1636SU05C-0970	✻	9,7	10	103	61	49	40	●
1636SU05C-0980	✻	9,8	10	103	61	49	40	●
1636SU05C-0990	✻	9,9	10	103	61	49	40	●
1636SU05C-1000	✻	10	10	103	61	49	40	●
1636SU05C-1010	✻	10,1	12	118	71	56	45	●
1636SU05C-1020	✻	10,2	12	118	71	56	45	●
1636SU05C-1025	✻	10,25	12	118	71	56	45	●
1636SU05C-1030	✻	10,3	12	118	71	56	45	●
1636SU05C-1040	✻	10,4	12	118	71	56	45	●
1636SU05C-1050	✻	10,5	12	118	71	56	45	○
1636SU05C-1060	✻	10,6	12	118	71	56	45	●
1636SU05C-1070	✻	10,7	12	118	71	56	45	●
1636SU05C-1080	✻	10,8	12	118	71	56	45	●
1636SU05C-1090	✻	10,9	12	118	71	56	45	●
1636SU05C-1100	✻	11	12	118	71	56	45	●
1636SU05C-1110	✻	11,1	12	118	71	56	45	●
1636SU05C-1120	✻	11,2	12	118	71	56	45	●
1636SU05C-1125	✻	11,25	12	118	71	56	45	○
1636SU05C-1130	✻	11,3	12	118	71	56	45	●
1636SU05C-1135	✻	11,35	12	118	71	56	45	○
1636SU05C-1140	✻	11,4	12	118	71	56	45	●
1636SU05C-1145	✻	11,45	12	118	71	56	45	○
1636SU05C-1150	✻	11,5	12	118	71	56	45	●
1636SU05C-1160	✻	11,6	12	118	71	56	45	●
1636SU05C-1170	✻	11,7	12	118	71	56	45	●
1636SU05C-1180	✻	11,8	12	118	71	56	45	●
1636SU05C-1190	✻	11,9	12	118	71	56	45	●
1636SU05C-1200	✻	12	12	118	71	56	45	●
1636SU05C-1210	✻	12,1	14	124	77	60	45	●
1636SU05C-1220	✻	12,2	14	124	77	60	45	●
1636SU05C-1225	✻	12,25	14	124	77	60	45	●
1636SU05C-1230	✻	12,3	14	124	77	60	45	●
1636SU05C-1250	✻	12,5	14	124	77	60	45	●
1636SU05C-1260	✻	12,6	14	124	77	60	45	●
1636SU05C-1270	✻	12,7	14	124	77	60	45	●
1636SU05C-1275	✻	12,75	14	124	77	60	45	○
1636SU05C-1280	✻	12,8	14	124	77	60	45	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

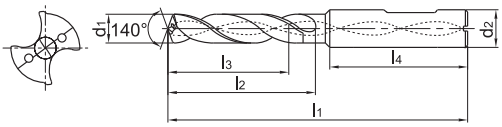
SU Punta 5xD

Lavorazione generica

1636SU05C

– Versione del codolo DIN 6535HB
– Uscita refrigerante assiale

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG303
1636SU05C-1300	✻	13	14	124	77	60	45	●
1636SU05C-1310	✻	13,1	14	124	77	60	45	●
1636SU05C-1335	✻	13,35	14	124	77	60	56	○
1636SU05C-1350	✻	13,5	14	124	77	60	45	●
1636SU05C-1380	✻	13,8	14	124	77	60	45	●
1636SU05C-1400	✻	14	14	124	77	60	45	●
1636SU05C-1420	✻	14,2	16	124	77	60	45	●
1636SU05C-1425	✻	14,25	16	133	83	63	48	●
1636SU05C-1430	✻	14,3	16	133	83	63	48	●
1636SU05C-1450	✻	14,5	16	133	83	63	48	●
1636SU05C-1475	✻	14,75	16	133	83	63	48	○
1636SU05C-1480	✻	14,8	16	133	83	63	48	●
1636SU05C-1500	✻	15	16	133	83	63	48	●
1636SU05C-1510	✻	15,1	16	133	83	63	48	●
1636SU05C-1530	✻	15,3	16	133	83	63	48	●
1636SU05C-1535	✻	15,35	16	133	83	63	48	○
1636SU05C-1550	✻	15,5	16	133	83	63	48	●
1636SU05C-1580	✻	15,8	16	133	83	63	48	●
1636SU05C-1600	✻	16	16	133	83	63	48	●
1636SU05C-1650	✻	16,5	18	143	93	71	48	●
1636SU05C-1675	✻	16,75	18	143	93	71	48	○
1636SU05C-1680	✻	16,8	18	143	93	71	48	●
1636SU05C-1700	✻	17	18	143	93	71	48	●
1636SU05C-1750	✻	17,5	18	143	93	71	48	●
1636SU05C-1780	✻	17,8	18	143	93	71	48	●
1636SU05C-1800	✻	18	18	143	93	71	48	●
1636SU05C-1850	✻	18,5	20	153	101	77	50	●
1636SU05C-1880	✻	18,8	20	153	101	77	50	●
1636SU05C-1900	✻	19	20	153	101	77	50	●
1636SU05C-1950	✻	19,5	20	153	101	77	50	●
1636SU05C-1980	✻	19,8	20	153	101	77	50	●
1636SU05C-2000	✻	20	20	153	101	77	50	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

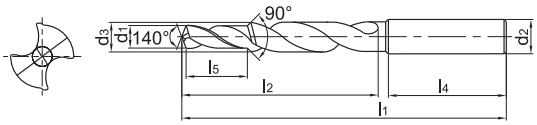
Punta SU - 3xD

Lavorazione generica

1557SU03

– Versione del codolo DIN 6535HA

Raffreddamento esterno



Articolo	✻	Dimensioni [mm]							Grado
		d_1 (m8)	d_2 (h6)	d_3 (m7)	l_1	l_2	l_4	l_5	KDG303
1557SU03-M4		3,3	6	4,5	66	28	36	11,4	●
1557SU03-M5		4,2	6	6	66	28	36	13,6	●
1557SU03-M6		5	8	7	79	41	36	16,5	●
1557SU03-M8		6,75	10	9,5	89	47	40	21	●
1557SU03-M8x1.0		7	10	9,8	89	47	40	21	○
1557SU03-M10		8,5	12	12	102	55	45	25,5	●
1557SU03-M10x1.0		9	12	12	102	55	45	25,5	○
1557SU03-M12		10,25	14	14	107	60	45	30	●
1557SU03-M14		12	16	16	115	65	48	34,5	●
1557SU03-M16		14	18	18	123	73	48	38,5	●

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔			

✔ Molto adatto

✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

Note

INFORMAZIONI IMPORTANTI

Raccomandazione di impiego per la **serie UL**

Calcolo per avanzamento

Gruppo ISO	Materiale	Velocità di taglio v_c (m/min)	Fattore per l' avanzamento F_m
M	Acciai inossidabili	65	0,02
S	Leghe Ni- / Co	30	0,01
S	Leghe di titanio	50	0,012

Formula:	Avanzamento per giro (F_n)	$D \times F_m$
Esempio:	Diametro punta (D)	10 mm
	Materiale	acciaio inossidabile

$$F_n = 10\ mm \times 0{,}02 = 0{,}2\ mm/g$$

*Le velocità di avanzamento specificate sono **valori massimi**. In caso di tensione instabile o macchine meno potenti si consiglia di ridurre la velocità di avanzamento di circa il 30 % da un diametro di foratura di Ø12 mm.

Fig.: **1588UL30C**

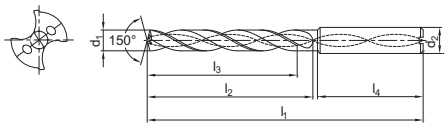
Punta SP - 3xD

Lavorazione generica

1534SP03C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (h7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG303
1534SP03C-0303	✻	3,03	6	62	20	14	36	●
1534SP03C-0313	✻	3,13	6	62	20	14	36	○
1534SP03C-0323	✻	3,23	6	62	20	14	36	○
1534SP03C-0333	✻	3,33	6	62	20	14	36	●
1534SP03C-0343	✻	3,43	6	62	20	14	36	●
1534SP03C-0353	✻	3,53	6	62	20	14	36	●
1534SP03C-0363	✻	3,63	6	62	20	14	36	○
1534SP03C-0373	✻	3,73	6	62	20	14	36	○
1534SP03C-0383	✻	3,83	6	66	24	17	36	○
1534SP03C-0393	✻	3,93	6	66	24	17	36	○
1534SP03C-0403	✻	4,03	6	66	24	17	36	●
1534SP03C-0413	✻	4,13	6	66	24	17	36	○
1534SP03C-0423	✻	4,23	6	66	24	17	36	○
1534SP03C-0433	✻	4,33	6	66	24	17	36	○
1534SP03C-0443	✻	4,43	6	66	24	17	36	○
1534SP03C-0453	✻	4,53	6	66	24	17	36	●
1534SP03C-0463	✻	4,63	6	66	24	17	36	○
1534SP03C-0473	✻	4,73	6	66	24	17	36	○
1534SP03C-0483	✻	4,83	6	66	28	20	36	○
1534SP03C-0493	✻	4,93	6	66	28	20	36	○
1534SP03C-0503	✻	5,03	6	66	28	20	36	●
1534SP03C-0513	✻	5,13	6	66	28	20	36	○
1534SP03C-0523	✻	5,23	6	66	28	20	36	○
1534SP03C-0533	✻	5,33	6	66	28	20	36	○
1534SP03C-0543	✻	5,43	6	66	28	20	36	○
1534SP03C-0553	✻	5,53	6	66	28	20	36	●
1534SP03C-0563	✻	5,63	6	66	28	20	36	○
1534SP03C-0573	✻	5,73	6	66	28	20	36	○
1534SP03C-0583	✻	5,83	6	66	28	20	36	○
1534SP03C-0593	✻	5,93	6	66	28	20	36	○
1534SP03C-0603	✻	6,03	6	66	28	20	36	●
1534SP03C-0613	✻	6,13	8	79	34	24	36	○
1534SP03C-0623	✻	6,23	8	79	34	24	36	○
1534SP03C-0633	✻	6,33	8	79	34	24	36	○
1534SP03C-0643	✻	6,43	8	79	34	24	36	○
1534SP03C-0653	✻	6,53	8	79	34	24	36	●
1534SP03C-0663	✻	6,63	8	79	34	24	36	○

● In magazzino ○ Su richiesta

Punta pilota Ø = Punta lunga Ø + 0,03 mm

✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔	✔	✔	

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

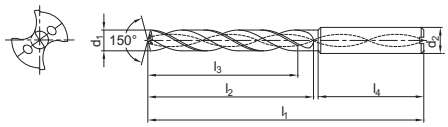
Punta SP - 3xD

Lavorazione generica

1534SP03C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (h7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG303
1534SP03C-0673	✻	6,73	8	79	34	24	36	○
1534SP03C-0683	✻	6,83	8	79	34	24	36	○
1534SP03C-0693	✻	6,93	8	79	34	24	36	○
1534SP03C-0703	✻	7,03	8	79	34	24	36	●
1534SP03C-0713	✻	7,13	8	79	41	29	36	○
1534SP03C-0723	✻	7,23	8	79	41	29	36	○
1534SP03C-0733	✻	7,33	8	79	41	29	36	●
1534SP03C-0743	✻	7,43	8	79	41	29	36	○
1534SP03C-0753	✻	7,53	8	79	41	29	36	●
1534SP03C-0763	✻	7,63	8	79	41	29	36	○
1534SP03C-0773	✻	7,73	8	79	41	29	36	○
1534SP03C-0783	✻	7,83	8	79	41	29	36	○
1534SP03C-0793	✻	7,93	8	79	41	29	36	○
1534SP03C-0803	✻	8,03	8	79	41	29	36	●
1534SP03C-0813	✻	8,13	10	89	47	35	40	○
1534SP03C-0823	✻	8,23	10	89	47	35	40	○
1534SP03C-0833	✻	8,33	10	89	47	35	40	●
1534SP03C-0843	✻	8,43	10	89	47	35	40	○
1534SP03C-0853	✻	8,53	10	89	47	35	40	○
1534SP03C-0863	✻	8,63	10	89	47	35	40	○
1534SP03C-0873	✻	8,73	10	89	47	35	40	○
1534SP03C-0883	✻	8,83	10	89	47	35	40	●
1534SP03C-0893	✻	8,93	10	89	47	35	40	○
1534SP03C-0903	✻	9,03	10	89	47	35	40	●
1534SP03C-0913	✻	9,13	10	89	47	35	40	○
1534SP03C-0923	✻	9,23	10	89	47	35	40	○
1534SP03C-0933	✻	9,33	10	89	47	35	40	○
1534SP03C-0943	✻	9,43	10	89	47	35	40	○
1534SP03C-0953	✻	9,53	10	89	47	35	40	●
1534SP03C-0963	✻	9,63	10	89	47	35	40	○
1534SP03C-0973	✻	9,73	10	89	47	35	40	●
1534SP03C-0983	✻	9,83	10	89	47	35	40	●
1534SP03C-0993	✻	9,93	10	89	47	35	40	○
1534SP03C-1003	✻	10,03	10	89	47	35	40	●
1534SP03C-1013	✻	10,13	12	102	55	40	45	○
1534SP03C-1023	✻	10,23	12	102	55	40	45	○
1534SP03C-1033	✻	10,33	12	102	55	40	45	○

● In magazzino ○ Su richiesta

Punta pilota Ø = Punta lunga Ø + 0,03 mm

✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔	✔	✔	

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

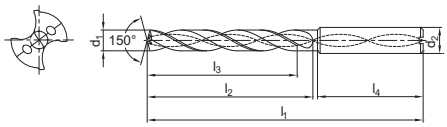
Punta SP - 3xD

Lavorazione generica

1534SP03C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (h7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG303
1534SP03C-1043	✻	10,43	12	102	55	40	45	○
1534SP03C-1053	✻	10,53	12	102	55	40	45	●
1534SP03C-1063	✻	10,63	12	102	55	40	45	○
1534SP03C-1073	✻	10,73	12	102	55	40	45	○
1534SP03C-1083	✻	10,83	12	102	55	40	45	●
1534SP03C-1093	✻	10,93	12	102	55	40	45	○
1534SP03C-1103	✻	11,03	12	102	55	40	45	●
1534SP03C-1113	✻	11,13	12	102	55	40	45	○
1534SP03C-1123	✻	11,23	12	102	55	40	45	○
1534SP03C-1143	✻	11,43	12	102	55	40	45	○
1534SP03C-1153	✻	11,53	12	102	55	40	45	●
1534SP03C-1163	✻	11,63	12	102	55	40	45	○
1534SP03C-1173	✻	11,73	12	102	55	40	45	○
1534SP03C-1183	✻	11,83	12	102	55	40	45	●
1534SP03C-1193	✻	11,93	12	102	55	40	45	○
1534SP03C-1203	✻	12,03	12	102	55	40	45	●
1534SP03C-1213	✻	12,13	14	107	60	43	45	○
1534SP03C-1233	✻	12,33	14	107	60	43	45	○
1534SP03C-1243	✻	12,43	14	107	60	43	45	○
1534SP03C-1253	✻	12,53	14	107	60	43	45	●
1534SP03C-1263	✻	12,63	14	107	60	43	45	○
1534SP03C-1273	✻	12,73	14	107	60	43	45	○
1534SP03C-1283	✻	12,83	14	107	60	43	45	○
1534SP03C-1293	✻	12,93	14	107	60	43	45	○
1534SP03C-1303	✻	13,03	14	107	60	43	45	○
1534SP03C-1353	✻	13,53	14	107	60	43	45	○
1534SP03C-1403	✻	14,03	14	107	60	43	45	○
1534SP03C-1453	✻	14,53	16	115	65	45	48	○
1534SP03C-1503	✻	15,03	16	115	65	45	48	○
1534SP03C-1553	✻	15,53	16	115	65	45	48	○
1534SP03C-1603	✻	16,03	16	115	65	45	48	○
1534SP03C-1653	✻	16,53	18	123	73	51	48	○
1534SP03C-1703	✻	17,03	18	123	73	51	48	○
1534SP03C-1753	✻	17,53	18	123	73	51	48	○
1534SP03C-1803	✻	18,03	18	123	73	51	48	○
1534SP03C-1853	✻	18,53	20	131	79	55	50	○
1534SP03C-1903	✻	19,03	20	131	79	55	50	○
1534SP03C-1953	✻	19,53	20	131	79	55	50	○
1534SP03C-2003	✻	20,03	20	131	79	55	50	○

● In magazzino ○ Su richiesta

Punta pilota Ø = Punta lunga Ø + 0,03 mm

✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔	✔	✔	

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

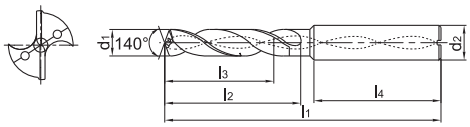
SL Punta 10xD

Lavorazione generica

1588SL10C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h5)	l_1	l_2	l_3	l_4	KDG303
1588SL10C-0300	✻	3	6	80	43	39	36	●
1588SL10C-0310	✻	3,1	6	80	43	39	36	○
1588SL10C-0320	✻	3,2	6	80	43	39	36	●
1588SL10C-0330	✻	3,3	6	80	43	39	36	●
1588SL10C-0340	✻	3,4	6	80	43	39	36	●
1588SL10C-0350	✻	3,5	6	80	43	39	36	●
1588SL10C-0360	✻	3,6	6	80	43	39	36	●
1588SL10C-0370	✻	3,7	6	80	43	39	36	●
1588SL10C-0380	✻	3,8	6	80	43	39	36	●
1588SL10C-0390	✻	3,9	6	80	43	39	36	●
1588SL10C-0400	✻	4	6	92	55	50	36	●
1588SL10C-0410	✻	4,1	6	92	55	50	36	●
1588SL10C-0420	✻	4,2	6	92	55	50	36	●
1588SL10C-0430	✻	4,3	6	92	55	50	36	●
1588SL10C-0440	✻	4,4	6	92	55	50	36	●
1588SL10C-0450	✻	4,5	6	92	55	50	36	●
1588SL10C-0460	✻	4,6	6	92	55	50	36	●
1588SL10C-0465	✻	4,65	6	92	55	50	36	●
1588SL10C-0470	✻	4,7	6	92	55	50	36	●
1588SL10C-0480	✻	4,8	6	92	55	50	36	●
1588SL10C-0490	✻	4,9	6	92	55	50	36	●
1588SL10C-0500	✻	5	6	104	68	61	36	●
1588SL10C-0510	✻	5,1	6	104	68	61	36	●
1588SL10C-0520	✻	5,2	6	104	68	61	36	●
1588SL10C-0530	✻	5,3	6	104	68	61	36	●
1588SL10C-0540	✻	5,4	6	104	68	61	36	●
1588SL10C-0550	✻	5,5	6	104	68	61	36	●
1588SL10C-0555	✻	5,55	6	104	68	61	36	●
1588SL10C-0560	✻	5,6	6	104	68	61	36	●
1588SL10C-0570	✻	5,7	6	104	68	61	36	●
1588SL10C-0580	✻	5,8	6	104	68	61	36	●
1588SL10C-0590	✻	5,9	6	104	68	61	36	●
1588SL10C-0600	✻	6	6	104	68	61	36	●
1588SL10C-0610	✻	6,1	8	117	80	71	36	●
1588SL10C-0620	✻	6,2	8	117	80	71	36	●
1588SL10C-0630	✻	6,3	8	117	80	71	36	●
1588SL10C-0640	✻	6,4	8	117	80	71	36	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔	✔	✔	

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

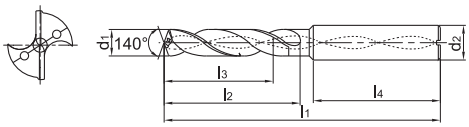
SL Punta 10xD

Lavorazione generica

1588SL10C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h5)	l_1	l_2	l_3	l_4	KDG303
1588SL10C-0650	✻	6,5	8	117	80	71	36	●
1588SL10C-0660	✻	6,6	8	117	80	71	36	●
1588SL10C-0670	✻	6,7	8	117	80	71	36	●
1588SL10C-0680	✻	6,8	8	117	80	71	36	●
1588SL10C-0690	✻	6,9	8	117	80	71	36	●
1588SL10C-0700	✻	7	8	117	80	71	36	●
1588SL10C-0710	✻	7,1	8	130	94	84	36	●
1588SL10C-0720	✻	7,2	8	130	94	84	36	●
1588SL10C-0730	✻	7,3	8	130	94	84	36	●
1588SL10C-0740	✻	7,4	8	130	94	84	36	●
1588SL10C-0750	✻	7,5	8	130	94	84	36	●
1588SL10C-0760	✻	7,6	8	130	94	84	36	●
1588SL10C-0770	✻	7,7	8	130	94	84	36	●
1588SL10C-0780	✻	7,8	8	130	94	84	36	●
1588SL10C-0790	✻	7,9	8	130	94	84	36	●
1588SL10C-0800	✻	8	8	130	94	84	36	●
1588SL10C-0810	✻	8,1	10	148	105	94	40	●
1588SL10C-0820	✻	8,2	10	148	105	94	40	●
1588SL10C-0830	✻	8,3	10	148	105	94	40	●
1588SL10C-0840	✻	8,4	10	148	105	94	40	●
1588SL10C-0850	✻	8,5	10	148	105	94	40	●
1588SL10C-0860	✻	8,6	10	148	105	94	40	●
1588SL10C-0870	✻	8,7	10	148	105	94	40	●
1588SL10C-0880	✻	8,8	10	148	105	94	40	●
1588SL10C-0890	✻	8,9	10	148	105	94	40	●
1588SL10C-0900	✻	9	10	148	105	94	40	●
1588SL10C-0910	✻	9,1	10	158	115	103	40	●
1588SL10C-0920	✻	9,2	10	158	115	103	40	●
1588SL10C-0930	✻	9,3	10	158	115	103	40	●
1588SL10C-0940	✻	9,4	10	158	115	103	40	●
1588SL10C-0950	✻	9,5	10	158	115	103	40	●
1588SL10C-0960	✻	9,6	10	158	115	103	40	●
1588SL10C-0970	✻	9,7	10	158	115	103	40	●
1588SL10C-0980	✻	9,8	10	158	115	103	40	●
1588SL10C-0990	✻	9,9	10	158	115	103	40	●
1588SL10C-1000	✻	10	10	158	115	103	40	●
1588SL10C-1010	✻	10,1	12	183	135	121	45	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔	✔	✔	

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

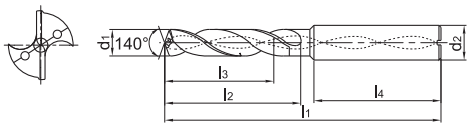
SL Punta 10xD

Lavorazione generica

1588SL10C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h5)	l_1	l_2	l_3	l_4	KDG303
1588SL10C-1020	✻	10,2	12	183	135	121	45	●
1588SL10C-1025	✻	10,25	12	183	135	121	45	●
1588SL10C-1030	✻	10,3	12	183	135	121	45	●
1588SL10C-1040	✻	10,4	12	183	135	121	45	●
1588SL10C-1050	✻	10,5	12	183	135	121	45	●
1588SL10C-1060	✻	10,6	12	183	135	121	45	●
1588SL10C-1070	✻	10,7	12	183	135	121	45	●
1588SL10C-1080	✻	10,8	12	183	135	121	45	●
1588SL10C-1090	✻	10,9	12	183	135	121	45	●
1588SL10C-1100	✻	11	12	183	135	121	45	●
1588SL10C-1110	✻	11,1	12	183	135	121	45	●
1588SL10C-1120	✻	11,2	12	183	135	121	45	●
1588SL10C-1130	✻	11,3	12	183	135	121	45	●
1588SL10C-1140	✻	11,4	12	183	135	121	45	●
1588SL10C-1150	✻	11,5	12	183	135	121	45	●
1588SL10C-1160	✻	11,6	12	183	135	121	45	●
1588SL10C-1170	✻	11,7	12	183	135	121	45	●
1588SL10C-1180	✻	11,8	12	183	135	121	45	●
1588SL10C-1190	✻	11,9	12	183	135	121	45	●
1588SL10C-1200	✻	12	12	183	135	121	45	●
1588SL10C-1210	✻	12,1	14	209	160	144	45	●
1588SL10C-1220	✻	12,2	14	209	160	144	45	●
1588SL10C-1225	✻	12,25	14	209	160	144	45	●
1588SL10C-1230	✻	12,3	14	209	160	144	45	●
1588SL10C-1250	✻	12,5	14	209	160	144	45	●
1588SL10C-1270	✻	12,7	14	209	160	144	45	●
1588SL10C-1275	✻	12,75	14	209	160	144	45	●
1588SL10C-1280	✻	12,8	14	209	160	144	45	●
1588SL10C-1300	✻	13	14	209	160	144	45	●
1588SL10C-1310	✻	13,1	14	209	160	144	45	●
1588SL10C-1350	✻	13,5	14	209	160	144	45	●
1588SL10C-1380	✻	13,8	14	209	160	144	45	●
1588SL10C-1400	✻	14	14	209	160	144	45	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔	✔	✔	

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

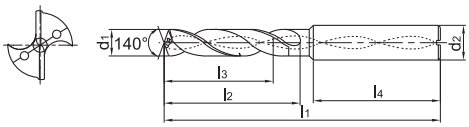
SL Punta 12xD

Lavorazione generica

1588SL12C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h5)	l_1	l_2	l_3	l_4	KDG303
1588SL12C-0300	✻	3	6	90	50	40	36	●
1588SL12C-0310	✻	3,1	6	90	50	40	36	●
1588SL12C-0320	✻	3,2	6	90	50	40	36	●
1588SL12C-0330	✻	3,3	6	90	50	40	36	●
1588SL12C-0340	✻	3,4	6	90	50	40	36	●
1588SL12C-0350	✻	3,5	6	90	50	40	36	●
1588SL12C-0360	✻	3,6	6	90	50	40	36	●
1588SL12C-0370	✻	3,7	6	90	50	46	36	●
1588SL12C-0380	✻	3,8	6	90	50	46	36	●
1588SL12C-0390	✻	3,9	6	90	50	46	36	●
1588SL12C-0400	✻	4	6	102	64	56	36	●
1588SL12C-0410	✻	4,1	6	102	64	56	36	●
1588SL12C-0420	✻	4,2	6	102	64	56	36	●
1588SL12C-0430	✻	4,3	6	102	64	56	36	●
1588SL12C-0440	✻	4,4	6	102	64	56	36	●
1588SL12C-0450	✻	4,5	6	102	64	56	36	●
1588SL12C-0460	✻	4,6	6	102	64	56	36	●
1588SL12C-0470	✻	4,7	6	102	64	56	36	●
1588SL12C-0480	✻	4,8	6	102	64	56	36	●
1588SL12C-0490	✻	4,9	6	102	64	56	36	●
1588SL12C-0500	✻	5	6	116	78	72	36	●
1588SL12C-0510	✻	5,1	6	116	78	72	36	●
1588SL12C-0520	✻	5,2	6	116	78	72	36	●
1588SL12C-0530	✻	5,3	6	116	78	72	36	○
1588SL12C-0540	✻	5,4	6	116	78	72	36	○
1588SL12C-0550	✻	5,5	6	116	78	72	36	●
1588SL12C-0560	✻	5,6	6	116	78	72	36	●
1588SL12C-0570	✻	5,7	6	116	78	72	36	●
1588SL12C-0580	✻	5,8	6	116	78	72	36	●
1588SL12C-0590	✻	5,9	6	116	78	72	36	●
1588SL12C-0600	✻	6	6	116	78	72	36	●
1588SL12C-0610	✻	6,1	8	131	93	84	36	●
1588SL12C-0620	✻	6,2	8	131	93	84	36	●
1588SL12C-0630	✻	6,3	8	131	93	84	36	●
1588SL12C-0640	✻	6,4	8	131	93	84	36	●
1588SL12C-0650	✻	6,5	8	131	93	84	36	●
1588SL12C-0660	✻	6,6	8	131	93	84	36	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔	✔	✔	

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

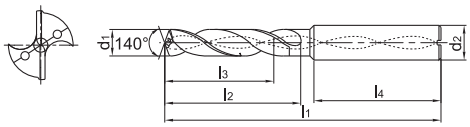
SL Punta 12xD

Lavorazione generica

1588SL12C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h5)	l_1	l_2	l_3	l_4	KDG303
1588SL12C-0670	✻	6,7	8	131	93	84	36	●
1588SL12C-0680	✻	6,8	8	131	93	84	36	●
1588SL12C-0690	✻	6,9	8	131	93	84	36	●
1588SL12C-0700	✻	7	8	131	93	84	36	●
1588SL12C-0710	✻	7,1	8	146	108	96	36	●
1588SL12C-0720	✻	7,2	8	146	108	96	36	●
1588SL12C-0730	✻	7,3	8	146	108	96	36	●
1588SL12C-0740	✻	7,4	8	146	108	96	36	●
1588SL12C-0750	✻	7,5	8	146	108	96	36	●
1588SL12C-0760	✻	7,6	8	146	108	96	36	○
1588SL12C-0770	✻	7,7	8	146	108	96	36	○
1588SL12C-0780	✻	7,8	8	146	108	96	36	●
1588SL12C-0790	✻	7,9	8	146	108	96	36	○
1588SL12C-0800	✻	8	8	146	108	96	36	●
1588SL12C-0810	✻	8,1	10	162	120	108	40	●
1588SL12C-0820	✻	8,2	10	162	120	108	40	●
1588SL12C-0830	✻	8,3	10	162	120	108	40	●
1588SL12C-0840	✻	8,4	10	162	120	108	40	●
1588SL12C-0850	✻	8,5	10	162	120	108	40	●
1588SL12C-0860	✻	8,6	10	162	120	108	40	●
1588SL12C-0870	✻	8,7	10	162	120	108	40	●
1588SL12C-0880	✻	8,8	10	162	120	108	40	●
1588SL12C-0890	✻	8,9	10	162	120	108	40	●
1588SL12C-0900	✻	9	10	162	120	108	40	●
1588SL12C-0910	✻	9,1	10	174	132	120	40	○
1588SL12C-0920	✻	9,2	10	174	132	120	40	●
1588SL12C-0930	✻	9,3	10	174	132	120	40	●
1588SL12C-0940	✻	9,4	10	174	132	120	40	●
1588SL12C-0950	✻	9,5	10	174	132	120	40	●
1588SL12C-0960	✻	9,6	10	174	132	120	40	○
1588SL12C-0970	✻	9,7	10	174	132	120	40	●
1588SL12C-0980	✻	9,8	10	174	132	120	40	●
1588SL12C-0990	✻	9,9	10	174	132	120	40	○
1588SL12C-1000	✻	10	10	174	132	120	40	●
1588SL12C-1010	✻	10,1	12	204	156	144	45	●
1588SL12C-1020	✻	10,2	12	204	156	144	45	●
1588SL12C-1030	✻	10,3	12	204	156	144	45	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔	✔	✔	

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

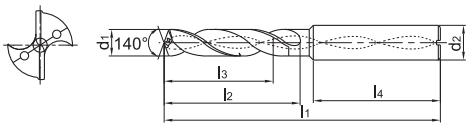
SL Punta 12xD

Lavorazione generica

1588SL12C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h5)	l_1	l_2	l_3	l_4	KDG303
1588SL12C-1040	✻	10,4	12	204	156	144	45	●
1588SL12C-1050	✻	10,5	12	204	156	144	45	●
1588SL12C-1060	✻	10,6	12	204	156	144	45	●
1588SL12C-1070	✻	10,7	12	204	156	144	45	○
1588SL12C-1080	✻	10,8	12	204	156	144	45	○
1588SL12C-1090	✻	10,9	12	204	156	144	45	○
1588SL12C-1100	✻	11	12	204	156	144	45	●
1588SL12C-1110	✻	11,1	12	204	156	144	45	●
1588SL12C-1120	✻	11,2	12	204	156	144	45	●
1588SL12C-1130	✻	11,3	12	204	156	144	45	○
1588SL12C-1140	✻	11,4	12	204	156	144	45	○
1588SL12C-1150	✻	11,5	12	204	156	144	45	●
1588SL12C-1160	✻	11,6	12	204	156	144	45	○
1588SL12C-1170	✻	11,7	12	204	156	144	45	●
1588SL12C-1180	✻	11,8	12	204	156	144	45	●
1588SL12C-1190	✻	11,9	12	204	156	144	45	○
1588SL12C-1200	✻	12	12	204	156	144	45	●
1588SL12C-1250	✻	12,5	14	230	182	168	45	○
1588SL12C-1270	✻	12,7	14	230	182	168	45	○
1588SL12C-1280	✻	12,8	14	230	182	168	45	○
1588SL12C-1300	✻	13	14	230	182	168	45	○
1588SL12C-1350	✻	13,5	14	230	182	168	45	○
1588SL12C-1380	✻	13,8	14	230	182	168	45	○
1588SL12C-1400	✻	14	14	230	182	168	45	○
1588SL12C-1425	✻	14,25	16	260	208	194	48	○
1588SL12C-1450	✻	14,5	16	260	208	194	48	○
1588SL12C-1460	✻	14,6	16	260	208	194	48	○
1588SL12C-1500	✻	15	16	260	208	194	48	○
1588SL12C-1550	✻	15,5	16	260	208	194	48	○
1588SL12C-1600	✻	16	16	260	208	194	48	○
1588SL12C-1650	✻	16,5	18	286	234	218	48	○
1588SL12C-1700	✻	17	18	286	234	218	48	○
1588SL12C-1750	✻	17,5	18	286	234	218	48	○
1588SL12C-1780	✻	17,8	18	286	234	218	48	○
1588SL12C-1800	✻	18	18	286	234	218	48	○
1588SL12C-1900	✻	19	20	310	258	240	48	○
1588SL12C-1950	✻	19,5	20	310	258	240	48	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔	✔	✔	

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

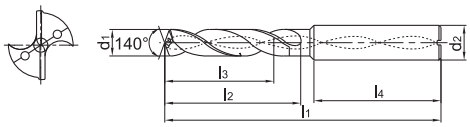
SL Punta 12xD

Lavorazione generica

1588SL12C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h5)	l_1	l_2	l_3	l_4	KDG303
1588SL12C-2000	✻	20	20	310	258	240	48	○
1588SL12C-2050	✻	20,5	22	310	258	240	48	○
1588SL12C-2100	✻	21	22	310	258	240	48	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔	✔	✔	

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

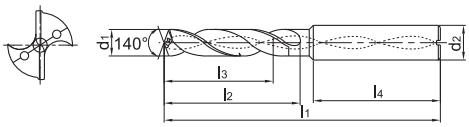
SL Punta 15xD

Lavorazione generica

1588SL15C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h5)	l_1	l_2	l_3	l_4	KDG303
1588SL15C-0300	✻	3	6	100	60	50	36	●
1588SL15C-0310	✻	3,1	6	105	65	55	36	●
1588SL15C-0320	✻	3,2	6	105	65	55	36	○
1588SL15C-0330	✻	3,3	6	105	65	55	36	●
1588SL15C-0335		3,35	6	105	65	55	36	○
1588SL15C-0340	✻	3,4	6	105	65	55	36	●
1588SL15C-0350	✻	3,5	6	105	65	55	36	●
1588SL15C-0360	✻	3,6	6	112	72	62	36	○
1588SL15C-0370	✻	3,7	6	112	72	68	36	●
1588SL15C-0380	✻	3,8	6	112	72	68	36	●
1588SL15C-0390	✻	3,9	6	112	72	68	36	○
1588SL15C-0400	✻	4	6	112	72	64	36	●
1588SL15C-0410	✻	4,1	6	120	80	72	36	○
1588SL15C-0420	✻	4,2	6	120	80	72	36	○
1588SL15C-0430	✻	4,3	6	120	80	72	36	○
1588SL15C-0440	✻	4,4	6	120	80	72	36	○
1588SL15C-0450	✻	4,5	6	120	80	72	36	●
1588SL15C-0460	✻	4,6	6	128	88	80	36	●
1588SL15C-0470	✻	4,7	6	128	88	80	36	○
1588SL15C-0480	✻	4,8	6	128	88	80	36	●
1588SL15C-0490	✻	4,9	6	128	88	80	36	●
1588SL15C-0500	✻	5	6	128	88	82	36	●
1588SL15C-0510	✻	5,1	6	136	96	90	36	●
1588SL15C-0520	✻	5,2	6	136	96	90	36	○
1588SL15C-0530	✻	5,3	6	136	96	90	36	●
1588SL15C-0540	✻	5,4	6	136	96	90	36	○
1588SL15C-0550	✻	5,5	6	136	96	90	36	○
1588SL15C-0560	✻	5,6	6	144	104	98	36	○
1588SL15C-0570	✻	5,7	6	144	104	98	36	○
1588SL15C-0580	✻	5,8	6	144	104	98	36	○
1588SL15C-0590	✻	5,9	6	144	104	98	36	○
1588SL15C-0600	✻	6	6	144	104	98	36	○
1588SL15C-0610	✻	6,1	8	152	112	103	36	●
1588SL15C-0620	✻	6,2	8	152	112	103	36	●
1588SL15C-0630	✻	6,3	8	152	112	103	36	○
1588SL15C-0640	✻	6,4	8	152	112	103	36	●
1588SL15C-0650	✻	6,5	8	152	112	103	36	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔	✔	✔	

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

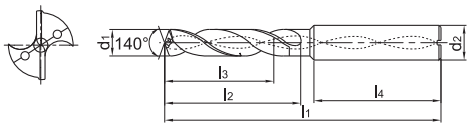
SL Punta 15xD

Lavorazione generica

1588SL15C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h5)	l_1	l_2	l_3	l_4	KDG303
1588SL15C-0660	✻	6,6	8	160	120	111	36	○
1588SL15C-0670	✻	6,7	8	160	120	111	36	●
1588SL15C-0680	✻	6,8	8	160	120	111	36	○
1588SL15C-0690	✻	6,9	8	160	120	111	36	○
1588SL15C-0700	✻	7	8	160	120	111	36	●
1588SL15C-0710	✻	7,1	8	170	130	118	36	○
1588SL15C-0720	✻	7,2	8	170	130	118	36	○
1588SL15C-0730	✻	7,3	8	170	130	118	36	○
1588SL15C-0740	✻	7,4	8	170	130	118	36	○
1588SL15C-0750	✻	7,5	8	170	130	118	36	○
1588SL15C-0760	✻	7,6	8	180	140	128	36	○
1588SL15C-0770	✻	7,7	8	180	140	128	36	○
1588SL15C-0780	✻	7,8	8	180	140	128	36	○
1588SL15C-0790	✻	7,9	8	180	140	128	36	○
1588SL15C-0800	✻	8	8	180	140	128	36	●
1588SL15C-0810	✻	8,1	10	194	150	138	40	○
1588SL15C-0820	✻	8,2	10	194	150	138	40	○
1588SL15C-0830	✻	8,3	10	194	150	138	40	○
1588SL15C-0840	✻	8,4	10	194	150	138	40	○
1588SL15C-0850	✻	8,5	10	194	150	138	40	●
1588SL15C-0860	✻	8,6	10	204	160	148	40	●
1588SL15C-0870	✻	8,7	10	204	160	148	40	○
1588SL15C-0880	✻	8,8	10	204	160	148	40	●
1588SL15C-0890	✻	8,9	10	204	160	148	40	○
1588SL15C-0900	✻	9	10	204	160	148	40	○
1588SL15C-0910	✻	9,1	10	216	172	160	40	○
1588SL15C-0920	✻	9,2	10	216	172	160	40	○
1588SL15C-0930	✻	9,3	10	216	172	160	40	○
1588SL15C-0940	✻	9,4	10	216	172	160	40	○
1588SL15C-0950	✻	9,5	10	216	172	160	40	○
1588SL15C-0960	✻	9,6	10	226	182	170	40	○
1588SL15C-0970	✻	9,7	10	226	182	170	40	○
1588SL15C-0980	✻	9,8	10	226	182	170	40	○
1588SL15C-0990	✻	9,9	10	226	182	170	40	○
1588SL15C-1000	✻	10	10	226	182	170	40	●
1588SL15C-1010	✻	10,1	12	240	190	178	45	○
1588SL15C-1020	✻	10,2	12	240	190	178	45	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔	✔	✔	

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

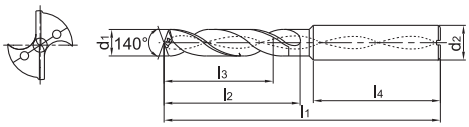
SL Punta 15xD

Lavorazione generica

1588SL15C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h5)	l_1	l_2	l_3	l_4	KDG303
1588SL15C-1030	✻	10,3	12	240	190	178	45	○
1588SL15C-1040	✻	10,4	12	240	190	178	45	○
1588SL15C-1050	✻	10,5	12	240	190	178	45	○
1588SL15C-1070	✻	10,7	12	248	198	186	45	○
1588SL15C-1080	✻	10,8	12	248	198	186	45	○
1588SL15C-1090	✻	10,9	12	248	198	186	45	○
1588SL15C-1100	✻	11	12	248	198	186	45	●
1588SL15C-1110	✻	11,1	12	262	212	200	45	○
1588SL15C-1120	✻	11,2	12	262	212	200	45	○
1588SL15C-1130	✻	11,3	12	262	212	200	45	○
1588SL15C-1140	✻	11,4	12	262	212	200	45	○
1588SL15C-1150	✻	11,5	12	262	212	200	45	●
1588SL15C-1160	✻	11,6	12	272	222	210	45	○
1588SL15C-1170	✻	11,7	12	272	222	210	45	○
1588SL15C-1180	✻	11,8	12	272	222	210	45	○
1588SL15C-1190	✻	11,9	12	272	222	210	45	○
1588SL15C-1200	✻	12	12	272	222	210	45	●
1588SL15C-1400	✻	14	14	298	250	100	48	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔	✔	✔	

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

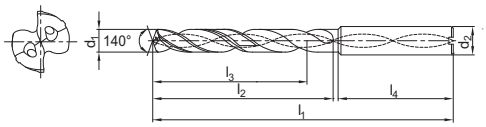
SL Punta 20xD

Lavorazione generica

1588SL20C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d1 (h7)	d_2 (h5)	l_1	l_2	l_3	l_4	KDG303
1588SL20C-0300	✻	3	6	110	70	62	36	●
1588SL20C-0310	✻	3,1	6	123	83	72	36	●
1588SL20C-0320	✻	3,2	6	123	83	72	36	●
1588SL20C-0330	✻	3,3	6	123	83	72	36	●
1588SL20C-0340	✻	3,4	6	123	83	72	36	●
1588SL20C-0350	✻	3,5	6	123	83	72	36	●
1588SL20C-0360	✻	3,6	6	136	96	84	36	●
1588SL20C-0370	✻	3,7	6	136	96	84	36	●
1588SL20C-0380	✻	3,8	6	136	96	84	36	●
1588SL20C-0390	✻	3,9	6	136	96	84	36	●
1588SL20C-0400	✻	4	6	136	96	84	36	●
1588SL20C-0410	✻	4,1	6	148	108	96	36	●
1588SL20C-0420	✻	4,2	6	148	108	96	36	●
1588SL20C-0430	✻	4,3	6	148	108	96	36	○
1588SL20C-0440	✻	4,4	6	148	108	96	36	○
1588SL20C-0450	✻	4,5	6	148	108	96	36	●
1588SL20C-0460	✻	4,6	6	158	118	106	36	○
1588SL20C-0470	✻	4,7	6	158	118	106	36	○
1588SL20C-0480	✻	4,8	6	158	118	106	36	●
1588SL20C-0490	✻	4,9	6	158	118	106	36	○
1588SL20C-0500	✻	5	6	158	118	106	36	●
1588SL20C-0510	✻	5,1	6	168	128	116	36	○
1588SL20C-0520	✻	5,2	6	168	128	116	36	●
1588SL20C-0530	✻	5,3	6	168	128	116	36	●
1588SL20C-0540	✻	5,4	6	168	128	116	36	●
1588SL20C-0550	✻	5,5	6	168	128	116	36	●
1588SL20C-0560	✻	5,6	6	180	140	126	36	○
1588SL20C-0570	✻	5,7	6	180	140	126	36	○
1588SL20C-0580	✻	5,8	6	180	140	126	36	●
1588SL20C-0590	✻	5,9	6	180	140	126	36	○
1588SL20C-0600	✻	6	6	180	140	126	36	●
1588SL20C-0610	✻	6,1	8	192	150	132	36	○
1588SL20C-0620	✻	6,2	8	192	150	132	36	○
1588SL20C-0630	✻	6,3	8	192	150	132	36	●
1588SL20C-0640	✻	6,4	8	192	150	132	36	○
1588SL20C-0650	✻	6,5	8	192	150	132	36	●
1588SL20C-0660	✻	6,6	8	202	162	144	36	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔	✔	✔	

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

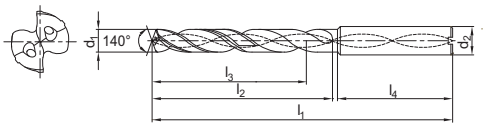
SL Punta 20xD

Lavorazione generica

1588SL20C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d1 (h7)	d_2 (h5)	l_1	l_2	l_3	l_4	KDG303
1588SL20C-0670	✻	6,7	8	202	162	144	36	○
1588SL20C-0680	✻	6,8	8	202	162	144	36	●
1588SL20C-0690	✻	6,9	8	202	162	144	36	○
1588SL20C-0700	✻	7	8	202	162	144	36	●
1588SL20C-0710	✻	7,1	8	213	173	155	36	○
1588SL20C-0720	✻	7,2	8	213	173	155	36	○
1588SL20C-0740	✻	7,4	8	213	173	155	36	○
1588SL20C-0750	✻	7,5	8	213	173	155	36	●
1588SL20C-0760	✻	7,6	8	223	183	165	36	○
1588SL20C-0770	✻	7,7	8	223	183	165	36	○
1588SL20C-0780	✻	7,8	8	223	183	165	36	○
1588SL20C-0790	✻	7,9	8	223	183	165	36	○
1588SL20C-0800	✻	8	8	223	183	165	36	●
1588SL20C-0810	✻	8,1	10	239	195	176	40	○
1588SL20C-0820	✻	8,2	10	239	195	176	40	○
1588SL20C-0830	✻	8,3	10	239	195	176	40	○
1588SL20C-0840	✻	8,4	10	239	195	176	40	○
1588SL20C-0850	✻	8,5	10	239	195	176	40	●
1588SL20C-0860	✻	8,6	10	249	205	186	40	○
1588SL20C-0870	✻	8,7	10	249	205	186	40	○
1588SL20C-0880	✻	8,8	10	249	205	186	40	○
1588SL20C-0890	✻	8,9	10	249	205	186	40	○
1588SL20C-0900	✻	9	10	249	205	186	40	○
1588SL20C-0910	✻	9,1	10	262	218	196	36	○
1588SL20C-0920	✻	9,2	10	262	218	196	36	○
1588SL20C-0930	✻	9,3	10	262	218	196	36	○
1588SL20C-0940	✻	9,4	10	262	218	196	36	○
1588SL20C-0950	✻	9,5	10	262	218	196	36	○
1588SL20C-0960	✻	9,6	10	272	228	206	40	○
1588SL20C-0970	✻	9,7	10	272	228	206	40	○
1588SL20C-0980	✻	9,8	10	272	228	206	40	○
1588SL20C-0990	✻	9,9	10	272	228	206	40	○
1588SL20C-1000	✻	10	10	272	228	206	40	●
1588SL20C-1010	✻	10,1	12	292	242	220	45	○
1588SL20C-1020	✻	10,2	12	292	242	220	45	○
1588SL20C-1030	✻	10,3	12	292	242	220	45	○
1588SL20C-1040	✻	10,4	12	292	242	220	45	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔	✔	✔	

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

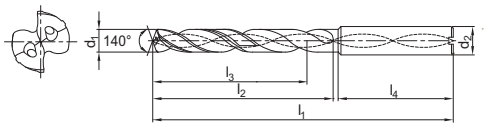
SL Punta 20xD

Lavorazione generica

1588SL20C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d1 (h7)	d_2 (h5)	l_1	l_2	l_3	l_4	KDG303
1588SL20C-1050	✻	10,5	12	292	242	220	45	○
1588SL20C-1060	✻	10,6	12	300	250	228	45	○
1588SL20C-1070	✻	10,7	12	300	250	228	45	○
1588SL20C-1080	✻	10,8	12	300	250	228	45	○
1588SL20C-1090	✻	10,9	12	300	250	228	45	○
1588SL20C-1100	✻	11	12	300	250	228	45	○
1588SL20C-1110	✻	11,1	12	315	265	240	45	○
1588SL20C-1120	✻	11,2	12	315	265	240	45	○
1588SL20C-1130	✻	11,3	12	315	265	240	45	○
1588SL20C-1140	✻	11,4	12	315	265	240	45	○
1588SL20C-1150	✻	11,5	12	315	265	240	45	○
1588SL20C-1160	✻	11,6	12	325	275	250	45	○
1588SL20C-1170	✻	11,7	12	325	275	250	45	○
1588SL20C-1180	✻	11,8	12	325	275	250	45	○
1588SL20C-1190	✻	11,9	12	325	275	250	45	○
1588SL20C-1200	✻	12	12	325	275	250	45	○
1588SL20C-1250	✻	12,5	14	325	275	250	45	○
1588SL20C-1270	✻	12,7	14	338	290	265	45	○
1588SL20C-1300	✻	13	14	338	290	265	45	○
1588SL20C-1350	✻	13,5	14	338	290	265	45	○
1588SL20C-1400	✻	14	14	367	318	290	45	○
1588SL20C-1600	✻	16	16	415	361	100	54	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔	✔	✔	

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

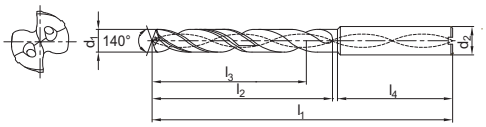
SL Punta 30xD

Lavorazione generica

1588SL30C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d1 (h7)	d_2 (h5)	l_1	l_2	l_3	l_4	KDG303
1588SL30C-0300	✻	3	6	140	100	92	36	●
1588SL30C-0310	✻	3,1	6	160	120	108	36	○
1588SL30C-0320	✻	3,2	6	160	120	108	36	●
1588SL30C-0330	✻	3,3	6	160	120	108	36	○
1588SL30C-0340	✻	3,4	6	160	120	108	36	●
1588SL30C-0350	✻	3,5	6	160	120	108	36	●
1588SL30C-0360	✻	3,6	6	176	136	124	36	○
1588SL30C-0370	✻	3,7	6	176	136	124	36	○
1588SL30C-0380	✻	3,8	6	176	136	124	36	●
1588SL30C-0390	✻	3,9	6	176	136	124	36	●
1588SL30C-0400	✻	4	6	176	136	124	36	●
1588SL30C-0410	✻	4,1	6	192	152	140	36	○
1588SL30C-0420	✻	4,2	6	192	152	140	36	○
1588SL30C-0430	✻	4,3	6	192	152	140	36	○
1588SL30C-0440	✻	4,4	6	192	152	140	36	○
1588SL30C-0450	✻	4,5	6	192	152	140	36	●
1588SL30C-0460	✻	4,6	6	208	168	156	36	○
1588SL30C-0470	✻	4,7	6	208	168	156	36	○
1588SL30C-0480	✻	4,8	6	208	168	156	36	●
1588SL30C-0490	✻	4,9	6	208	168	156	36	●
1588SL30C-0500	✻	5	6	208	168	156	36	●
1588SL30C-0520	✻	5,2	6	228	188	170	36	●
1588SL30C-0530	✻	5,3	6	228	188	170	36	○
1588SL30C-0540	✻	5,4	6	228	188	170	36	○
1588SL30C-0550	✻	5,5	6	228	188	170	36	●
1588SL30C-0560	✻	5,6	6	240	200	182	36	○
1588SL30C-0570	✻	5,7	6	240	200	182	36	○
1588SL30C-0580	✻	5,8	6	240	200	182	36	●
1588SL30C-0590	✻	5,9	6	240	200	182	36	○
1588SL30C-0600	✻	6	6	240	200	182	36	●
1588SL30C-0610	✻	6,1	8	260	220	202	36	○
1588SL30C-0620	✻	6,2	8	260	220	202	36	○
1588SL30C-0630	✻	6,3	8	260	220	202	36	●
1588SL30C-0640	✻	6,4	8	260	220	202	36	○
1588SL30C-0650	✻	6,5	8	260	220	202	36	●
1588SL30C-0660	✻	6,6	8	272	232	214	36	○
1588SL30C-0670	✻	6,7	8	272	232	214	36	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔	✔	✔	

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

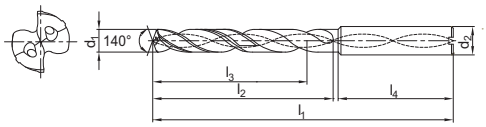
SL Punta 30xD

Lavorazione generica

1588SL30C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d1 (h7)	d_2 (h5)	l_1	l_2	l_3	l_4	KDG303
1588SL30C-0680	✻	6,8	8	272	232	214	36	●
1588SL30C-0690	✻	6,9	8	272	232	214	36	○
1588SL30C-0700	✻	7	8	272	232	214	36	●
1588SL30C-0710	✻	7,1	8	290	250	232	36	○
1588SL30C-0720	✻	7,2	8	290	250	232	36	○
1588SL30C-0730	✻	7,3	8	290	250	232	36	○
1588SL30C-0740	✻	7,4	8	290	250	232	36	○
1588SL30C-0750	✻	7,5	8	290	250	232	36	○
1588SL30C-0760	✻	7,6	8	305	265	246	36	○
1588SL30C-0770	✻	7,7	8	305	265	246	36	○
1588SL30C-0780	✻	7,8	8	305	265	246	36	○
1588SL30C-0790	✻	7,9	8	305	265	246	36	○
1588SL30C-0800	✻	8	8	305	265	246	36	●
1588SL30C-0810	✻	8,1	10	330	285	265	40	○
1588SL30C-0820	✻	8,2	10	330	285	265	40	○
1588SL30C-0830	✻	8,3	10	330	285	265	40	○
1588SL30C-0840	✻	8,4	10	330	285	265	40	○
1588SL30C-0850	✻	8,5	10	330	285	265	40	●
1588SL30C-0860	✻	8,6	10	340	295	275	40	○
1588SL30C-0870	✻	8,7	10	340	295	275	40	○
1588SL30C-0880	✻	8,8	10	340	295	275	40	○
1588SL30C-0890	✻	8,9	10	340	295	275	40	○
1588SL30C-0900	✻	9	10	340	295	275	40	○
1588SL30C-0920	✻	9,2	10	360	315	292	40	○
1588SL30C-0930	✻	9,3	10	360	315	292	40	○
1588SL30C-0940	✻	9,4	10	360	315	292	40	○
1588SL30C-0950	✻	9,5	10	360	315	292	40	○
1588SL30C-0960	✻	9,6	10	372	328	305	40	○
1588SL30C-0970	✻	9,7	10	372	328	305	40	○
1588SL30C-0980	✻	9,8	10	372	328	305	40	○
1588SL30C-0990	✻	9,9	10	372	328	305	40	○
1588SL30C-1000	✻	10	10	372	328	305	40	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔	✔	✔	

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

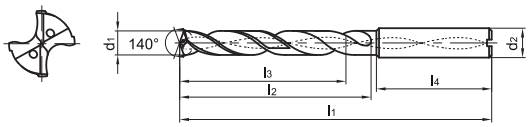
Punta UL - 10xD

Lavorazione generica

1588UL10C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h5)	l_1	l_2	l_3	l_4	KDG305
1588UL10C-0300	✻	3	6	80	43	39	36	●
1588UL10C-0310	✻	3,1	6	80	43	39	36	●
1588UL10C-0320	✻	3,2	6	80	43	39	36	●
1588UL10C-0330	✻	3,3	6	80	43	39	36	●
1588UL10C-0340	✻	3,4	6	80	43	39	36	●
1588UL10C-0350	✻	3,5	6	80	43	39	36	●
1588UL10C-0360	✻	3,6	6	80	43	39	36	●
1588UL10C-0370	✻	3,7	6	80	43	39	36	●
1588UL10C-0380	✻	3,8	6	80	43	39	36	●
1588UL10C-0390	✻	3,9	6	80	43	39	36	●
1588UL10C-0400	✻	4	6	92	55	50	36	●
1588UL10C-0410	✻	4,1	6	92	55	50	36	●
1588UL10C-0420	✻	4,2	6	92	55	50	36	●
1588UL10C-0430	✻	4,3	6	92	55	50	36	●
1588UL10C-0440	✻	4,4	6	92	55	50	36	●
1588UL10C-0450	✻	4,5	6	92	55	50	36	●
1588UL10C-0460	✻	4,6	6	92	55	50	36	●
1588UL10C-0470	✻	4,7	6	92	55	50	36	●
1588UL10C-0480	✻	4,8	6	92	55	50	36	●
1588UL10C-0490	✻	4,9	6	92	55	50	36	●
1588UL10C-0500	✻	5	6	104	68	61	36	●
1588UL10C-0510	✻	5,1	6	104	68	61	36	●
1588UL10C-0520	✻	5,2	6	104	68	61	36	●
1588UL10C-0530	✻	5,3	6	104	68	61	36	●
1588UL10C-0540	✻	5,4	6	104	68	61	36	●
1588UL10C-0550	✻	5,5	6	104	68	61	36	●
1588UL10C-0560	✻	5,6	6	104	68	61	36	●
1588UL10C-0570	✻	5,7	6	104	68	61	36	●
1588UL10C-0580	✻	5,8	6	104	68	61	36	●
1588UL10C-0590	✻	5,9	6	104	68	61	36	●
1588UL10C-0600	✻	6	6	104	68	61	36	●
1588UL10C-0610	✻	6,1	8	117	80	71	36	●
1588UL10C-0620	✻	6,2	8	117	80	71	36	●
1588UL10C-0630	✻	6,3	8	117	80	71	36	●
1588UL10C-0640	✻	6,4	8	117	80	71	36	●
1588UL10C-0650	✻	6,5	8	117	80	71	36	●
1588UL10C-0660	✻	6,6	8	117	80	71	36	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔			✔	

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

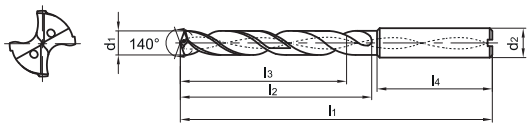
Punta UL - 10xD

Lavorazione generica

1588UL10C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h5)	l_1	l_2	l_3	l_4	KDG305
1588UL10C-0670	✻	6,7	8	117	80	71	36	○
1588UL10C-0680	✻	6,8	8	117	80	71	36	●
1588UL10C-0690	✻	6,9	8	117	80	71	36	○
1588UL10C-0700	✻	7	8	117	80	71	36	●
1588UL10C-0710	✻	7,1	8	130	94	84	36	○
1588UL10C-0720	✻	7,2	8	130	94	84	36	○
1588UL10C-0730	✻	7,3	8	130	94	84	36	○
1588UL10C-0740	✻	7,4	8	130	94	84	36	○
1588UL10C-0750	✻	7,5	8	130	94	84	36	●
1588UL10C-0760	✻	7,6	8	130	94	84	36	○
1588UL10C-0770	✻	7,7	8	130	94	84	36	○
1588UL10C-0780	✻	7,8	8	130	94	84	36	○
1588UL10C-0790	✻	7,9	8	130	94	84	36	○
1588UL10C-0800	✻	8	8	130	94	84	36	●
1588UL10C-0810	✻	8,1	10	148	105	94	40	○
1588UL10C-0820	✻	8,2	10	148	105	94	40	○
1588UL10C-0830	✻	8,3	10	148	105	94	40	○
1588UL10C-0840	✻	8,4	10	148	105	94	40	○
1588UL10C-0850	✻	8,5	10	148	105	94	40	●
1588UL10C-0860	✻	8,6	10	148	105	94	40	○
1588UL10C-0870	✻	8,7	10	148	105	94	40	○
1588UL10C-0880	✻	8,8	10	148	105	94	40	○
1588UL10C-0890	✻	8,9	10	148	105	94	40	○
1588UL10C-0900	✻	9	10	148	105	94	40	●
1588UL10C-0910	✻	9,1	10	158	115	103	40	○
1588UL10C-0920	✻	9,2	10	158	115	103	40	○
1588UL10C-0930	✻	9,3	10	158	115	103	40	○
1588UL10C-0940	✻	9,4	10	158	115	103	40	○
1588UL10C-0950	✻	9,5	10	158	115	103	40	●
1588UL10C-0960	✻	9,6	10	158	115	103	40	○
1588UL10C-0970	✻	9,7	10	158	115	103	40	○
1588UL10C-0980	✻	9,8	10	158	115	103	40	○
1588UL10C-0990	✻	9,9	10	158	115	103	40	○
1588UL10C-1000	✻	10	10	158	115	103	40	●
1588UL10C-1050	✻	10,5	12	183	135	121	45	○
1588UL10C-1100	✻	11	12	183	135	121	45	○
1588UL10C-1150	✻	11,5	12	183	135	121	45	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔			✔	

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

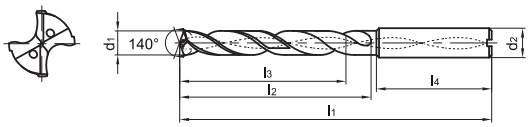
Punta UL - 10xD

Lavorazione generica

1588UL10C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h5)	l_1	l_2	l_3	l_4	KDG305
1588UL10C-1200	✻	12	12	183	135	121	45	●
1588UL10C-1250	✻	12,5	14	209	160	144	45	○
1588UL10C-1300	✻	13	14	209	160	144	45	○
1588UL10C-1350	✻	13,5	14	209	160	144	45	○
1588UL10C-1400	✻	14	14	209	160	144	45	●
1588UL10C-1450	✻	14,5	16	234	184	145	48	○
1588UL10C-1500	✻	15	16	234	184	150	48	○
1588UL10C-1550	✻	15,5	16	234	184	155	48	○
1588UL10C-1600	✻	16	16	234	184	160	48	●
1588UL10C-1650	✻	16,5	18	258	208	165	48	○
1588UL10C-1700	✻	17	18	258	208	170	48	○
1588UL10C-1750	✻	17,5	18	258	208	175	48	○
1588UL10C-1800	✻	18	18	258	208	180	48	○
1588UL10C-1850	✻	18,5	20	284	232	185	50	○
1588UL10C-1900	✻	19	20	284	232	190	50	○
1588UL10C-1950	✻	19,5	20	284	232	195	50	○
1588UL10C-2000	✻	20	20	284	232	200	50	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔			✔	

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

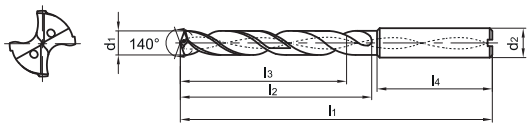
Punta UL - 20xD

Lavorazione generica

1588UL20C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d1 (h7)	d_2 (h5)	l_1	l_2	l_3	l_4	KDG305
1588UL20C-0300	✻	3	6	110	70	62	36	●
1588UL20C-0310	✻	3,1	6	123	83	72	36	●
1588UL20C-0320	✻	3,2	6	123	83	72	36	●
1588UL20C-0330	✻	3,3	6	123	83	72	36	●
1588UL20C-0340	✻	3,4	6	123	83	72	36	●
1588UL20C-0350	✻	3,5	6	123	83	72	36	●
1588UL20C-0360	✻	3,6	6	136	96	84	36	●
1588UL20C-0370	✻	3,7	6	136	96	84	36	●
1588UL20C-0380	✻	3,8	6	136	96	84	36	●
1588UL20C-0390	✻	3,9	6	136	96	84	36	●
1588UL20C-0400	✻	4	6	136	96	84	36	●
1588UL20C-0410	✻	4,1	6	148	108	96	36	●
1588UL20C-0420	✻	4,2	6	148	108	96	36	●
1588UL20C-0430	✻	4,3	6	148	108	96	36	●
1588UL20C-0440	✻	4,4	6	148	108	96	36	●
1588UL20C-0450	✻	4,5	6	148	108	96	36	●
1588UL20C-0460	✻	4,6	6	158	118	106	36	●
1588UL20C-0470	✻	4,7	6	158	118	106	36	○
1588UL20C-0480	✻	4,8	6	158	118	106	36	○
1588UL20C-0490	✻	4,9	6	158	118	106	36	●
1588UL20C-0500	✻	5	6	158	118	106	36	●
1588UL20C-0510	✻	5,1	6	168	128	116	36	●
1588UL20C-0520	✻	5,2	6	168	128	116	36	●
1588UL20C-0530	✻	5,3	6	168	128	116	36	●
1588UL20C-0540	✻	5,4	6	168	128	116	36	○
1588UL20C-0550	✻	5,5	6	168	128	116	36	●
1588UL20C-0560	✻	5,6	6	180	140	126	36	●
1588UL20C-0570	✻	5,7	6	180	140	126	36	●
1588UL20C-0580	✻	5,8	6	180	140	126	36	●
1588UL20C-0590	✻	5,9	6	180	140	126	36	○
1588UL20C-0600	✻	6	6	180	140	126	36	●
1588UL20C-0610	✻	6,1	8	192	150	132	36	●
1588UL20C-0620	✻	6,2	8	192	150	132	36	●
1588UL20C-0630	✻	6,3	8	192	150	132	36	●
1588UL20C-0640	✻	6,4	8	192	150	132	36	●
1588UL20C-0650	✻	6,5	8	192	150	132	36	●
1588UL20C-0660	✻	6,6	8	202	162	144	36	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔			✔	

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

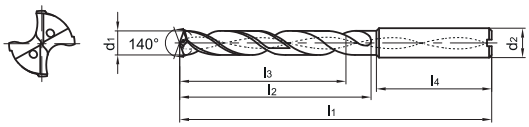
Punta UL - 20xD

Lavorazione generica

1588UL20C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d1 (h7)	d_2 (h5)	l_1	l_2	l_3	l_4	KDG305
1588UL20C-0670	✻	6,7	8	202	162	144	36	○
1588UL20C-0680	✻	6,8	8	202	162	144	36	●
1588UL20C-0690	✻	6,9	8	202	162	144	36	●
1588UL20C-0700	✻	7	8	202	162	144	36	●
1588UL20C-0710	✻	7,1	8	213	173	155	36	●
1588UL20C-0720	✻	7,2	8	213	173	155	36	○
1588UL20C-0730	✻	7,3	8	213	173	155	36	●
1588UL20C-0740	✻	7,4	8	213	173	155	36	○
1588UL20C-0750	✻	7,5	8	213	173	155	36	●
1588UL20C-0760	✻	7,6	8	223	183	165	36	○
1588UL20C-0770	✻	7,7	8	223	183	165	36	○
1588UL20C-0780	✻	7,8	8	223	183	165	36	●
1588UL20C-0790	✻	7,9	8	223	183	165	36	○
1588UL20C-0800	✻	8	8	223	183	165	36	●
1588UL20C-0810	✻	8,1	10	239	195	176	40	●
1588UL20C-0830	✻	8,3	10	239	195	176	40	○
1588UL20C-0840	✻	8,4	10	239	195	176	40	○
1588UL20C-0850	✻	8,5	10	239	195	176	40	●
1588UL20C-0860	✻	8,6	10	249	205	186	40	○
1588UL20C-0870	✻	8,7	10	249	205	186	40	○
1588UL20C-0880	✻	8,8	10	249	205	186	40	○
1588UL20C-0890	✻	8,9	10	249	205	186	40	○
1588UL20C-0900	✻	9	10	249	205	186	40	●
1588UL20C-0910	✻	9,1	10	262	218	196	36	○
1588UL20C-0920	✻	9,2	10	262	218	196	36	○
1588UL20C-0930	✻	9,3	10	262	218	196	36	○
1588UL20C-0940	✻	9,4	10	262	218	196	36	○
1588UL20C-0950	✻	9,5	10	262	218	196	36	●
1588UL20C-0960	✻	9,6	10	272	228	206	40	○
1588UL20C-0970	✻	9,7	10	272	228	206	40	○
1588UL20C-0980	✻	9,8	10	272	228	206	40	○
1588UL20C-0990	✻	9,9	10	272	228	206	40	○
1588UL20C-1000	✻	10	10	272	228	206	40	●
1588UL20C-1050	✻	10,5	12	292	242	220	45	●
1588UL20C-1100	✻	11	12	300	250	228	45	●
1588UL20C-1150	✻	11,5	12	315	265	240	45	●
1588UL20C-1200	✻	12	12	325	275	250	45	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔			✔	

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

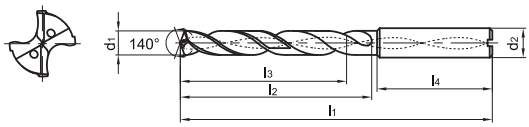
Punta UL - 20xD

Lavorazione generica

1588UL20C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d1 (h7)	d_2 (h5)	l_1	l_2	l_3	l_4	KDG305
1588UL20C-1250	✻	12,5	14	325	275	250	45	○
1588UL20C-1300	✻	13	14	338	290	265	45	○
1588UL20C-1350	✻	13,5	14	338	290	265	45	○
1588UL20C-1400	✻	14	14	367	318	290	45	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔			✔	

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

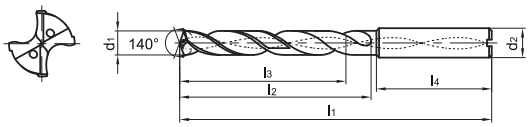
Punta UL - 30xD

Lavorazione generica

1588UL30C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d1 (h7)	d_2 (h5)	l_1	l_2	l_3	l_4	KDG305
1588UL30C-0300	✻	3	6	140	100	92	36	●
1588UL30C-0310	✻	3,1	6	160	120	108	36	○
1588UL30C-0320	✻	3,2	6	160	120	108	36	●
1588UL30C-0330	✻	3,3	6	160	120	108	36	●
1588UL30C-0340	✻	3,4	6	160	120	108	36	●
1588UL30C-0360	✻	3,6	6	176	136	124	36	●
1588UL30C-0370	✻	3,7	6	176	136	124	36	○
1588UL30C-0380	✻	3,8	6	176	136	124	36	●
1588UL30C-0390	✻	3,9	6	176	136	124	36	●
1588UL30C-0410	✻	4,1	6	192	152	140	36	○
1588UL30C-0420	✻	4,2	6	192	152	140	36	●
1588UL30C-0430	✻	4,3	6	192	152	140	36	○
1588UL30C-0440	✻	4,4	6	192	152	140	36	○
1588UL30C-0450	✻	4,5	6	192	152	140	36	●
1588UL30C-0460	✻	4,6	6	208	168	156	36	○
1588UL30C-0470	✻	4,7	6	208	168	156	36	○
1588UL30C-0480	✻	4,8	6	208	168	156	36	●
1588UL30C-0490	✻	4,9	6	208	168	156	36	●
1588UL30C-0500	✻	5	6	208	168	156	36	●
1588UL30C-0510	✻	5,1	6	228	188	170	36	●
1588UL30C-0520	✻	5,2	6	228	188	170	36	●
1588UL30C-0530	✻	5,3	6	228	188	170	36	○
1588UL30C-0540	✻	5,4	6	228	188	170	36	○
1588UL30C-0550	✻	5,5	6	228	188	170	36	●
1588UL30C-0560	✻	5,6	6	240	200	182	36	○
1588UL30C-0570	✻	5,7	6	240	200	182	36	○
1588UL30C-0580	✻	5,8	6	240	200	182	36	○
1588UL30C-0590	✻	5,9	6	240	200	182	36	○
1588UL30C-0600	✻	6	6	240	200	182	36	●
1588UL30C-0610	✻	6,1	8	260	220	202	36	○
1588UL30C-0620	✻	6,2	8	260	220	202	36	●
1588UL30C-0630	✻	6,3	8	260	220	202	36	●
1588UL30C-0640	✻	6,4	8	260	220	202	36	●
1588UL30C-0650	✻	6,5	8	260	220	202	36	●
1588UL30C-0660	✻	6,6	8	272	232	214	36	●
1588UL30C-0670	✻	6,7	8	272	232	214	36	○
1588UL30C-0680	✻	6,8	8	272	232	214	36	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔			✔	

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

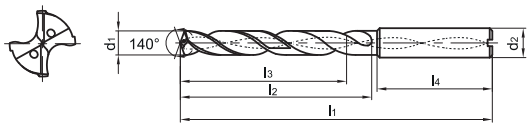
Punta UL - 30xD

Lavorazione generica

1588UL30C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d1 (h7)	d_2 (h5)	l_1	l_2	l_3	l_4	KDG305
1588UL30C-0690	✻	6,9	8	272	232	214	36	○
1588UL30C-0700	✻	7	8	272	232	214	36	●
1588UL30C-0710	✻	7,1	8	290	250	232	36	○
1588UL30C-0720	✻	7,2	8	290	250	232	36	○
1588UL30C-0730	✻	7,3	8	290	250	232	36	○
1588UL30C-0740	✻	7,4	8	290	250	232	36	○
1588UL30C-0750	✻	7,5	8	290	250	232	36	●
1588UL30C-0760	✻	7,6	8	305	265	246	36	○
1588UL30C-0770	✻	7,7	8	305	265	246	36	○
1588UL30C-0780	✻	7,8	8	305	265	246	36	○
1588UL30C-0790	✻	7,9	8	305	265	246	36	○
1588UL30C-0800	✻	8	8	305	265	246	36	●
1588UL30C-0810	✻	8,1	10	330	285	265	40	○
1588UL30C-0820	✻	8,2	10	330	285	265	40	●
1588UL30C-0830	✻	8,3	10	330	285	265	40	○
1588UL30C-0840	✻	8,4	10	330	285	265	40	○
1588UL30C-0850	✻	8,5	10	330	285	265	40	●
1588UL30C-0860	✻	8,6	10	340	295	275	40	●
1588UL30C-0870	✻	8,7	10	340	295	275	40	○
1588UL30C-0880	✻	8,8	10	340	295	275	40	○
1588UL30C-0890	✻	8,9	10	340	295	275	40	○
1588UL30C-0900	✻	9	10	340	295	275	40	●
1588UL30C-0910	✻	9,1	10	360	315	292	40	○
1588UL30C-0920	✻	9,2	10	360	315	292	40	○
1588UL30C-0930	✻	9,3	10	360	315	292	40	○
1588UL30C-0940	✻	9,4	10	360	315	292	40	○
1588UL30C-0950	✻	9,5	10	360	315	292	40	○
1588UL30C-0960	✻	9,6	10	372	328	305	40	○
1588UL30C-0970	✻	9,7	10	372	328	305	40	○
1588UL30C-0980	✻	9,8	10	372	328	305	40	○
1588UL30C-0990	✻	9,9	10	372	328	305	40	○
1588UL30C-1000	✻	10	10	372	328	305	40	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔			✔	

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

Note

INFORMAZIONI IMPORTANTI

Raccomandazione di impiego per la **serie GD**

Calcolo per avanzamento

Gruppo ISO	Materiale	Velocità di taglio v_c (m/min)	Fattore per l' avanzamento F_m
P	Acciaio debolmente legato	130	0,04
	Acciaio altamente legato	100	0,03
K	Ghisa	160	0,04
	Acciaio fuso	130	0,03

Formula:	Avanzamento per giro (F_n)	$D \times F_m$
Esempio:	Diametro punta (D)	10 mm
	Materiale	acciaio alto legato

$$F_n = 10\ \text{mm} \times 0{,}03 = 0{,}3\ \text{mm/g}$$

*Le velocità di avanzamento specificate sono **valori massimi**. In caso di tensione instabile o macchine meno potenti si consiglia di ridurre la velocità di avanzamento di circa il 30 % da un diametro di foratura di Ø12 mm.

Fig.: **1536GD05C**

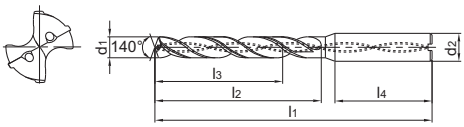
Punta GD - 3xD

Acciaio, ghise

1534GD03C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento esterno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG304
1534GD03C-0300	✻	3	6	62	20	14	36	●
1534GD03C-0310	✻	3,1	6	62	20	14	36	●
1534GD03C-0320	✻	3,2	6	62	20	14	36	●
1534GD03C-0330	✻	3,3	6	62	20	14	36	●
1534GD03C-0340	✻	3,4	6	62	20	14	36	●
1534GD03C-0350	✻	3,5	6	62	20	14	36	●
1534GD03C-0360	✻	3,6	6	62	20	14	36	●
1534GD03C-0370	✻	3,7	6	62	20	14	36	●
1534GD03C-0380	✻	3,8	6	66	24	17	36	●
1534GD03C-0390	✻	3,9	6	66	24	17	36	●
1534GD03C-0400	✻	4	6	66	24	17	36	●
1534GD03C-0410	✻	4,1	6	66	24	17	36	●
1534GD03C-0420	✻	4,2	6	66	24	17	36	●
1534GD03C-0430	✻	4,3	6	66	24	17	36	●
1534GD03C-0440	✻	4,4	6	66	24	17	36	●
1534GD03C-0450	✻	4,5	6	66	24	17	36	●
1534GD03C-0460	✻	4,6	6	66	24	17	36	●
1534GD03C-0465	✻	4,65	6	66	24	17	36	●
1534GD03C-0470	✻	4,7	6	66	24	17	36	●
1534GD03C-0480	✻	4,8	6	66	28	20	36	●
1534GD03C-0490	✻	4,9	6	66	28	20	36	●
1534GD03C-0500	✻	5	6	66	28	20	36	●
1534GD03C-0510	✻	5,1	6	66	28	20	36	●
1534GD03C-0520	✻	5,2	6	66	28	20	36	●
1534GD03C-0530	✻	5,3	6	66	28	20	36	●
1534GD03C-0540	✻	5,4	6	66	28	20	36	●
1534GD03C-0550	✻	5,5	6	66	28	20	36	●
1534GD03C-0560	✻	5,6	6	66	28	20	36	●
1534GD03C-0570	✻	5,7	6	66	28	20	36	●
1534GD03C-0580	✻	5,8	6	66	28	20	36	●
1534GD03C-0590	✻	5,9	6	66	28	20	36	●
1534GD03C-0600	✻	6	6	66	28	20	36	●
1534GD03C-0610	✻	6,1	8	79	34	24	36	●
1534GD03C-0620	✻	6,2	8	79	34	24	36	●
1534GD03C-0630	✻	6,3	8	79	34	24	36	●
1534GD03C-0640	✻	6,4	8	79	34	24	36	●
1534GD03C-0650	✻	6,5	8	79	34	24	36	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔		✔			

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

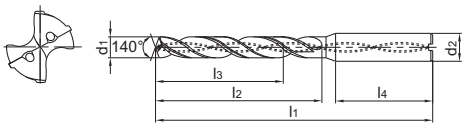
Punta GD - 3xD

Acciaio, ghise

1534GD03C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento esterno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG304
1534GD03C-0660	✻	6,6	8	79	34	24	36	●
1534GD03C-0670	✻	6,7	8	79	34	24	36	●
1534GD03C-0680	✻	6,8	8	79	34	24	36	●
1534GD03C-0690	✻	6,9	8	79	34	24	36	●
1534GD03C-0700	✻	7	8	79	34	24	36	●
1534GD03C-0710	✻	7,1	8	79	41	29	36	●
1534GD03C-0720	✻	7,2	8	79	41	29	36	●
1534GD03C-0730	✻	7,3	8	79	41	29	36	●
1534GD03C-0740	✻	7,4	8	79	41	29	36	●
1534GD03C-0750	✻	7,5	8	79	41	29	36	●
1534GD03C-0760	✻	7,6	8	79	41	29	36	●
1534GD03C-0770	✻	7,7	8	79	41	29	36	●
1534GD03C-0780	✻	7,8	8	79	41	29	36	●
1534GD03C-0790	✻	7,9	8	79	41	29	36	●
1534GD03C-0800	✻	8	8	79	41	29	36	●
1534GD03C-0810	✻	8,1	10	89	47	35	40	●
1534GD03C-0820	✻	8,2	10	89	47	35	40	●
1534GD03C-0830	✻	8,3	10	89	47	35	40	●
1534GD03C-0840	✻	8,4	10	89	47	35	40	●
1534GD03C-0850	✻	8,5	10	89	47	35	40	●
1534GD03C-0860	✻	8,6	10	89	47	35	40	●
1534GD03C-0870	✻	8,7	10	89	47	35	40	●
1534GD03C-0880	✻	8,8	10	89	47	35	40	●
1534GD03C-0890	✻	8,9	10	89	47	35	40	●
1534GD03C-0900	✻	9	10	89	47	35	40	●
1534GD03C-0910	✻	9,1	10	89	47	35	40	●
1534GD03C-0920	✻	9,2	10	89	47	35	40	●
1534GD03C-0930	✻	9,3	10	89	47	35	40	●
1534GD03C-0940	✻	9,4	10	89	47	35	40	●
1534GD03C-0950	✻	9,5	10	89	47	35	40	●
1534GD03C-0960	✻	9,6	10	89	47	35	40	●
1534GD03C-0970	✻	9,7	10	89	47	35	40	●
1534GD03C-0980	✻	9,8	10	89	47	35	40	●
1534GD03C-0990	✻	9,9	10	89	47	35	40	●
1534GD03C-1000	✻	10	10	89	47	35	40	●
1534GD03C-1020	✻	10,2	12	102	55	40	45	●
1534GD03C-1050	✻	10,5	12	102	55	40	45	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔		✔			

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

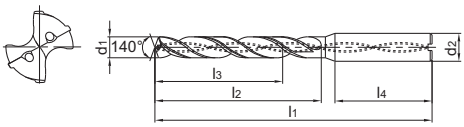
Punta GD - 3xD

Acciaio, ghise

1534GD03C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento esterno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG304
1534GD03C-1055	✻	10,55	12	102	55	40	45	○
1534GD03C-1100	✻	11	12	102	55	40	45	●
1534GD03C-1140	✻	11,4	12	102	55	40	45	●
1534GD03C-1150	✻	11,5	12	102	55	40	45	●
1534GD03C-1180	✻	11,8	12	102	55	40	45	○
1534GD03C-1200	✻	12	12	102	55	40	45	●
1534GD03C-1250	✻	12,5	14	107	60	43	45	●
1534GD03C-1260	✻	12,6	14	107	60	43	45	●
1534GD03C-1300	✻	13	14	107	60	43	45	●
1534GD03C-1330	✻	13,3	14	107	60	43	45	○
1534GD03C-1350	✻	13,5	14	107	60	43	45	●
1534GD03C-1400	✻	14	14	107	60	43	45	●
1534GD03C-1450	✻	14,5	16	115	65	45	48	●
1534GD03C-1500	✻	15	16	115	65	45	48	●
1534GD03C-1525	✻	15,25	16	115	65	45	48	○
1534GD03C-1550	✻	15,5	16	115	65	45	48	●
1534GD03C-1600	✻	16	16	115	65	45	48	●
1534GD03C-1650	✻	16,5	18	123	73	51	48	●
1534GD03C-1700	✻	17	18	123	73	51	48	●
1534GD03C-1750	✻	17,5	18	123	73	51	48	●
1534GD03C-1800	✻	18	18	123	73	51	48	●
1534GD03C-1850	✻	18,5	20	131	79	55	50	●
1534GD03C-1900	✻	19	20	131	79	55	50	●
1534GD03C-1950	✻	19,5	20	131	79	55	50	●
1534GD03C-2000	✻	20	20	131	79	55	50	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔		✔			

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

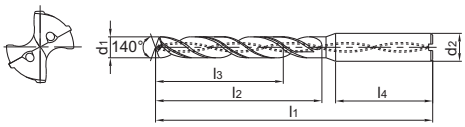
Punta GD - 5xD

Acciaio, ghise

1536GD05C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento esterno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG304
1536GD05C-0300	✻	3	6	66	28	23	36	●
1536GD05C-0310	✻	3,1	6	66	28	23	36	●
1536GD05C-0320	✻	3,2	6	66	28	23	36	●
1536GD05C-0330	✻	3,3	6	66	28	23	36	●
1536GD05C-0340	✻	3,4	6	66	28	23	36	●
1536GD05C-0345	✻	3,45	6	66	28	23	36	○
1536GD05C-0350	✻	3,5	6	66	28	23	36	●
1536GD05C-0360	✻	3,6	6	66	28	23	36	●
1536GD05C-0370	✻	3,7	6	66	28	23	36	●
1536GD05C-0380	✻	3,8	6	74	36	29	36	●
1536GD05C-0390	✻	3,9	6	74	36	29	36	●
1536GD05C-0400	✻	4	6	74	36	29	36	●
1536GD05C-0410	✻	4,1	6	74	36	29	36	●
1536GD05C-0420	✻	4,2	6	74	36	29	36	●
1536GD05C-0430	✻	4,3	6	74	36	29	36	●
1536GD05C-0440	✻	4,4	6	74	36	29	36	●
1536GD05C-0450	✻	4,5	6	74	36	29	36	●
1536GD05C-0460	✻	4,6	6	74	36	29	36	●
1536GD05C-0465	✻	4,65	6	74	36	29	36	●
1536GD05C-0470	✻	4,7	6	74	36	29	36	●
1536GD05C-0480	✻	4,8	6	82	44	35	36	●
1536GD05C-0490	✻	4,9	6	82	44	35	36	●
1536GD05C-0500	✻	5	6	82	44	35	36	●
1536GD05C-0508	✻	5,08	6	82	44	35	36	○
1536GD05C-0510	✻	5,1	6	82	44	35	36	●
1536GD05C-0518	✻	5,18	6	82	44	35	36	○
1536GD05C-0520	✻	5,2	6	82	44	35	36	●
1536GD05C-0530	✻	5,3	6	82	44	35	36	●
1536GD05C-0540	✻	5,4	6	82	44	35	36	●
1536GD05C-0550	✻	5,5	6	82	44	35	36	●
1536GD05C-0560	✻	5,6	6	82	44	35	36	●
1536GD05C-0570	✻	5,7	6	82	44	35	36	●
1536GD05C-0580	✻	5,8	6	82	44	35	36	●
1536GD05C-0590	✻	5,9	6	82	44	35	36	●
1536GD05C-0600	✻	6	6	82	44	35	36	●
1536GD05C-0610	✻	6,1	8	91	53	43	36	●
1536GD05C-0620	✻	6,2	8	91	53	43	36	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔		✔			

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

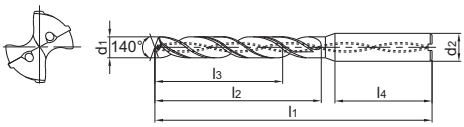
Punta GD - 5xD

Acciaio, ghise

1536GD05C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento esterno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG304
1536GD05C-0630	✻	6,3	8	91	53	43	36	●
1536GD05C-0640	✻	6,4	8	91	53	43	36	●
1536GD05C-0650	✻	6,5	8	91	53	43	36	●
1536GD05C-0660	✻	6,6	8	91	53	43	36	●
1536GD05C-0670	✻	6,7	8	91	53	43	36	●
1536GD05C-0680	✻	6,8	8	91	53	43	36	●
1536GD05C-0690	✻	6,9	8	91	53	43	36	●
1536GD05C-0700	✻	7	8	91	53	43	36	●
1536GD05C-0710	✻	7,1	8	91	53	43	36	●
1536GD05C-0720	✻	7,2	8	91	53	43	36	●
1536GD05C-0730	✻	7,3	8	91	53	43	36	●
1536GD05C-0740	✻	7,4	8	91	53	43	36	●
1536GD05C-0750	✻	7,5	8	91	53	43	36	●
1536GD05C-0760	✻	7,6	8	91	53	43	36	●
1536GD05C-0770	✻	7,7	8	91	53	43	36	●
1536GD05C-0780	✻	7,8	8	91	53	43	36	●
1536GD05C-0790	✻	7,9	8	91	53	43	36	●
1536GD05C-0800	✻	8	8	91	53	43	36	●
1536GD05C-0810	✻	8,1	10	103	61	49	40	●
1536GD05C-0820	✻	8,2	10	103	61	49	40	●
1536GD05C-0830	✻	8,3	10	103	61	49	40	●
1536GD05C-0840	✻	8,4	10	103	61	49	40	●
1536GD05C-0850	✻	8,5	10	103	61	49	40	●
1536GD05C-0860	✻	8,6	10	103	61	49	40	●
1536GD05C-0870	✻	8,7	10	103	61	49	40	●
1536GD05C-0880	✻	8,8	10	103	61	49	40	●
1536GD05C-0890	✻	8,9	10	103	61	49	40	●
1536GD05C-0900	✻	9	10	103	61	49	40	●
1536GD05C-0910	✻	9,1	10	103	61	49	40	●
1536GD05C-0920	✻	9,2	10	103	61	49	40	●
1536GD05C-0930	✻	9,3	10	103	61	49	40	●
1536GD05C-0940	✻	9,4	10	103	61	49	40	●
1536GD05C-0950	✻	9,5	10	103	61	49	40	●
1536GD05C-0960	✻	9,6	10	103	61	49	40	●
1536GD05C-0970	✻	9,7	10	103	61	49	40	●
1536GD05C-0980	✻	9,8	10	103	61	49	40	●
1536GD05C-0990	✻	9,9	10	103	61	49	40	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔		✔			

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

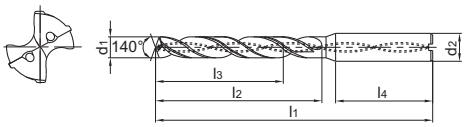
Punta GD - 5xD

Acciaio, ghise

1536GD05C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento esterno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG304
1536GD05C-1000	✻	10	10	103	61	49	40	●
1536GD05C-1010	✻	10,1	12	118	71	56	45	●
1536GD05C-1020	✻	10,2	12	118	71	56	45	●
1536GD05C-1030	✻	10,3	12	118	71	56	45	●
1536GD05C-1040	✻	10,4	12	118	71	56	45	●
1536GD05C-1050	✻	10,5	12	118	71	56	45	●
1536GD05C-1060	✻	10,6	12	118	71	56	45	●
1536GD05C-1070	✻	10,7	12	118	71	56	45	●
1536GD05C-1080	✻	10,8	12	118	71	56	45	●
1536GD05C-1090	✻	10,9	12	118	71	56	45	●
1536GD05C-1100	✻	11	12	118	71	56	45	●
1536GD05C-1120	✻	11,2	12	118	71	56	45	●
1536GD05C-1130	✻	11,3	12	118	71	56	45	●
1536GD05C-1140	✻	11,4	12	118	71	56	45	●
1536GD05C-1150	✻	11,5	12	118	71	56	45	●
1536GD05C-1180	✻	11,8	12	118	71	56	45	○
1536GD05C-1200	✻	12	12	118	71	56	45	●
1536GD05C-1250	✻	12,5	14	124	77	60	45	●
1536GD05C-1280	✻	12,8	14	124	77	60	45	●
1536GD05C-1300	✻	13	14	124	77	60	45	●
1536GD05C-1310	✻	13,1	14	124	77	60	45	○
1536GD05C-1335	✻	13,35	14	124	77	60	45	○
1536GD05C-1350	✻	13,5	14	124	77	60	45	●
1536GD05C-1380	✻	13,8	14	124	77	60	45	○
1536GD05C-1400	✻	14	14	124	77	60	45	●
1536GD05C-1420	✻	14,2	16	133	83	63	48	○
1536GD05C-1440	✻	14,4	16	133	83	63	48	○
1536GD05C-1450	✻	14,5	16	133	83	63	48	●
1536GD05C-1460	✻	14,6	16	133	83	63	48	○
1536GD05C-1500	✻	15	16	133	83	63	48	●
1536GD05C-1510	✻	15,1	16	133	83	63	48	○
1536GD05C-1530	✻	15,3	16	133	83	63	48	○
1536GD05C-1535	✻	15,35	16	133	83	63	48	○
1536GD05C-1550	✻	15,5	16	133	83	63	48	●
1536GD05C-1560	✻	15,6	16	133	83	63	48	○
1536GD05C-1600	✻	16	16	133	83	63	48	●
1536GD05C-1650	✻	16,5	18	143	93	71	48	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔		✔			

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

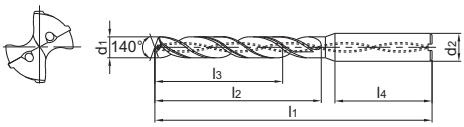
Punta GD - 5xD

Acciaio, ghise

1536GD05C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento esterno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG304
1536GD05C-1655	✻	16,55	18	143	93	71	48	○
1536GD05C-1660	✻	16,6	18	143	93	71	48	○
1536GD05C-1670	✻	16,7	18	143	93	71	48	○
1536GD05C-1700	✻	17	18	143	93	71	48	●
1536GD05C-1707	✻	17,07	18	143	93	71	48	○
1536GD05C-1710	✻	17,1	18	143	93	71	48	○
1536GD05C-1750	✻	17,5	18	143	93	71	48	●
1536GD05C-1760	✻	17,6	18	143	93	71	48	○
1536GD05C-1800	✻	18	18	143	93	71	48	●
1536GD05C-1810	✻	18,1	20	153	101	77	50	○
1536GD05C-1850	✻	18,5	20	153	101	77	50	●
1536GD05C-1900	✻	19	20	153	101	77	50	●
1536GD05C-1910	✻	19,1	20	153	101	77	50	○
1536GD05C-1950	✻	19,5	20	153	101	77	50	●
1536GD05C-2000	✻	20	20	153	101	77	50	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔		✔			

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

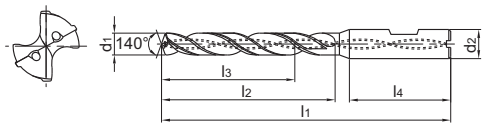
Punta GD - 5xD

Acciaio, ghise

1636GD05C

– Versione del codolo DIN 6535HB
– Uscita refrigerante assiale

Raffreddamento esterno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG304
1636GD05C-0450	✻	4,5	6	74	36	29	36	○
1636GD05C-0500	✻	5	6	82	44	35	36	●
1636GD05C-0510	✻	5,1	6	82	44	35	36	●
1636GD05C-0550	✻	5,5	6	82	44	35	36	●
1636GD05C-0560	✻	5,6	6	82	44	35	36	○
1636GD05C-0600	✻	6	6	82	44	35	36	●
1636GD05C-0650	✻	6,5	8	91	53	43	36	●
1636GD05C-0680	✻	6,8	8	91	53	43	36	●
1636GD05C-0690	✻	6,9	8	91	53	43	36	○
1636GD05C-0700	✻	7	8	91	53	43	36	●
1636GD05C-0740	✻	7,4	8	91	53	43	36	●
1636GD05C-0750	✻	7,5	8	91	53	43	36	●
1636GD05C-0780	✻	7,8	8	91	53	43	36	●
1636GD05C-0800	✻	8	8	91	53	43	36	●
1636GD05C-0850	✻	8,5	10	103	61	49	40	●
1636GD05C-0860	✻	8,6	10	103	61	49	40	○
1636GD05C-0880	✻	8,8	10	103	61	49	40	●
1636GD05C-0900	✻	9	10	103	61	49	40	●
1636GD05C-0930	✻	9,3	10	103	61	49	40	●
1636GD05C-0950	✻	9,5	10	103	61	49	40	●
1636GD05C-0980	✻	9,8	10	103	61	49	40	●
1636GD05C-1000	✻	10	10	103	61	49	40	●
1636GD05C-1010	✻	10,1	12	118	71	56	45	●
1636GD05C-1020	✻	10,2	12	118	71	56	45	●
1636GD05C-1030	✻	10,3	12	118	71	56	45	○
1636GD05C-1050	✻	10,5	12	118	71	56	45	●
1636GD05C-1080	✻	10,8	12	118	71	56	45	●
1636GD05C-1100	✻	11	12	118	71	56	45	●
1636GD05C-1110	✻	11,1	12	118	71	56	45	●
1636GD05C-1120	✻	11,2	12	118	71	56	45	○
1636GD05C-1150	✻	11,5	12	118	71	56	45	●
1636GD05C-1180	✻	11,8	12	118	71	56	45	●
1636GD05C-1200	✻	12	12	118	71	56	45	●
1636GD05C-1220	✻	12,2	14	124	77	60	45	○
1636GD05C-1250	✻	12,5	14	124	77	60	45	●
1636GD05C-1280	✻	12,8	14	124	77	60	45	○
1636GD05C-1300	✻	13	14	124	77	60	45	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔		✔			

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

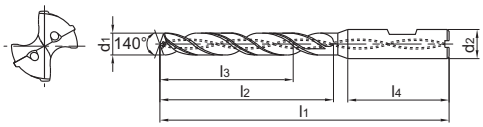
Punta GD - 5xD

Acciaio, ghise

1636GD05C

– Versione del codolo DIN 6535HB
– Uscita refrigerante assiale

Raffreddamento esterno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG304
1636GD05C-1310	✻	13,1	14	124	77	60	45	○
1636GD05C-1350	✻	13,5	14	124	77	60	45	●
1636GD05C-1380	✻	13,8	14	124	77	60	45	●
1636GD05C-1400	✻	14	14	124	77	60	45	●
1636GD05C-1450	✻	14,5	16	133	83	63	48	●
1636GD05C-1480	✻	14,8	16	133	83	63	48	●
1636GD05C-1500	✻	15	16	133	83	63	48	●
1636GD05C-1550	✻	15,5	16	133	83	63	48	●
1636GD05C-1580	✻	15,8	16	133	83	63	48	●
1636GD05C-1600	✻	16	16	133	83	63	48	●
1636GD05C-1650	✻	16,5	18	143	93	71	48	●
1636GD05C-1680	✻	16,8	18	143	93	71	48	○
1636GD05C-1700	✻	17	18	143	93	71	48	●
1636GD05C-1750	✻	17,5	18	143	93	71	48	●
1636GD05C-1780	✻	17,8	18	143	93	71	48	●
1636GD05C-1800	✻	18	18	143	93	71	48	●
1636GD05C-1850	✻	18,5	20	153	101	77	50	●
1636GD05C-1880	✻	18,8	20	153	101	77	50	○
1636GD05C-1900	✻	19	20	153	101	77	50	●
1636GD05C-1950	✻	19,5	20	153	101	77	50	●
1636GD05C-1980	✻	19,8	20	153	101	77	50	●
1636GD05C-2000	✻	20	20	153	101	77	50	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔		✔			

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

INFORMAZIONI IMPORTANTI

Raccomandazione di impiego per la **serie UD**

Calcolo per avanzamento

Gruppo ISO	Materiale	Velocità di taglio v_c (m/min)	Fattore per l' avanzamento F_m
M	Acciai inossidabili	80	0,02
S	Leghe Ni- / Co	40	0,01
S	Leghe di titanio	60	0,012

Formula:	Avanzamento per giro (F_n)	$D \times F_m$
Esempio:	Diametro punta (D)	10 mm
	Materiale	acciaio inossidabile

$$F_n = 10\ \text{mm} \times 0{,}02 = 0{,}2\ \text{mm/g}$$

Fig.: **1536UD05C**

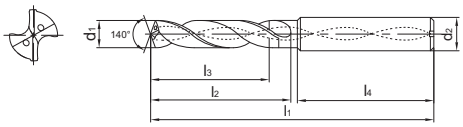
Punta UD- 3xD

Acciaio, acciaio inossidabile, materiali a difficile asportazione

1534UD03C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento esterno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG305
1534UD03C-0100XS	✻	1	3	45	6	4	37	○
1534UD03C-0110XS	✻	1,1	3	45	6,5	4	36,5	○
1534UD03C-0120XS	✻	1,2	3	45	7	5	36	○
1534UD03C-0130XS	✻	1,3	3	45	8	5	35	○
1534UD03C-0140XS	✻	1,4	3	45	8,5	5	34,5	○
1534UD03C-0150XS	✻	1,5	3	50	9	6	39	○
1534UD03C-0160S	✻	1,6	4	50	9,5	6	38,5	●
1534UD03C-0170S	✻	1,7	4	50	10	6	38	●
1534UD03C-0180S	✻	1,8	4	50	11	7	37	●
1534UD03C-0185S	✻	1,85	4	50	11	7	33	○
1534UD03C-0190S	✻	1,9	4	50	11,5	7	36,5	●
1534UD03C-0200S	✻	2	4	50	12	8	36	●
1534UD03C-0210S	✻	2,1	4	55	12,5	8	40,5	●
1534UD03C-0220S	✻	2,2	4	55	13	9	40	●
1534UD03C-0230S	✻	2,3	4	55	14	9	39	●
1534UD03C-0240S	✻	2,4	4	55	14,5	10	38,5	●
1534UD03C-0250S	✻	2,5	4	55	15	10	38	●
1534UD03C-0260S	✻	2,6	4	55	15,5	10	37,5	●
1534UD03C-0270S	✻	2,7	4	55	16	11	37	●
1534UD03C-0280S	✻	2,8	4	55	17	11	36	●
1534UD03C-0290S	✻	2,9	4	55	17,5	12	35,5	●
1534UD03C-0300	✻	3	6	62	20	14	36	●
1534UD03C-0305	✻	3,05	6	62	20	14	36	○
1534UD03C-0310	✻	3,1	6	62	20	14	36	○
1534UD03C-0320	✻	3,2	6	62	20	14	36	●
1534UD03C-0325	✻	3,25	6	62	20	14	36	○
1534UD03C-0330	✻	3,3	6	62	20	14	36	●
1534UD03C-0340	✻	3,4	6	62	20	14	36	○
1534UD03C-0350	✻	3,5	6	62	20	14	36	●
1534UD03C-0360	✻	3,6	6	62	20	14	36	○
1534UD03C-0370	✻	3,7	6	62	20	14	36	●
1534UD03C-0380	✻	3,8	6	66	24	17	36	○
1534UD03C-0390	✻	3,9	6	66	24	17	36	○
1534UD03C-0400	✻	4	6	66	24	17	36	●
1534UD03C-0410	✻	4,1	6	66	24	17	36	○
1534UD03C-0420	✻	4,2	6	66	24	17	36	●
1534UD03C-0430	✻	4,3	6	66	24	17	36	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔			✔	

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

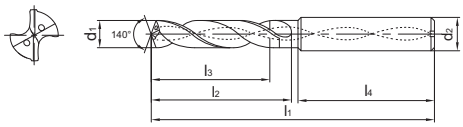
Punta UD- 3xD

Acciaio, acciaio inossidabile, materiali a difficile asportazione

1534UD03C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento esterno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG305
1534UD03C-0440	✻	4,4	6	66	24	17	36	○
1534UD03C-0450	✻	4,5	6	66	24	17	36	●
1534UD03C-0460	✻	4,6	6	66	24	17	36	○
1534UD03C-0465	✻	4,65	6	66	24	17	36	●
1534UD03C-0470	✻	4,7	6	66	24	17	36	○
1534UD03C-0480	✻	4,8	6	66	28	20	36	●
1534UD03C-0490	✻	4,9	6	66	28	20	36	○
1534UD03C-0500	✻	5	6	66	28	20	36	●
1534UD03C-0503	✻	5,03	6	66	28	20	36	○
1534UD03C-0510	✻	5,1	6	66	28	20	36	○
1534UD03C-0520	✻	5,2	6	66	28	20	36	○
1534UD03C-0530	✻	5,3	6	66	28	20	36	○
1534UD03C-0540	✻	5,4	6	66	28	20	36	○
1534UD03C-0550	✻	5,5	6	66	28	20	36	●
1534UD03C-0555	✻	5,55	6	66	28	20	36	●
1534UD03C-0560	✻	5,6	6	66	28	20	36	○
1534UD03C-0570	✻	5,7	6	66	28	20	36	●
1534UD03C-0580	✻	5,8	6	66	28	20	36	○
1534UD03C-0590	✻	5,9	6	66	28	20	36	●
1534UD03C-0600	✻	6	6	66	28	20	36	●
1534UD03C-0610	✻	6,1	8	79	34	24	36	○
1534UD03C-0620	✻	6,2	8	79	34	24	36	○
1534UD03C-0630	✻	6,3	8	79	34	24	36	○
1534UD03C-0640	✻	6,4	8	79	34	24	36	○
1534UD03C-0650	✻	6,5	8	79	34	24	36	●
1534UD03C-0660	✻	6,6	8	79	34	24	36	○
1534UD03C-0670	✻	6,7	8	79	34	24	36	○
1534UD03C-0675	✻	6,75	8	79	34	24	36	○
1534UD03C-0680	✻	6,8	8	79	34	24	36	●
1534UD03C-0690	✻	6,9	8	79	34	24	36	○
1534UD03C-0700	✻	7	8	79	34	24	36	●
1534UD03C-0710	✻	7,1	8	79	41	29	36	○
1534UD03C-0720	✻	7,2	8	79	41	29	36	○
1534UD03C-0730	✻	7,3	8	79	41	29	36	○
1534UD03C-0740	✻	7,4	8	79	41	29	36	●
1534UD03C-0750	✻	7,5	8	79	41	29	36	●
1534UD03C-0755	✻	7,55	8	79	41	29	36	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔			✔	

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

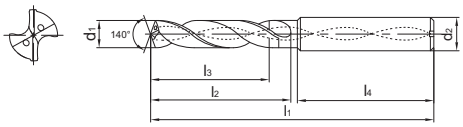
Punta UD- 3xD

Acciaio, acciaio inossidabile, materiali a difficile asportazione

1534UD03C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento esterno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG305
1534UD03C-0760	✻	7,6	8	79	41	29	36	○
1534UD03C-0770	✻	7,7	8	79	41	29	36	○
1534UD03C-0780	✻	7,8	8	79	41	29	36	○
1534UD03C-0790	✻	7,9	8	79	41	29	36	○
1534UD03C-0800	✻	8	8	79	41	29	36	●
1534UD03C-0810	✻	8,1	10	89	47	35	40	○
1534UD03C-0820	✻	8,2	10	89	47	35	40	○
1534UD03C-0830	✻	8,3	10	89	47	35	40	○
1534UD03C-0840	✻	8,4	10	89	47	35	40	○
1534UD03C-0850	✻	8,5	10	89	47	35	40	●
1534UD03C-0860	✻	8,6	10	89	47	35	40	○
1534UD03C-0870	✻	8,7	10	89	47	35	40	○
1534UD03C-0880	✻	8,8	10	89	47	35	40	●
1534UD03C-0890	✻	8,9	10	89	47	35	40	○
1534UD03C-0900	✻	9	10	89	47	35	40	●
1534UD03C-0910	✻	9,1	10	89	47	35	40	○
1534UD03C-0920	✻	9,2	10	89	47	35	40	○
1534UD03C-0930	✻	9,3	10	89	47	35	40	●
1534UD03C-0940	✻	9,4	10	89	47	35	40	○
1534UD03C-0950	✻	9,5	10	89	47	35	40	●
1534UD03C-0960	✻	9,6	10	89	47	35	40	○
1534UD03C-0970	✻	9,7	10	89	47	35	40	○
1534UD03C-0980	✻	9,8	10	89	47	35	40	○
1534UD03C-0990	✻	9,9	10	89	47	35	40	○
1534UD03C-1000	✻	10	10	89	47	35	40	●
1534UD03C-1010	✻	10,1	12	102	55	40	45	○
1534UD03C-1020	✻	10,2	12	102	55	40	45	●
1534UD03C-1025	✻	10,25	12	102	55	40	45	○
1534UD03C-1030	✻	10,3	12	102	55	40	45	○
1534UD03C-1040	✻	10,4	12	102	55	40	45	○
1534UD03C-1050	✻	10,5	12	102	55	40	45	●
1534UD03C-1060	✻	10,6	12	102	55	40	45	○
1534UD03C-1070	✻	10,7	12	102	55	40	45	○
1534UD03C-1080	✻	10,8	12	102	55	40	45	○
1534UD03C-1100	✻	11	12	102	55	40	45	●
1534UD03C-1110	✻	11,1	12	102	55	40	45	○
1534UD03C-1120	✻	11,2	12	102	55	40	45	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔			✔	

✔ Molto adatto
✔ Adatto

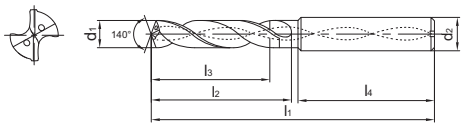
Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

Punta UD- 3xD — Acciaio, acciaio inossidabile, materiali a difficile asportazione

1534UD03C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento esterno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG305
1534UD03C-1125	✻	11,25	12	102	55	40	45	○
1534UD03C-1130	✻	11,3	12	102	55	40	45	○
1534UD03C-1140	✻	11,4	12	102	55	40	45	○
1534UD03C-1150	✻	11,5	12	102	55	40	45	●
1534UD03C-1160	✻	11,6	12	102	55	40	45	○
1534UD03C-1170	✻	11,7	12	102	55	40	45	○
1534UD03C-1180	✻	11,8	12	102	55	40	45	○
1534UD03C-1190	✻	11,9	12	102	55	40	45	○
1534UD03C-1200	✻	12	12	102	55	40	45	●
1534UD03C-1220	✻	12,2	14	107	60	43	45	●
1534UD03C-1225	✻	12,25	14	107	60	43	45	○
1534UD03C-1230	✻	12,3	14	107	60	43	45	○
1534UD03C-1240	✻	12,4	14	107	60	43	45	○
1534UD03C-1250	✻	12,5	14	107	60	43	45	●
1534UD03C-1260	✻	12,6	14	107	60	43	45	○
1534UD03C-1270	✻	12,7	14	107	60	43	45	○
1534UD03C-1275	✻	12,75	14	107	60	43	45	○
1534UD03C-1280	✻	12,8	14	107	60	43	45	○
1534UD03C-1300	✻	13	14	107	60	43	45	●
1534UD03C-1310	✻	13,1	14	107	60	43	45	○
1534UD03C-1350	✻	13,5	14	107	60	43	45	●
1534UD03C-1380	✻	13,8	14	107	60	43	45	○
1534UD03C-1400	✻	14	14	107	60	43	45	●
1534UD03C-1425	✻	14,25	16	115	65	45	48	○
1534UD03C-1430	✻	14,3	16	115	65	45	48	○
1534UD03C-1450	✻	14,5	16	115	65	45	48	●
1534UD03C-1475	✻	14,75	16	115	65	45	48	○
1534UD03C-1480	✻	14,8	16	115	65	45	48	○
1534UD03C-1500	✻	15	16	115	65	45	48	●
1534UD03C-1510	✻	15,1	16	115	65	45	48	○
1534UD03C-1550	✻	15,5	16	115	65	45	48	●
1534UD03C-1580	✻	15,8	16	115	65	45	48	○
1534UD03C-1590	✻	15,9	16	115	65	45	48	○
1534UD03C-1600	✻	16	16	115	65	45	48	●
1534UD03C-1610	✻	16,1	16	115	65	45	48	○
1534UD03C-1650	✻	16,5	18	123	73	51	48	●
1534UD03C-1675	✻	16,75	18	123	73	51	48	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔			✔	

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

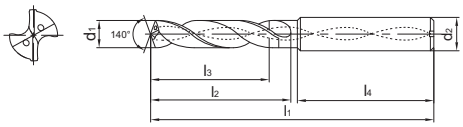
Punta UD- 3xD

Acciaio, acciaio inossidabile, materiali a difficile asportazione

1534UD03C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento esterno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG305
1534UD03C-1680	✻	16,8	18	123	73	51	48	○
1534UD03C-1700	✻	17	18	123	73	51	48	●
1534UD03C-1730	✻	17,3	18	123	73	51	48	○
1534UD03C-1750	✻	17,5	18	123	73	51	48	●
1534UD03C-1780	✻	17,8	18	123	73	51	48	○
1534UD03C-1790	✻	17,9	18	123	73	51	48	○
1534UD03C-1800	✻	18	18	123	73	51	48	●
1534UD03C-1850	✻	18,5	20	131	79	55	50	●
1534UD03C-1880	✻	18,8	20	131	79	55	50	○
1534UD03C-1900	✻	19	20	131	79	55	50	●
1534UD03C-1950	✻	19,5	20	131	79	55	50	●
1534UD03C-2000	✻	20	20	131	79	55	50	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔			✔	

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

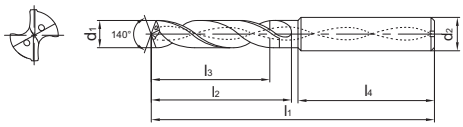
Punta UD- 5xD

Acciaio, acciaio inossidabile, materiali a difficile asportazione

1536UD05C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento esterno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG305
1536UD05C-0100XS	✻	1	3	45	8	6	35	○
1536UD05C-0110XS	✻	1,1	3	45	9	7	34	○
1536UD05C-0120XS	✻	1,2	3	45	9,5	7	33,5	○
1536UD05C-0130XS	✻	1,3	3	45	10,5	8	32,5	○
1536UD05C-0133XS	✻	1,33	3	45	10,5	8	29,4	○
1536UD05C-0140XS	✻	1,4	3	45	11	8	32	○
1536UD05C-0150XS	✻	1,5	3	50	12	9	36	○
1536UD05C-0163S	✻	1,6	4	50	13	10	30,6	○
1536UD05C-0160S	✻	1,6	4	50	13	10	35	●
1536UD05C-0170S	✻	1,7	4	50	13,5	10	34,5	●
1536UD05C-0180S	✻	1,8	4	50	14,5	11	33,5	●
1536UD05C-0190S	✻	1,9	4	50	15	11	33	●
1536UD05C-0200S	✻	2	4	50	16	12	32	●
1536UD05C-0210S	✻	2,1	4	55	17	13	36	●
1536UD05C-0220S	✻	2,2	4	55	17,5	13	35,5	●
1536UD05C-0230S	✻	2,3	4	55	18,5	14	34,5	●
1536UD05C-0240S	✻	2,4	4	55	19	14	34	●
1536UD05C-0243S	✻	2,43	4	55	19	14	31,1	○
1536UD05C-0250S	✻	2,5	4	55	20	15	33	●
1536UD05C-0260S	✻	2,6	4	55	21	16	32	●
1536UD05C-0270S	✻	2,7	4	55	21,5	16	31,5	●
1536UD05C-0280S	✻	2,8	4	55	22,5	17	30,5	●
1536UD05C-0290S	✻	2,9	4	55	23	17	30	●
1536UD05C-0300	✻	3	6	66	28	23	36	●
1536UD05C-0310	✻	3,1	6	66	28	23	36	●
1536UD05C-0320	✻	3,2	6	66	28	23	36	●
1536UD05C-0330	✻	3,3	6	66	28	23	36	●
1536UD05C-0340	✻	3,4	6	66	28	23	36	●
1536UD05C-0350	✻	3,5	6	66	28	23	36	●
1536UD05C-0360	✻	3,6	6	66	28	23	36	○
1536UD05C-0370	✻	3,7	6	66	28	23	36	●
1536UD05C-0380	✻	3,8	6	74	36	29	36	●
1536UD05C-0390	✻	3,9	6	74	36	29	36	○
1536UD05C-0400	✻	4	6	74	36	29	36	●
1536UD05C-0410	✻	4,1	6	74	36	29	36	○
1536UD05C-0420	✻	4,2	6	74	36	29	36	●
1536UD05C-0430	✻	4,3	6	74	36	29	36	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔			✔	

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

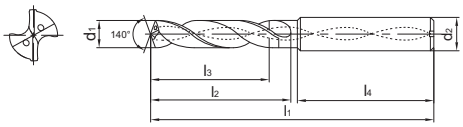
Punta UD- 5xD

Acciaio, acciaio inossidabile, materiali a difficile asportazione

1536UD05C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento esterno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG305
1536UD05C-0440	✻	4,4	6	74	36	29	36	○
1536UD05C-0450	✻	4,5	6	74	36	29	36	●
1536UD05C-0460	✻	4,6	6	74	36	29	36	○
1536UD05C-0465	✻	4,65	6	74	36	29	36	●
1536UD05C-0470	✻	4,7	6	74	36	29	36	○
1536UD05C-0480	✻	4,8	6	82	44	35	36	○
1536UD05C-0490	✻	4,9	6	82	44	35	36	○
1536UD05C-0500	✻	5	6	82	44	35	36	●
1536UD05C-0510	✻	5,1	6	82	44	35	36	●
1536UD05C-0520	✻	5,2	6	82	44	35	36	●
1536UD05C-0530	✻	5,3	6	82	44	35	36	○
1536UD05C-0540	✻	5,4	6	82	44	35	36	○
1536UD05C-0550	✻	5,5	6	82	44	35	36	●
1536UD05C-0555	✻	5,55	6	82	44	35	36	●
1536UD05C-0560	✻	5,6	6	82	44	35	36	○
1536UD05C-0570	✻	5,7	6	82	44	35	36	○
1536UD05C-0580	✻	5,8	6	82	44	35	36	●
1536UD05C-0590	✻	5,9	6	82	44	35	36	○
1536UD05C-0600	✻	6	6	82	44	35	36	●
1536UD05C-0610	✻	6,1	8	91	53	43	36	○
1536UD05C-0620	✻	6,2	8	91	53	43	36	○
1536UD05C-0630	✻	6,3	8	91	53	43	36	○
1536UD05C-0640	✻	6,4	8	91	53	43	36	○
1536UD05C-0650	✻	6,5	8	91	53	43	36	●
1536UD05C-0660	✻	6,6	8	91	53	43	36	○
1536UD05C-0670	✻	6,7	8	91	53	43	36	●
1536UD05C-0680	✻	6,8	8	91	53	43	36	●
1536UD05C-0690	✻	6,9	8	91	53	43	36	○
1536UD05C-0700	✻	7	8	91	53	43	36	●
1536UD05C-0710	✻	7,1	8	91	53	43	36	○
1536UD05C-0720	✻	7,2	8	91	53	43	36	○
1536UD05C-0730	✻	7,3	8	91	53	43	36	○
1536UD05C-0740	✻	7,4	8	91	53	43	36	●
1536UD05C-0750	✻	7,5	8	91	53	43	36	●
1536UD05C-0760	✻	7,6	8	91	53	43	36	○
1536UD05C-0770	✻	7,7	8	91	53	43	36	○
1536UD05C-0780	✻	7,8	8	91	53	43	36	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔			✔	

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

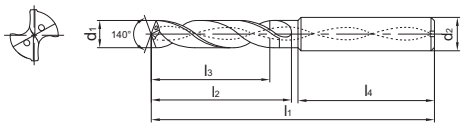
Punta UD- 5xD

Acciaio, acciaio inossidabile, materiali a difficile asportazione

1536UD05C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento esterno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG305
1536UD05C-0790	✻	7,9	8	91	53	43	36	○
1536UD05C-0800	✻	8	8	91	53	43	36	●
1536UD05C-0810	✻	8,1	10	103	61	49	40	○
1536UD05C-0820	✻	8,2	10	103	61	49	40	○
1536UD05C-0830	✻	8,3	10	103	61	49	40	●
1536UD05C-0840	✻	8,4	10	103	61	49	40	●
1536UD05C-0850	✻	8,5	10	103	61	49	40	●
1536UD05C-0860	✻	8,6	10	103	61	49	40	○
1536UD05C-0870	✻	8,7	10	103	61	49	40	○
1536UD05C-0880	✻	8,8	10	103	61	49	40	○
1536UD05C-0890	✻	8,9	10	103	61	49	40	○
1536UD05C-0900	✻	9	10	103	61	49	40	●
1536UD05C-0910	✻	9,1	10	103	61	49	40	○
1536UD05C-0920	✻	9,2	10	103	61	49	40	○
1536UD05C-0930	✻	9,3	10	103	61	49	40	●
1536UD05C-0940	✻	9,4	10	103	61	49	40	○
1536UD05C-0950	✻	9,5	10	103	61	49	40	●
1536UD05C-0960	✻	9,6	10	103	61	49	40	○
1536UD05C-0970	✻	9,7	10	103	61	49	40	○
1536UD05C-0980	✻	9,8	10	103	61	49	40	○
1536UD05C-0990	✻	9,9	10	103	61	49	40	○
1536UD05C-1000	✻	10	10	103	61	49	40	●
1536UD05C-1010	✻	10,1	12	118	71	56	45	○
1536UD05C-1020	✻	10,2	12	118	71	56	45	●
1536UD05C-1025	✻	10,25	12	118	71	56	45	○
1536UD05C-1030	✻	10,3	12	118	71	56	45	○
1536UD05C-1040	✻	10,4	12	118	71	56	45	○
1536UD05C-1050	✻	10,5	12	118	71	56	45	●
1536UD05C-1060	✻	10,6	12	118	71	56	45	○
1536UD05C-1070	✻	10,7	12	118	71	56	45	○
1536UD05C-1080	✻	10,8	12	118	71	56	45	○
1536UD05C-1090	✻	10,9	12	118	71	56	45	○
1536UD05C-1100	✻	11	12	118	71	56	45	●
1536UD05C-1110	✻	11,1	12	118	71	56	45	○
1536UD05C-1120	✻	11,2	12	118	71	56	45	○
1536UD05C-1130	✻	11,3	12	118	71	56	45	○
1536UD05C-1140	✻	11,4	12	118	71	56	45	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔			✔	

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

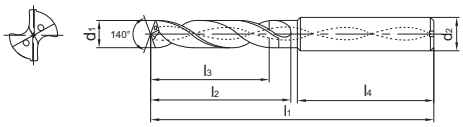
Punta UD- 5xD

Acciaio, acciaio inossidabile, materiali a difficile asportazione

1536UD05C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento esterno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG305
1536UD05C-1150	✻	11,5	12	118	71	56	45	●
1536UD05C-1155	✻	11,55	12	118	71	56	45	○
1536UD05C-1160	✻	11,6	12	118	71	56	45	○
1536UD05C-1170	✻	11,7	12	118	71	56	45	○
1536UD05C-1180	✻	11,8	12	118	71	56	45	○
1536UD05C-1190	✻	11,9	12	118	71	56	45	○
1536UD05C-1200	✻	12	12	118	71	56	45	●
1536UD05C-1220	✻	12,2	14	124	77	60	45	●
1536UD05C-1225	✻	12,25	14	124	77	60	45	○
1536UD05C-1230	✻	12,3	14	124	77	60	45	○
1536UD05C-1240	✻	12,4	14	124	77	60	45	○
1536UD05C-1250	✻	12,5	14	124	77	60	45	●
1536UD05C-1270	✻	12,7	14	124	77	60	45	○
1536UD05C-1280	✻	12,8	14	124	77	60	45	○
1536UD05C-1300	✻	13	14	124	77	60	45	●
1536UD05C-1310	✻	13,1	14	124	77	60	45	○
1536UD05C-1330	✻	13,3	14	124	77	60	45	○
1536UD05C-1350	✻	13,5	14	124	77	60	45	●
1536UD05C-1380	✻	13,8	14	124	77	60	45	○
1536UD05C-1400	✻	14	14	124	77	60	45	●
1536UD05C-1425	✻	14,25	16	133	83	63	48	○
1536UD05C-1430	✻	14,3	16	133	83	63	48	○
1536UD05C-1450	✻	14,5	16	133	83	63	48	●
1536UD05C-1480	✻	14,8	16	133	83	63	48	○
1536UD05C-1490	✻	14,9	16	133	83	63	48	○
1536UD05C-1500	✻	15	16	133	83	63	48	●
1536UD05C-1510	✻	15,1	16	133	83	63	48	○
1536UD05C-1530	✻	15,3	16	133	83	63	48	○
1536UD05C-1550	✻	15,5	16	133	83	63	48	●
1536UD05C-1570	✻	15,7	16	133	83	63	48	○
1536UD05C-1580	✻	15,8	16	133	83	63	48	○
1536UD05C-1600	✻	16	16	133	83	63	48	●
1536UD05C-1620	✻	16,2	18	143	93	71	48	○
1536UD05C-1650	✻	16,5	18	143	93	71	48	●
1536UD05C-1680	✻	16,8	18	143	93	71	48	○
1536UD05C-1700	✻	17	18	143	93	71	48	●
1536UD05C-1750	✻	17,5	18	143	93	71	48	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔			✔	

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

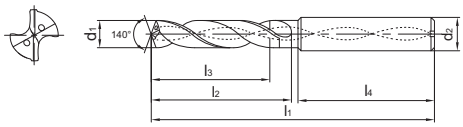
Punta UD- 5xD

Acciaio, acciaio inossidabile, materiali a difficile asportazione

1536UD05C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento esterno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG305
1536UD05C-1780	✻	17,8	18	143	93	71	48	○
1536UD05C-1790	✻	17,9	18	143	93	71	48	○
1536UD05C-1800	✻	18	18	143	93	71	48	●
1536UD05C-1850	✻	18,5	20	153	101	77	50	●
1536UD05C-1880	✻	18,8	20	153	101	77	50	○
1536UD05C-1900	✻	19	20	153	101	77	50	●
1536UD05C-1950	✻	19,5	20	153	101	77	50	●
1536UD05C-1980	✻	19,8	20	153	101	77	50	○
1536UD05C-2000	✻	20	20	153	101	77	50	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔			✔	

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

Note

INFORMAZIONI IMPORTANTI

Raccomandazione di impiego per la **serie FD**

Calcolo per avanzamento

Gruppo ISO	Materiale	Velocità di taglio v_c (m/min)	Fattore per l' avanzamento F_m
P	Acciaio debolmente legato	80	0,015
P	Acciaio altamente legato	60	0,012
K	Ghisa	80	0,015
K	Acciaio fuso	60	0,015
M	Acciai inossidabili	45	0,01
N	Alluminio	120	0,02

Formula:	Avanzamento per giro (F_n)	$D \times F_m$
Esempio:	Diametro punta (D)	10 mm
	Materiale	Alluminio

$$F_n = 10\ mm \times 0{,}02 = 0{,}2\ mm/g$$

Per i fori inclinati va ridotta la velocità di avanzamento del seguente fattore:

Angolo	Moltiplicatore di avanzamento
5°–30°	0,75
35°–50°	0,50

Formula:	Avanzamento per giro (F_n)	$D \times F_m \times$ moltiplicatore di avanzamento
Esempio:	Diametro punta (D)	10 mm
	Materiale	alluminio
	Inclinazione punta	30°

$$F_n = 10\ mm \times 0{,}02 \times 0{,}75 = 0{,}15\ mm/g$$

Fig.: **1534FD03C**

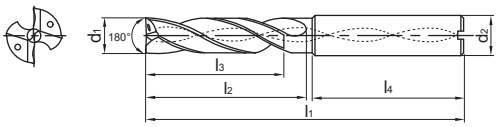
Punta FD - 3xD

Lavorazione generica

1534FD03C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG305
1534FD03-0200S		2	4	50	12	8	36	○
1534FD03C-0300	✻	3	6	62	20	14	36	●
1534FD03C-0350	✻	3,5	6	62	20	14	36	○
1534FD03C-0400	✻	4	6	66	24	17	36	●
1534FD03C-0450	✻	4,5	6	66	24	17	36	○
1534FD03C-0500	✻	5	6	66	28	20	36	●
1534FD03C-0520	✻	5,2	6	66	28	20	36	○
1534FD03C-0550	✻	5,5	6	66	28	20	36	○
1534FD03C-0600	✻	6	6	66	28	20	36	●
1534FD03C-0620	✻	6,2	8	79	34	24	36	○
1534FD03C-0640	✻	6,4	8	79	34	24	36	○
1534FD03C-0650	✻	6,5	8	79	34	24	36	●
1534FD03C-0700	✻	7	8	79	34	24	36	●
1534FD03C-0750	✻	7,5	8	79	41	29	36	○
1534FD03C-0800	✻	8	8	79	41	29	36	●
1534FD03C-0850	✻	8,5	10	89	47	35	40	○
1534FD03C-0880	✻	8,8	10	89	47	35	40	○
1534FD03C-0900	✻	9	10	89	47	35	40	●
1534FD03C-0950	✻	9,5	10	89	47	35	40	○
1534FD03C-0980	✻	9,8	10	89	47	35	40	○
1534FD03C-1000	✻	10	10	89	47	35	40	●
1534FD03C-1050	✻	10,5	12	102	55	40	45	○
1534FD03C-1100	✻	11	12	102	55	40	45	●
1534FD03C-1150	✻	11,5	12	102	55	40	45	○
1534FD03C-1180	✻	11,8	12	102	55	40	45	○
1534FD03C-1200	✻	12	12	102	55	40	45	●
1534FD03C-1250	✻	12,5	14	107	60	43	45	○
1534FD03C-1300	✻	13	14	107	60	43	45	●
1534FD03C-1350	✻	13,5	14	107	60	43	45	○
1534FD03C-1400	✻	14	14	107	60	43	45	●
1534FD03C-1450	✻	14,5	16	115	65	45	48	○
1534FD03C-1500	✻	15	16	115	65	45	48	●
1534FD03C-1550	✻	15,5	16	115	65	45	48	○
1534FD03C-1600	✻	16	16	115	65	45	48	●
1534FD03C-1650	✻	16,5	18	123	73	51	48	○
1534FD03C-1700	✻	17	18	123	73	51	48	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔	✔		

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

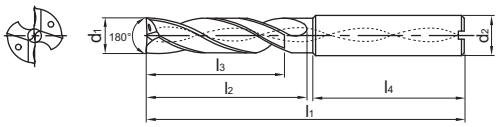
Punta FD - 3xD

Lavorazione generica

1534FD03C

– Versione del codolo DIN 6535HA
– Uscita refrigerante assiale

Raffreddamento interno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG305
1534FD03C-1750	✻	17,5	18	123	73	51	48	○
1534FD03C-1800	✻	18	18	123	73	51	48	●
1534FD03C-1850	✻	18,5	20	131	79	55	50	○
1534FD03C-1900	✻	19	20	131	79	55	50	●
1534FD03C-1950	✻	19,5	20	131	79	55	50	○
1534FD03C-2000	✻	20	20	131	79	55	50	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔	✔		

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

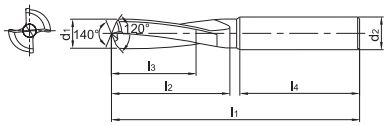
Punta SH - 3xD

Materiali ad elevata durezza

1534SH03

– Versione del codolo DIN 6535HA

Raffreddamento esterno



Articolo	✻	Dimensioni [mm]						Grado
		d_1 (m7)	d_2 (h6)	l_1	l_2	l_3	l_4	KDG303
1534SH03-0300		3	6	62	20	14	36	○
1534SH03-0330		3,3	6	62	20	14	36	●
1534SH03-0350		3,5	6	62	20	14	36	○
1534SH03-0400		4	6	66	24	17	36	○
1534SH03-0420		4,2	6	66	24	17	36	●
1534SH03-0500		5	6	66	28	20	36	○
1534SH03-0600		6	6	66	28	20	36	○
1534SH03-0675		6,75	8	79	34	24	36	○
1534SH03-0700		7	8	79	34	24	36	○
1534SH03-0800		8	8	79	41	29	36	○
1534SH03-0850		8,5	10	89	47	35	40	○
1534SH03-0900		9	10	89	47	35	40	○
1534SH03-1000		10	10	89	47	35	40	○
1534SH03-1025		10,25	12	102	55	40	45	○
1534SH03-1050		10,5	12	102	55	40	45	○
1534SH03-1200		12	12	102	55	40	45	○
1534SH03-1250		12,5	14	107	60	43	45	○
1534SH03-1400		14	14	107	60	43	45	○
1534SH03-1450		14,5	16	115	65	45	48	○
1534SH03-1600		16	16	115	65	45	48	○
1534SH03-1800		18	18	100	60	50	50	○
1534SH03-2000		20	20	131	79	53	50	○

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
					✔

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

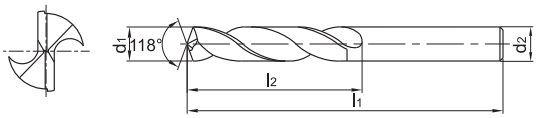
Punta SC - 3xD

Metalli non ferrosi

1105SC03

– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT

Raffreddamento esterno



Articolo	✻	Dimensioni [mm]				Grado
		d_1 (h8)	d_2 (h7)	l_1	l_2	YK20F
1105SC03-0200		2	2	38	12	○
1105SC03-0220		2,2	2,2	43	14	○
1105SC03-0240		2,4	2,4	43	14	○
1105SC03-0250		2,5	2,5	43	14	○
1105SC03-0280		2,8	2,8	46	16	○
1105SC03-0300		3	3	46	16	○
1105SC03-0310		3,1	3,1	49	18	○
1105SC03-0320		3,2	3,2	49	18	○
1105SC03-0330		3,3	3,3	49	18	○
1105SC03-0340		3,4	3,4	52	20	○
1105SC03-0350		3,5	3,5	52	20	○
1105SC03-0360		3,6	3,6	52	20	○
1105SC03-0370		3,7	3,7	52	20	○
1105SC03-0380		3,8	3,8	55	22	○
1105SC03-0390		3,9	3,9	55	22	○
1105SC03-0400		4	4	55	22	○
1105SC03-0410		4,1	4,1	55	22	○
1105SC03-0420		4,2	4,2	55	22	○
1105SC03-0430		4,3	4,3	58	24	○
1105SC03-0440		4,4	4,4	58	24	○
1105SC03-0450		4,5	4,5	58	24	○
1105SC03-0460		4,6	4,6	58	24	○
1105SC03-0470		4,7	4,7	58	24	○
1105SC03-0480		4,8	4,8	62	26	○
1105SC03-0490		4,9	4,9	62	26	○
1105SC03-0500		5	5	62	26	○
1105SC03-0510		5,1	5,1	62	26	○
1105SC03-0520		5,2	5,2	62	26	○
1105SC03-0530		5,3	5,3	62	26	○
1105SC03-0540		5,4	5,4	66	28	○
1105SC03-0550		5,5	5,5	66	28	○
1105SC03-0560		5,6	5,6	66	28	○
1105SC03-0570		5,7	5,7	66	28	○
1105SC03-0580		5,8	5,8	66	28	○
1105SC03-0590		5,9	5,9	66	28	○
1105SC03-0600		6	6	66	28	○
1105SC03-0610		6,1	6,1	70	31	○
1105SC03-0620		6,2	6,2	70	31	○

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
			✔		

✔ Molto adatto

✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

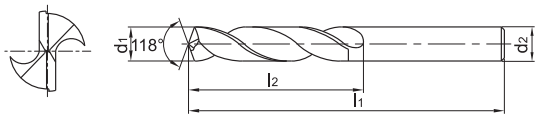
Punta SC - 3xD

Metalli non ferrosi

1105SC03

– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT

Raffreddamento esterno



Articolo	✻	Dimensioni [mm]				Grado
		d_1 (h8)	d_2 (h7)	l_1	l_2	YK20F
1105SC03-0630		6,3	6,3	70	31	○
1105SC03-0640		6,4	6,4	70	31	○
1105SC03-0650		6,5	6,5	70	31	○
1105SC03-0660		6,6	6,6	70	31	○
1105SC03-0670		6,7	6,7	70	31	○
1105SC03-0680		6,8	6,8	74	34	○
1105SC03-0690		6,9	6,9	74	34	○
1105SC03-0700		7	7	74	34	○
1105SC03-0710		7,1	7,1	74	34	○
1105SC03-0720		7,2	7,2	74	34	○
1105SC03-0730		7,3	7,3	74	34	○
1105SC03-0740		7,4	7,4	74	34	○
1105SC03-0750		7,5	7,5	74	34	○
1105SC03-0760		7,6	7,6	79	37	○
1105SC03-0770		7,7	7,7	79	37	○
1105SC03-0780		7,8	7,8	79	37	○
1105SC03-0790		7,9	7,9	79	37	○
1105SC03-0800		8	8	79	37	○
1105SC03-0810		8,1	8,1	79	37	○
1105SC03-0820		8,2	8,2	79	37	○
1105SC03-0830		8,3	8,3	79	37	○
1105SC03-0840		8,4	8,4	79	37	○
1105SC03-0850		8,5	8,5	79	37	○
1105SC03-0860		8,6	8,6	84	40	○
1105SC03-0870		8,7	8,7	84	40	○
1105SC03-0880		8,8	8,8	84	40	○
1105SC03-0890		8,9	8,9	84	40	○
1105SC03-0900		9	9	84	40	○
1105SC03-0910		9,1	9,1	84	40	○
1105SC03-0920		9,2	9,2	84	40	○
1105SC03-0930		9,3	9,3	84	40	○
1105SC03-0940		9,4	9,4	84	40	○
1105SC03-0950		9,5	9,5	84	40	○
1105SC03-0960		9,6	9,6	89	43	○
1105SC03-0970		9,7	9,7	89	43	○
1105SC03-0980		9,8	9,8	89	43	○
1105SC03-0990		9,9	9,9	89	43	○
1105SC03-1000		10	10	89	43	○

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
			✔		

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

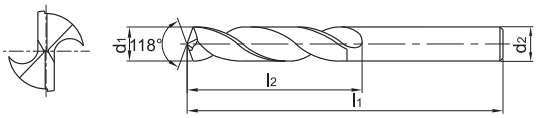
Punta SC - 3xD

Metalli non ferrosi

1105SC03

– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT

Raffreddamento esterno



Articolo	✻	Dimensioni [mm]				Grado
		d_1 (h8)	d_2 (h7)	l_1	l_2	YK20F
1105SC03-1010		10,1	10,1	89	43	○
1105SC03-1020		10,2	10,2	89	43	○
1105SC03-1040		10,4	10,4	89	43	○
1105SC03-1050		10,5	10,5	89	43	○
1105SC03-1070		10,7	10,7	95	47	○
1105SC03-1080		10,8	10,8	95	47	○
1105SC03-1100		11	11	95	47	○
1105SC03-1150		11,5	11,5	95	47	○
1105SC03-1200		12	12	102	51	○
1105SC03-1210		12,1	12,1	102	51	○
1105SC03-1250		12,5	12,5	102	51	○
1105SC03-1280		12,8	12,8	102	51	○
1105SC03-1300		13	13	102	51	○
1105SC03-1310		13,1	13,1	102	51	○
1105SC03-1350		13,5	13,5	107	54	○
1105SC03-1400		14	14	107	54	○
1105SC03-1430		14,3	14,3	111	56	○
1105SC03-1450		14,5	14,5	111	56	○
1105SC03-1500		15	15	111	56	○
1105SC03-1600		16	16	115	58	○

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
			✔		

✔ Molto adatto

✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

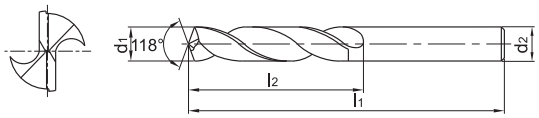
Punta SC - 5xD

Metalli non ferrosi

1101SC05

– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT

Raffreddamento esterno



Articolo	✻	Dimensioni [mm]				Grado
		d_1 (h8)	d_2 (h7)	l_1	l_2	YK20F
1101SC05-0200		2	2	49	24	○
1101SC05-0250		2,5	2,5	57	30	○
1101SC05-0280		2,8	2,8	61	33	○
1101SC05-0300		3	3	61	33	○
1101SC05-0330		3,3	3,3	70	39	○
1101SC05-0350		3,5	3,5	70	39	○
1101SC05-0380		3,8	3,8	75	43	○
1101SC05-0400		4	4	75	43	○
1101SC05-0420		4,2	4,2	75	43	○
1101SC05-0450		4,5	4,5	80	47	○
1101SC05-0480		4,8	4,8	86	52	○
1101SC05-0500		5	5	86	52	○
1101SC05-0530		5,3	5,3	93	57	○
1101SC05-0540		5,4	5,4	93	57	○
1101SC05-0550		5,5	5,5	93	57	○
1101SC05-0580		5,8	5,8	93	57	○
1101SC05-0590		5,9	5,9	93	57	○
1101SC05-0600		6	6	93	57	○
1101SC05-0640		6,4	6,4	101	63	○
1101SC05-0650		6,5	6,5	101	63	○
1101SC05-0660		6,6	6,6	109	69	○
1101SC05-0680		6,8	6,8	109	69	○
1101SC05-0690		6,9	6,9	109	69	○
1101SC05-0700		7	7	109	69	○
1101SC05-0750		7,5	7,5	109	69	○
1101SC05-0780		7,8	7,8	117	75	○
1101SC05-0800		8	8	117	75	○
1101SC05-0820		8,2	8,2	117	75	○
1101SC05-0850		8,5	8,5	117	75	○
1101SC05-0880		8,8	8,8	125	81	○
1101SC05-0900		9	9	125	81	○
1101SC05-0950		9,5	9,5	125	81	○
1101SC05-0980		9,8	9,8	133	87	○
1101SC05-1000		10	10	133	87	○
1101SC05-1050		10,5	10,5	133	87	○
1101SC05-1080		10,8	10,8	142	94	○
1101SC05-1100		11	11	142	94	○
1101SC05-1150		11,5	11,5	142	94	○

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
			✔		

✔ Molto adatto

✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

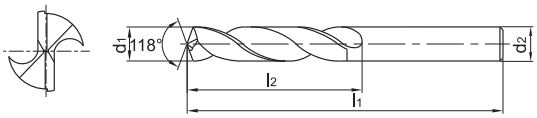
Punta SC - 5xD

Metalli non ferrosi

1101SC05

– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT

Raffreddamento esterno



Articolo	✻	Dimensioni [mm]				Grado
		d_1 (h8)	d_2 (h7)	l_1	l_2	YK20F
1101SC05-1180		11,8	11,8	151	101	○
1101SC05-1200		12	12	151	101	○
1101SC05-1250		12,5	12,5	151	101	○
1101SC05-1300		13	13	151	101	○
1101SC05-1350		13,5	13,5	160	108	○
1101SC05-1400		14	14	160	108	○
1101SC05-1450		14,5	14,5	169	114	○
1101SC05-1500		15	15	169	114	○
1101SC05-1600		16	16	178	120	○

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
			✔		

✔ Molto adatto

✔ Adatto

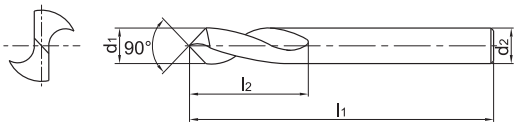
Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

Punta SC - Centrino NC 90° Lavorazione generica

1143SC90

– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT

Raffreddamento esterno



Articolo	✻	Dimensioni [mm]				Grado	
		d_1 (h6)	d_2 (h6)	l_1	l_2	KDG303	YK20F
1143SC90-0300		3	3	46	10	○	
1143SC90-0400		4	4	62	10	●	
1143SC90-0500		5	5	62	10	●	○
1143SC90-0600		6	6	66	15	●	
1143SC90-0800		8	8	79	17	●	
1143SC90-1000		10	10	89	20	●	
1143SC90-1200		12	12	102	25	●	
1143SC90-1400		14	14	107	30	●	
1143SC90-1600		16	16	115	35	●	
1143SC90-2000		20	20	131	40	●	○

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔	✔		

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

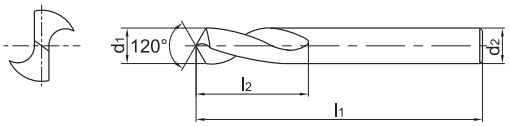
Punta SC - Centrino NC 120°

Lavorazione generica

1143SC120

– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT

Raffreddamento esterno



Articolo	✻	Dimensioni [mm]				Grado	
		d_1 (h6)	d_2 (h6)	l_1	l_2	KDG303	YK20F
1143SC120-0300		3	4	63	10	○	
1143SC120-0400		4	4	62	10	○	
1143SC120-0500		5	5	62	10	●	
1143SC120-0600		6	6	66	15	●	
1143SC120-0800		8	8	79	17	●	
1143SC120-1000		10	10	89	20	●	
1143SC120-1200		12	12	102	25	●	○
1143SC120-1400		14	14	107	30	●	
1143SC120-1600		16	16	115	35	●	
1143SC120-2000		20	20	131	42	●	

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔	✔		

✔ Molto adatto

✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

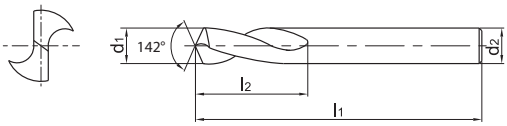
Punta SC - Centrino NC 140°

Lavorazione generica

1143SC142

– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT

Raffreddamento esterno



Articolo	✻	Dimensioni [mm]				Grado
		d_1 (h6)	d_2 (h6)	l_1	l_2	KDG303
1143SC142-0500		5	5	62	10	●
1143SC142-0600		6	6	66	15	●
1143SC142-0800		8	8	79	17	●
1143SC142-1000		10	10	89	20	●
1143SC142-1200		12	12	102	25	●
1143SC142-1400		14	14	107	30	●
1143SC142-1600		16	16	115	35	●
1143SC142-2000		20	20	131	42	●

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔	✔	✔		

✔ Molto adatto
✔ Adatto

Codice sistema C38 | Indicazioni d´uso C193 | Dati di taglio C142 | Ordine utensili speciali C148

Note

Principi guida per i dati di taglio consigliati – Punte in metallo duro integrale

Solid carbide drills

Material group		Composition / structure / heat treatment		Brinell hardness HB	Machining group	Starting values for cutting speed v_c [m/min]								
						SU Series			SU-Drill			SU Step Drill		
						3-5xD			8xD			3xD		
						KDG 303			KDG 303			KDG 303		
						Coolant								
						internal	external	f-group	internal	external	f-group	internal	external	f-group
P	Unalloyed steel	ca. 0,15 % C	annealed	125	1	150	135	8	135	125	7	150	135	8
		ca. 0,45 % C	annealed	190	2	130	120	8	120	110	7	130	120	8
		ca. 0,45 % C	tempered	250	3	120	110	6	110	100	5	120	110	6
		ca. 0,75 % C	annealed	270	4	110	100	6	100	90	5	110	100	6
		ca. 0,75 % C	tempered	300	5	100	90	6	90	85	5	100	90	6
	Low-alloyed steel		annealed	180	6	130	120	8	120	110	7	130	120	8
			tempered	275	7	110	100	6	100	90	5	110	100	6
			tempered	300	8	100	90	6	90	85	5	100	90	6
			tempered	350	9	90	85	6	85	80	5	90	85	6
	High-alloyed steel and high-alloyed tool steel		annealed	200	10	120	110	8	110	100	7	120	110	8
			hardened and tempered	325	11	100	90	6	90	85	5	100	90	6
M	Stainless steel	ferritic/martensitic	annealed	200	12	80	75	5	75	70	5	80	75	5
		martensitic	tempered	240	13	55	50	5	50	45	5	55	50	5
		austenitic	quench hardened	180	14	60	55	5	55	50	5	60	55	5
		austenitic-ferritic		230	15	50	45	5	45	45	5	50	45	5
K	Grey cast iron	perlitic/ferritic		180	16	135	125	8	125	115	7	135	125	8
		perlitic (martensitic)		260	17	110	100	8	100	90	7	110	100	8
	Cast iron with spheroidal graphite	ferritic		160	18	120	110	8	110	100	7	120	110	8
		perlitic		250	19	80	75	8	75	70	7	80	75	8
	Malleable cast iron	ferritic		130	20	130	120	8	120	110	7	130	120	8
		perlitic		230	21	80	75	8	75	70	7	80	75	8
N	Aluminium wrought alloys	cannot be hardened		60	22									
		hardenable	hardened	100	23									
	Cast aluminium alloys	≤ 12% Si, cannot be hardened		75	24									
		≤ 12% Si, hardenable	hardened	90	25									
		> 12% Si, cannot be hardened		130	26									
	Copper and copper alloys (bronze/brass)	machining steel, PB> 1%		110	27									
		CuZn, CuSnZn		90	28									
		CuSn, Pb-free copper, electrolytic copper		100	29									
S	Heat-resistant alloys	Fe-based alloys	annealed	200	30									
			hardened	280	31									
		Ni or Co bass	annealed	250	32									
			hardened	350	33									
			cast	320	34									
	Titanium alloys	pure titanium		R_m 400	35									
		α and β alloys	hardened	R_m 1050	36									
H	Hardened steel		hardened and tempered	55 HRC	37									
			hardened and tempered	60 HRC	38									
	Hard cast iron		cast	400	39									
	Hardened cast iron		hardened and tempered	55 HRC	40									
X	Non-metallic materials	Thermoplasts			41									
		Thermosetting plastics			42									
		Plastic, glass-fibre reinforced GFRP			43									
		Plastic, carbon fibre reinforced CFRP			44									
		Graphite			45									
		Wood			46									

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.
With hole depths of 5xD adjust the cutting data accordingly to the application.
f-group = feed rate recommendations on page C126.
For examples of material for cutting tool groups view page D22.

Recommend feed rate

Solid carbide drilling

4

5

f-group	Feed rate [mm]																			
	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8	Ø9	Ø10	Ø11	Ø12	Ø13	Ø14	Ø15	Ø16	Ø17	Ø18	Ø19	Ø20
1	0,01	0,02	0,03	0,04	0,04	0,05	0,05	0,06	0,06	0,06	0,07	0,07	0,08	0,08	0,09	0,09	0,09	0,09	0,10	0,10
2	0,01	0,02	0,03	0,04	0,05	0,06	0,06	0,06	0,07	0,07	0,08	0,09	0,09	0,09	0,10	0,10	0,10	0,11	0,11	0,11
3	0,01	0,02	0,04	0,05	0,06	0,06	0,07	0,07	0,08	0,09	0,09	0,10	0,10	0,11	0,11	0,12	0,12	0,12	0,13	0,13
4	0,02	0,03	0,04	0,06	0,06	0,07	0,08	0,09	0,09	0,10	0,11	0,11	0,12	0,12	0,13	0,13	0,14	0,14	0,15	0,15
5	0,02	0,03	0,05	0,06	0,07	0,09	0,09	0,10	0,11	0,11	0,12	0,13	0,14	0,14	0,15	0,15	0,16	0,16	0,17	0,17
6	0,02	0,04	0,06	0,07	0,09	0,10	0,11	0,11	0,12	0,13	0,14	0,15	0,16	0,17	0,17	0,18	0,18	0,19	0,19	0,20
7	0,02	0,04	0,06	0,09	0,10	0,11	0,12	0,13	0,14	0,15	0,16	0,17	0,18	0,19	0,20	0,20	0,21	0,22	0,22	0,23
8	0,03	0,05	0,07	0,10	0,11	0,13	0,14	0,15	0,16	0,17	0,18	0,20	0,21	0,22	0,23	0,23	0,24	0,25	0,26	0,26
9	0,03	0,06	0,08	0,11	0,13	0,15	0,16	0,17	0,18	0,20	0,21	0,23	0,24	0,25	0,26	0,27	0,28	0,29	0,29	0,30
10	0,04	0,07	0,10	0,13	0,15	0,17	0,19	0,20	0,21	0,23	0,24	0,26	0,27	0,29	0,30	0,31	0,32	0,33	0,34	0,35
11	0,04	0,07	0,11	0,15	0,17	0,20	0,21	0,23	0,24	0,26	0,28	0,30	0,32	0,33	0,35	0,36	0,37	0,38	0,39	0,40
12	0,05	0,09	0,13	0,17	0,20	0,23	0,25	0,26	0,28	0,30	0,32	0,35	0,36	0,38	0,40	0,41	0,42	0,44	0,45	0,46
13	0,05	0,10	0,15	0,20	0,23	0,26	0,28	0,30	0,32	0,35	0,37	0,40	0,42	0,44	0,46	0,47	0,49	0,50	0,52	0,53
14	0,06	0,11	0,17	0,23	0,26	0,30	0,33	0,35	0,37	0,40	0,43	0,46	0,48	0,50	0,53	0,54	0,56	0,58	0,59	0,61
15	0,07	0,13	0,20	0,26	0,30	0,35	0,37	0,40	0,43	0,46	0,49	0,53	0,55	0,58	0,61	0,62	0,64	0,66	0,68	0,70

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.

1. Selezionare la famiglia di prodotti adatta.
2. Determinare il rapporto di contatto.
3. Selezionare il materiale utilizzato e ricavare la velocità di taglio.
4. Determinare il gruppo di avanzamento e consultare i dati di avanzamento consigliati.
5. Selezionare il diametro dell'utensile e il rapporto di contatto.

Punte in metallo duro integrale

Gruppo materiali		Composizione/Struttura/Trattamento termico		Durezza HB Brinell	Gruppo di sgrossatura	Velocità di taglio v_c [m/min]							
						SL		SL		SP		SH	
						12-15xD		20-30xD		3xD		3xD	
						KDG303		KDG303		KDG303		KDG303	
						Alimentazione refrigerante							
						Interna	Gruppo f	Interna	Gruppo f	Interna	Gruppo f	Esterna	Gruppo f
P	Acciaio non legato	ca. 0,15 % C	Temprato	125	1	130	7	95	7	165	8		
		ca. 0,45 % C	Temprato	190	2	110	7	80	7	145	8		
		ca. 0,45 % C	pre-temprato	250	3	100	5	70	5	135	6		
		ca. 0,75 % C	Temprato	270	4	85	5	60	5	125	6		
		ca. 0,75 % C	pre-temprato	300	5	75	5	55	5	110	6		
	Acciaio al carbonio		Temprato	180	6	110	7	80	7	145	8		
			pre-temprato	275	7	85	5	60	5	125	6		
			pre-temprato	300	8	75	5	55	5	110	6		
			pre-temprato	350	9	65	5	50	5	100	6		
	Acciaio alto legato e acciaio alto legato per utensili		Temprato	200	10	100	7	70	7	135	8		
			temprato e rinvenuto	325	11	75	5	55	5	110	6		
M	Acciaio inossidabile	ferritico/martensitico	Temprato	200	12	60	4	55	4	90	5		
		martensitico	pre-temprato	240	13	35	4	30	4	65	5		
		austenitico	quencing	180	14	40	4	35	4	70	5		
		austenitico-ferritico		230	15	35	4	35	4	55	5		
K	Ghisa grigia	perlitico/ferritico		180	16	125	7	90	7	150	8		
		perlitico (martensitico)		260	17	100	7	70	7	125	8		
	Ghisa sferodale	ferritico		160	18	110	7	80	7	135	8		
		perlitico		250	19	70	7	50	7	90	8		
	Ghisa malleabile	ferritico		130	20	120	7	85	7	145	8		
		perlitico		230	21	70	7	50	7	90	8		
N	Lavorazioni plastiche di leghe di alluminio	non invecchiabile		60	22	150	8	105	8	170	8		
		invecchiabile	indurito	100	23	150	8	105	8	170	8		
	Leghe di alluminio fuso	≤ 12 % Si, non invecchiabile		75	24	150	8	105	8	170	8		
		≤ 12 % Si, invecchiabile	indurito	90	25	150	8	105	8	170	8		
		> 12 % Si, non invecchiabile		130	26	150	8	105	8	170	8		
	Rame e leghe di rame (bronzo/ ottone)	Leghe per macchine di tipo multiplo, PB > 1 %		110	27	150	8	105	8	170	8		
		CuZn, CuSnZn		90	28	150	8	105	8	170	8		
		CuSn, rame senza piombo e rame elettrolitico		100	29	150	8	105	8	170	8		
S	Leghe resistenti al calore	Base Fe	Temprato	200	30	30	4	20	4	30	5		
			indurito	280	31	35	4	25	4	35	5		
		Base Ni o Co	Temprato	250	32	35	4	25	4	35	5		
			indurito	350	33	15	4	10	4	15	5		
			fuso	320	34	15	4	10	4	15	5		
	Leghe di titanio	Titanio puro		R_m 400	35	30	4	20	4	30	5		
		Leghe Alpha + Beta	indurito	R_m 1050	36	30	4	20	4	30	5		
H	Acciaio temprato		temprato e rinvenuto	55 HRC	37							25	2
			temprato e rinvenuto	60 HRC	38							20	1
	Ghisa dura		fuso	400	39							50	3
	Ghise temprate		temprato e rinvenuto	55 HRC	40							25	2
X	Materiali non metallici	Termoplastiche			41								
		Termoindurenti			42								
		Vetroresina VTR			43								
		Plastica rinforzata in fibra di carbonio CFK			44								
		Grafite			45								
		Legno			46								

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.
Per profondità di foratura di 5xD, i dati di taglio devono essere adattati al corrispondente campo di applicazione.
Gruppo f = i valori di avanzamento consigliati sono consultabili a pagina C146.
Esempi di materiali per gruppi di taglio sono disponibili a pagina D11.

	Velocità di taglio v_c [m/min]																					
	SC		PA		SC		SU		GD		UD		UL		FD		FD		FD			
	3-5xD		3xD		Centrino		3-8xD		3-5xD		3-5xD		10-30xD		0°-5°		5°-35°		35°-50°			
	YK20F		YK30F		KDG303		KDG303		KDG304		KDG305		KDG305		KDG305		KDG305		KDG305			
	Alimentazione refrigerante																					
	Esterna	Gruppo f	Esterna	Gruppo f	Esterna	Gruppo f	Esterna	Gruppo f	Esterna	Gruppo f	Esterna	Gruppo f	Esterna	Gruppo f	Esterna	Gruppo f	Esterna	Gruppo f	Esterna	Gruppo f		
					135	8	180	16	130	24	100	21	100	21	80	16	80	17	80	20		
					120	8	180	16	130	24	100	21	100	21	80	16	80	17	80	20		
					110	6	160	16	100	24	100	21	100	21	80	16	80	17	80	20		
					100	6	180	16	130	24	100	21	100	21	80	16	80	17	80	20		
					90	6	160	16	100	23	100	21	100	21	80	16	80	17	80	20		
					120	8	160	17	100	23	100	21	100	21	80	17	80	18	80	20		
					100	6	120	17	100	23	100	21	100	21	60	17	60	18	60	20		
					90	6	120	17	100	23	100	21	100	21	60	17	60	18	60	20		
					85	6	120	17	100	23	100	21	100	21	60	17	60	18	60	20		
					110	8	120	17	100	23	100	21	100	21	60	17	60	18	60	20		
					90	6	100	17	80	23	80	21	80	21	60	17	60	18	60	20		
					75	5	80	18			80	21	65	21	45	18	45	20	45	24		
					50	5	80	18			80	21	65	21	45	18	45	20	45	24		
					55	5	80	18			80	21	65	21	45	18	45	20	45	24		
					45	5	60	18			80	21	65	21	45	18	45	20	45	24		
					120	8	250	19	160	24					80	16	80	17	80	20		
					100	8	250	19	160	24					80	16	80	17	80	20		
					100	8	200	16	140	23					60	16	60	17	60	20		
					80	8	200	16	140	23					60	16	60	17	60	20		
					120	8	180	16	130	23					60	16	60	17	60	20		
					90	8	180	16	130	23					60	16	60	17	60	20		
	180	9	180	9	180	9	400	21							120	21	120	16	120	18		
	180	9	180	9	180	9	400	21							120	21	120	16	120	18		
	130	9	130	9	130	9	400	21							120	21	120	16	120	18		
	130	9	130	9	130	9	300	21							120	21	120	16	120	18		
	120	9	120	9	120	9	300	21							120	21	120	16	120	18		
	130	9	130	9	130	9	220	21							120	21	120	16	120	18		
	130	9	130	9	130	9	220	21							120	21	120	16	120	18		
	130	9	130	9	130	9	220	21							120	21	120	16	120	18		
							45	20			40	18	30	18								
							45	20			40	18	30	18								
							45	20			40	18	30	18								
							45	20			40	18	30	18								
							45	20			40	18	30	18								
							60	20			60	17	50	17								
							60	20			60	17	50	17								

Nelle pagine seguenti troverete anche il nostro pratico **calcolatore di alimentazione** per le **serie SU, GD, UD, UL e FD**.

Serie SU: Pagina C41
Serie UL: Pagina C79
Serie GD: Pagina C107
Serie UD: Pagina C117
Serie FD: Pagina C129

Dati di avanzamento consigliato

Punte in metallo duro integrale

Gruppo f	Avanzamento [mm]																			
	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8	Ø9	Ø10	Ø11	Ø12	Ø13	Ø14	Ø15	Ø16	Ø17	Ø18	Ø19	Ø20
1	0,01	0,02	0,03	0,04	0,04	0,05	0,05	0,06	0,06	0,06	0,07	0,07	0,08	0,08	0,09	0,09	0,09	0,09	0,10	0,10
2	0,01	0,02	0,03	0,04	0,05	0,06	0,06	0,06	0,07	0,07	0,08	0,09	0,09	0,09	0,10	0,10	0,10	0,11	0,11	0,11
3	0,01	0,02	0,04	0,05	0,06	0,06	0,07	0,07	0,08	0,09	0,09	0,10	0,10	0,11	0,11	0,12	0,12	0,12	0,13	0,13
4	0,02	0,03	0,04	0,06	0,06	0,07	0,08	0,09	0,09	0,10	0,11	0,11	0,12	0,12	0,13	0,13	0,14	0,14	0,15	0,15
5	0,02	0,03	0,05	0,06	0,07	0,09	0,09	0,10	0,11	0,11	0,12	0,13	0,14	0,14	0,15	0,15	0,16	0,16	0,17	0,17
6	0,02	0,04	0,06	0,07	0,09	0,10	0,11	0,11	0,12	0,13	0,14	0,15	0,16	0,17	0,17	0,18	0,18	0,19	0,19	0,20
7	0,02	0,04	0,06	0,09	0,10	0,11	0,12	0,13	0,14	0,15	0,16	0,17	0,18	0,19	0,20	0,20	0,21	0,22	0,22	0,23
8	0,03	0,05	0,07	0,10	0,11	0,13	0,14	0,15	0,16	0,17	0,18	0,20	0,21	0,22	0,23	0,23	0,24	0,25	0,26	0,26
9	0,03	0,06	0,08	0,11	0,13	0,15	0,16	0,17	0,18	0,20	0,21	0,23	0,24	0,25	0,26	0,27	0,28	0,29	0,29	0,30
10	0,04	0,07	0,10	0,13	0,15	0,17	0,19	0,20	0,21	0,23	0,24	0,26	0,27	0,29	0,30	0,31	0,32	0,33	0,34	0,35
11	0,04	0,07	0,11	0,15	0,17	0,20	0,21	0,23	0,24	0,26	0,28	0,30	0,32	0,33	0,35	0,36	0,37	0,38	0,39	0,40
12	0,05	0,09	0,13	0,17	0,20	0,23	0,25	0,26	0,28	0,30	0,32	0,35	0,36	0,38	0,40	0,41	0,42	0,44	0,45	0,46
13	0,05	0,10	0,15	0,20	0,23	0,26	0,28	0,30	0,32	0,35	0,37	0,40	0,42	0,44	0,46	0,47	0,49	0,50	0,52	0,53
14	0,06	0,11	0,17	0,23	0,26	0,30	0,33	0,35	0,37	0,40	0,43	0,46	0,48	0,50	0,53	0,54	0,56	0,58	0,59	0,61
15	0,07	0,13	0,20	0,26	0,30	0,35	0,37	0,40	0,43	0,46	0,49	0,53	0,55	0,58	0,61	0,62	0,64	0,66	0,68	0,70
16	0,02	0,03	0,05	0,06	0,08	0,09	0,11	0,12	0,14	0,15	0,17	0,18	0,20	0,21	0,23	0,24	0,26	0,27	0,29	0,3
17	0,01	0,02	0,04	0,05	0,06	0,07	0,08	0,10	0,11	0,12	0,13	0,14	0,16	0,17	0,18	0,19	0,20	0,22	0,23	0,24
18	0,01	0,02	0,03	0,04	0,05	0,06	0,07	0,08	0,09	0,10	0,11	0,12	0,13	0,14	0,15	0,16	0,17	0,18	0,19	0,20
19	0,02	0,04	0,05	0,07	0,09	0,11	0,13	0,14	0,16	0,18	0,20	0,22	0,23	0,25	0,27	0,29	0,31	0,32	0,34	0,36
20	0,01	0,02	0,02	0,03	0,04	0,05	0,06	0,06	0,07	0,08	0,09	0,10	0,10	0,11	0,12	0,13	0,14	0,14	0,15	0,16
21	0,02	0,04	0,06	0,08	0,10	0,12	0,14	0,16	0,18	0,20	0,22	0,24	0,26	0,28	0,30	0,32	0,34	0,36	0,38	0,40
22	0,03	0,06	0,09	0,12	0,15	0,18	0,21	0,24	0,27	0,30	0,33	0,36	0,39	0,42	0,45	0,48	0,51	0,54	0,57	0,60
23	0,04	0,08	0,12	0,16	0,20	0,24	0,28	0,32	0,36	0,40	0,44	0,48	0,52	0,56	0,60	0,64	0,68	0,72	0,76	0,80
24	0,01	0,01	0,02	0,02	0,03	0,03	0,04	0,04	0,05	0,05	0,06	0,06	0,07	0,07	0,08	0,08	0,09	0,09	0,10	0,10

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.

Nelle pagine seguenti troverete anche il nostro pratico **calcolatore di alimentazione** per le **serie SU, GD, UD, UL e FD**.

Serie SU: Pagina C41
Serie UL: Pagina C79
Serie GD: Pagina C107
Serie UD: Pagina C117
Serie FD: Pagina C129

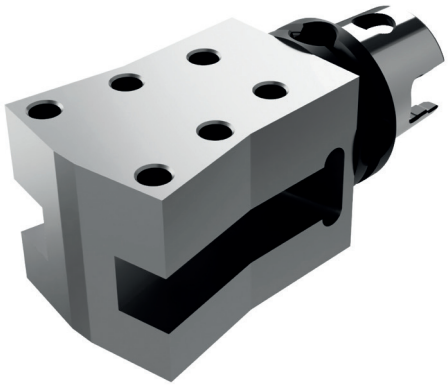
Note

Utensili speciali: il vostro utensile ottimizzato vi aspetta

Applicazioni speciali richiedono soluzioni speciali e ottimizzate. In ogni settore industriale, gli utensili speciali possono offrire vantaggi sul piano economico, tecnico o di processo rispetto alle soluzioni tradizionali. Per ogni singolo caso, collaboriamo insieme a voi per determinare l'esatto potenziale dei benefici considerando anche tutte le condizioni specifiche dei vostri cicli operativi. Nella nostra sede centrale europea di Düsseldorf, il Reparto ricerca e sviluppo di ZCC Cutting Tools Europe realizza per voi la soluzione su misura ideale per una lavorazione particolarmente economica.

Perché scegliere gli utensili speciali di ZCC Cutting Tools?

Sviluppiamo soluzioni per utensili su misura per voi e adatte alle più disparate tipologie di lavorazione. Collaborando a stretto contatto con voi sin dalle prime fasi, riusciamo a costruire gli utensili ottimizzati che soddisfano esattamente le vostre esigenze e le vostre priorità. Il nostro know-how pluriennale spazia dalla progettazione alla fabbricazione, sino ad arrivare alla logistica. Sfruttate le nostre competenze specialistiche per un successo nel lungo termine.

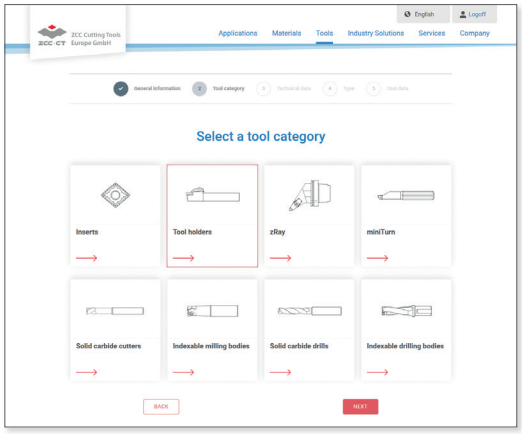


Esempio di supporto speciale

Esempio di punta speciale a gradino in metallo duro integrale

Il vostro utensile speciale personalizzato è a portata di mano

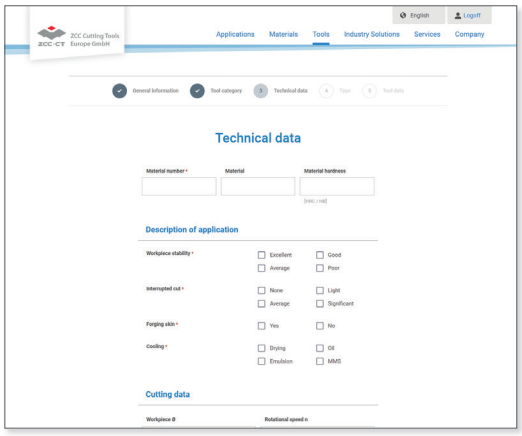
Lavorate con applicazioni per cui è possibile ottenere vantaggi in termini commerciali, tecnici o logistici impiegando utensili ottimizzati su misura e specifici per le vostre esigenze? ZCC Cutting Tools Europe vi offre consulenza e supporto personali nella programmazione, implementazione e ordinazione dei prodotti. Con il nostro innovativo Onlinetool dedicato alle richieste di utensili speciali, riceverete la vostra offerta personalizzata con pochi semplici passaggi (www.zccct-europe.com).



Home page "Strumento online per utensili speciali" con Selezione della categoria dell'utensile

Selezione della categoria dell'utensile

Scansionando il codice QR presente nella pagina, sarete reindirizzati alla home page del nostro strumento online per la richiesta di utensili speciali e qui potrete iniziare subito con la categoria precedentemente selezionata. È semplicissimo.



Definizione dei parametri pertinenti dell'utensile

Definizione dei parametri dell'utensile

Successivamente potete seguire comodamente la procedura. Potete inoltre caricare parti di disegni, bozze e modelli 3D già esistenti in tutta sicurezza.

L'accesso rapido e diretto agli utensili speciali di ZCC Cutting Tools Europe.

Effettuate subito l'accesso al nostro sito web per visualizzare il nuovo **Modulo per utensili speciali**.

ALESATORI IN METALLO DURO INTEGRALE

Alesatori in metallo duro integrale

Panoramica prodotti	**C152**
Panoramica gradi	**C153**
Codice sistema – Alesatori in metallo duro integrale	**C154**
Alesatori in metallo duro integrale	**C155-C159**
Dati di taglio consigliati	**C160-C163**
Misure per la risoluzione dei problemi	**C198**
Informazioni tecniche	**C202**
Gli utensili speciali	**C164-C165**

C

Alesatori in metallo duro integrale

Panoramica prodotti

Prodotti	Alesatori in metallo duro integrale	Ø	Applicazione						Versione	Pagina
			P	M	K	N	S	H		
3112H7		4-20	✔		✔				Scanalatura diritta con foro interno	C155

✔ Molto adatto ✔ Adatto

Metallo duro rivestito PVD

Grado	Descrizione gradi
KRG102	Grado di metallo duro con rivestimento in PVD P10–P20/K10–K20 per la lavorazione di acciaio e materiali in ghisa.

Metallo duro non rivestito

Grado	Descrizione gradi
YK10F	Substrato in metallo duro non rivestito K10 / N10 per l´asportazione di materiali in ghisa e metalli non ferrosi.

3	1	1	2	H7	– 0850
1	2	3	4	5	6

Versione	
Code	Descrizione
3	Alesatore

1

Versione del codolo	
Code	Descrizione
1	Codolo cilindrico
2	Codolo cilindrico DIN10
5	Codolo cilindrico DIN 6535 HA
9	Stelo a conicità Morse

2

Alimentazione refrigerante	
Code	Descrizione
0	Esterna
1	Interna

3

Scanalatura truciolo	
Code	Descrizione
1	Elicoidale destra
2	Scanalatura diritta
3	Elicoidale sinistra

4

Grado di tolleranza	
Code	Descrizione
H7	La classe di tolleranza del foro alesato corrisponde a H7 (GB/T1800-1804)

5

Diametro [mm]	
Code	Descrizione
0850	8,5
...	

6

a

a Alesatura

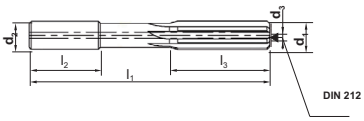
Alesatori in metallo duro integrale

Alesatore, scanalatura elicoidale diritta

Acciaio, ghise

3112H7

– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– Uscita refrigerante assiale



Articolo	✻	Dimensioni [mm]						Denti	Grado
		d_1	d_2 (h6)	d_3 (m7)	l_1	l_2	l_3		KRG102
3112H7-0291	✻	2,91	4	0,6	70	28	20	4	○
3112H7-0295	✻	2,95	4	0,6	70	28	20	4	○
3112H7-0296	✻	2,96	4	0,6	70	28	20	4	○
3112H7-0297	✻	2,97	4	0,6	70	28	20	4	○
3112H7-0298	✻	2,98	4	0,6	70	28	20	4	○
3112H7-0299	✻	2,99	4	0,6	70	28	20	4	○
3112H7-0300	✻	3	4	0,6	70	28	20	4	●
3112H7-0301	✻	3,01	4	0,6	70	28	20	4	●
3112H7-0302	✻	3,02	4	0,6	70	28	20	4	●
3112H7-0303	✻	3,03	4	0,6	70	28	20	4	●
3112H7-0311	✻	3,11	4	0,6	70	28	20	4	○
3112H7-0318	✻	3,18	4	0,6	70	28	20	4	○
3112H7-0348	✻	3,48	4	0,6	70	28	20	4	○
3112H7-0350	✻	3,5	4	0,6	70	28	20	4	○
3112H7-0395	✻	3,95	4	0,6	70	28	20	4	○
3112H7-0396	✻	3,96	4	0,6	70	28	20	4	○
3112H7-0397	✻	3,97	4	0,6	70	28	20	4	○
3112H7-0398	✻	3,98	4	0,6	70	28	20	4	○
3112H7-0399	✻	3,99	4	0,6	70	28	20	4	○
3112H7-0400	✻	4	4	0,6	70	28	20	6	●
3112H7-0401	✻	4,01	4	1	70	28	20	4	●
3112H7-0402	✻	4,02	4	1	70	28	20	4	●
3112H7-0403	✻	4,03	4	1	70	28	20	4	●
3112H7-0404	✻	4,04	4	1	70	28	20	4	○
3112H7-0405	✻	4,05	4	1	70	28	20	4	○
3112H7-0407	✻	4,07	4	1	70	28	20	4	○
3112H7-0408	✻	4,08	4	1	70	28	20	4	●
3112H7-0414	✻	4,14	4	1	70	28	20	4	○
3112H7-0450	✻	4,5	5	1	70	28	20	4	○
3112H7-0452	✻	4,52	5	1	70	28	20	4	○
3112H7-0457	✻	4,57	5	1	70	28	20	4	○
3112H7-0495	✻	4,95	5	1	70	28	22	6	○
3112H7-0496	✻	4,96	5	1	70	28	22	6	○
3112H7-0497	✻	4,97	5	1	70	28	22	6	○
3112H7-0498	✻	4,98	5	1	70	28	22	6	○
3112H7-0499	✻	4,99	5	1	70	28	22	6	○
3112H7-0500	✻	5	5	1	70	28	22	6	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔		✔			

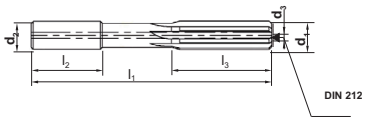
✔ Molto adatto
✔ Adatto

Codice sistema C154 | Indicazioni d´uso C193 | Dati di taglio C160 | Ordine utensili speciali C164

Alesatore, scanalatura elicoidale diritta Acciaio, ghise

3112H7

– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– Uscita refrigerante assiale



Articolo	✻	Dimensioni [mm] d_1	d_2 (h6)	d_3 (m7)	l_1	l_2	l_3	Denti	Grado KRG102
3112H7-0501	✻	5,01	5	1	70	28	22	6	●
3112H7-0502	✻	5,02	5	1	70	28	22	6	●
3112H7-0503	✻	5,03	5	1	70	28	22	6	●
3112H7-0504	✻	5,04	5	1	70	28	22	6	○
3112H7-0505	✻	5,05	5	1	70	28	22	6	○
3112H7-0550	✻	5,5	6	1	70	28	22	6	○
3112H7-0552	✻	5,52	6	1	70	28	22	6	○
3112H7-0553	✻	5,53	6	1	70	28	22	6	○
3112H7-0561	✻	5,61	6	1	70	28	22	6	○
3112H7-0593	✻	5,93	6	1	70	28	22	6	○
3112H7-0595	✻	5,95	6	1	100	36	22	6	●
3112H7-0596	✻	5,96	6	1	100	36	22	6	●
3112H7-0597	✻	5,97	6	1	100	36	22	6	●
3112H7-0598	✻	5,98	6	1	100	36	22	6	●
3112H7-0599	✻	5,99	6	1	100	36	22	6	●
3112H7-0600	✻	6	6	1	100	36	22	6	●
3112H7-0601	✻	6,01	6	1,3	100	36	22	6	●
3112H7-0602	✻	6,02	6	1,3	100	36	22	6	●
3112H7-0603	✻	6,03	6	1,3	100	36	22	6	●
3112H7-0635	✻	6,35	8	1,3	100	36	22	6	○
3112H7-0650	✻	6,5	8	1,3	100	36	22	6	○
3112H7-0655	✻	6,55	8	1,3	100	36	22	6	○
3112H7-0693	✻	6,93	8	1,3	100	36	22	6	○
3112H7-0695	✻	6,95	8	1,3	110	42	25	6	○
3112H7-0696	✻	6,96	8	1,3	110	42	25	6	○
3112H7-0697	✻	6,97	8	1,3	110	42	25	6	○
3112H7-0698	✻	6,98	8	1,3	110	42	25	6	○
3112H7-0699	✻	6,99	8	1,3	110	42	25	6	○
3112H7-0700	✻	7	8	1,3	110	42	25	6	●
3112H7-0701	✻	7,01	8	1,3	110	42	25	6	●
3112H7-0702	✻	7,02	8	1,3	110	42	25	6	●
3112H7-0703	✻	7,03	8	1,3	110	42	25	6	●
3112H7-0750	✻	7,5	8	1,3	110	42	25	6	○
3112H7-0770	✻	7,7	8	1,3	110	42	25	6	○
3112H7-0793	✻	7,93	8	1,3	110	42	25	6	○
3112H7-0795	✻	7,95	8	1,3	110	42	25	6	○
3112H7-0796	✻	7,96	8	1,3	110	42	25	6	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔		✔			

✔ Molto adatto
✔ Adatto

Codice sistema C154 Indicazioni d´uso C193 Dati di taglio C160 Ordine utensili speciali C164

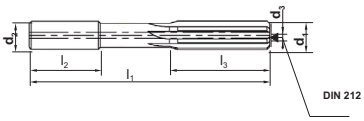
Alesatori in metallo duro integrale

Alesatore, scanalatura elicoidale diritta

Acciaio, ghise

3112H7

– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– Uscita refrigerante assiale



Articolo	✻	Dimensioni [mm]						Denti	Grado
		d_1	d_2 (h6)	d_3 (m7)	l_1	l_2	l_3		KRG102
3112H7-0797	✻	7,97	8	1,3	110	42	25	6	○
3112H7-0798	✻	7,98	8	1,3	110	42	25	6	○
3112H7-0799	✻	7,99	8	1,3	110	42	25	6	○
3112H7-0800	✻	8	8	1,3	110	42	25	6	●
3112H7-0801	✻	8,01	8	2	110	42	25	6	●
3112H7-0802	✻	8,02	8	2	110	42	25	6	●
3112H7-0803	✻	8,03	8	2	110	42	25	6	●
3112H7-0880	✻	8,8	10	2	110	42	25	6	○
3112H7-0885	✻	8,85	10	2	110	42	25	6	○
3112H7-0900	✻	9	10	2	110	42	25	6	●
3112H7-0901	✻	9,01	10	2	110	42	25	6	●
3112H7-0902	✻	9,02	10	2	110	42	25	6	○
3112H7-0903	✻	9,03	10	2	110	42	25	6	●
3112H7-0920	✻	9,2	10	2	110	42	25	6	○
3112H7-0930	✻	9,3	10	2	110	42	25	6	○
3112H7-0993	✻	9,93	10	2	110	42	25	6	○
3112H7-0995	✻	9,95	10	2	110	38	25	6	○
3112H7-0996	✻	9,96	10	2	110	38	25	6	○
3112H7-0997	✻	9,97	10	2	110	38	25	6	○
3112H7-0998	✻	9,98	10	2	110	38	25	6	○
3112H7-0999	✻	9,99	10	2	110	38	25	6	○
3112H7-1000	✻	10	10	2	110	38	25	6	●
3112H7-1001	✻	10,01	10	2	110	38	25	6	●
3112H7-1002	✻	10,02	10	2	110	38	25	6	●
3112H7-1003	✻	10,03	10	2	110	38	25	6	●
3112H7-1024	✻	10,24	10	2	110	38	24	6	○
3112H7-1100	✻	11	12	2	110	38	28	6	●
3112H7-1101	✻	11,01	10	2	110	38	24	6	●
3112H7-1102	✻	11,02	10	2	110	38	24	6	○
3112H7-1103	✻	11,03	10	2	110	38	24	6	●
3112H7-1155	✻	11,55	12	2	110	38	28	6	○
3112H7-1195	✻	11,95	12	2	110	38	28	6	○
3112H7-1196	✻	11,96	12	2	110	38	28	6	○
3112H7-1197	✻	11,97	12	2	110	38	28	6	○
3112H7-1198	✻	11,98	12	2	110	38	28	6	○
3112H7-1199	✻	11,99	12	2	110	38	28	6	○
3112H7-1200	✻	12	12	2	110	38	28	6	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔		✔			

✔ Molto adatto
✔ Adatto

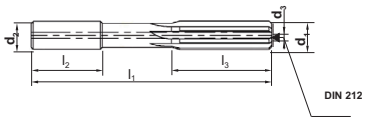
Codice sistema C154 | Indicazioni d´uso C193 | Dati di taglio C160 | Ordine utensili speciali C164

Alesatore, scanalatura elicoidale diritta

Acciaio, ghise

3112H7

– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT
– Uscita refrigerante assiale



Articolo	✻	Dimensioni [mm] d_1	d_2 (h6)	d_3 (m7)	l_1	l_2	l_3	Denti	Grado KRG102
3112H7-1201	✻	12,01	12	2	110	38	28	6	●
3112H7-1202	✻	12,02	12	2	110	38	28	6	●
3112H7-1203	✻	12,03	12	2	110	38	28	6	●
3112H7-1300	✻	13	14	2	110	38	28	6	●
3112H7-1301	✻	13,01	14	2	110	38	28	6	●
3112H7-1302	✻	13,02	14	2	110	38	28	6	●
3112H7-1303	✻	13,03	14	2	110	38	28	6	●
3112H7-1394	✻	13,94	14	2	110	38	28	6	○
3112H7-1400	✻	14	14	2	110	38	32	6	●
3112H7-1401	✻	14,01	14	2	110	38	28	6	●
3112H7-1402	✻	14,02	14	2	110	38	28	6	●
3112H7-1403	✻	14,03	14	2	110	38	28	6	●
3112H7-1500	✻	15	16	2	110	38	32	6	●
3112H7-1501	✻	15,01	16	2	110	38	28	6	●
3112H7-1502	✻	15,02	16	2	110	38	28	6	○
3112H7-1503	✻	15,03	16	2	110	38	28	6	●
3112H7-1565	✻	15,65	16	2	110	38	28	6	○
3112H7-1593	✻	15,93	16	2	110	38	28	6	○
3112H7-1595	✻	15,95	16	2	150	52	32	6	○
3112H7-1596	✻	15,96	16	2	150	52	32	6	○
3112H7-1597	✻	15,97	16	2	150	52	32	6	○
3112H7-1598	✻	15,98	16	2	150	52	32	6	○
3112H7-1599	✻	15,99	16	2	150	52	32	6	○
3112H7-1600	✻	16	16	2	150	52	32	6	●
3112H7-1601	✻	16,01	16	3	150	52	32	6	●
3112H7-1602	✻	16,02	16	3	150	52	32	6	○
3112H7-1603	✻	16,03	16	3	150	52	32	6	●
3112H7-1800	✻	18	18	3	150	52	36	6	●
3112H7-2000	✻	20	20	3	150	50	36	6	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔		✔			

✔ Molto adatto
✔ Adatto

Codice sistema C154 Indicazioni d´uso C193 Dati di taglio C160 Ordine utensili speciali C164

Alesatori in metallo duro integrale

Note

Principi guida per i dati di taglio consigliati – Alesatori in metallo duro integrale

Solid carbide reamers

Material group		Composition / structure / heat treatment		Brinell hardness HB	Machining group	Starting values for cutting speed v_c [m/min]							
						3101H7		3102H7		3112H7		3103H7	
						YK10F		YK10F		KRG102		YK10F	
						Coolant							
						external	f-group	external	f-group	internal	f-group	external	f-group
P	Unalloyed steel	ca. 0,15 % C	annealed	125	1					85	5		
		ca. 0,45 % C	annealed	190	2					75	5		
		ca. 0,45 % C	tempered	250	3					70	5		
		ca. 0,75 % C	annealed	270	4					60	5		
		ca. 0,75 % C	tempered	300	5					55	5		
	Low-alloyed steel		annealed	180	6					75	5		
			tempered	275	7					60	5		
			tempered	300	8					55	5		
			tempered	350	9					55	5		
	High-alloyed steel and high-alloyed tool steel		annealed	200	10					70	5		
			hardened and tempered	325	11					55	5		
M	Stainless steel	ferritic/martensitic	annealed	200	12								
		martensitic	tempered	240	13								
		austenitic	quench hardened	180	14								
		austenitic-ferritic		230	15								
K	Grey cast iron	perlitic/ferritic		180	16	23	5	23	5	75	5	23	5
		perlitic (martensitic)		260	17	19	5	19	5	60	5	19	5
	Cast iron with spheroidal graphite	ferritic		160	18	19	5	19	5	60	5	19	5
		perlitic		250	19	17	5	17	5	50	5	17	5
	Malleable cast iron	ferritic		130	20	23	5	23	5	75	5	23	5
		perlitic		230	21	14	5	14	5	55	5	14	5
N	Aluminium wrought alloys	cannot be hardened		60	22	45	6	45	6			45	6
		hardenable	hardened	100	23	40	6	40	6			40	6
	Cast aluminium alloys	≤ 12% Si, cannot be hardened		75	24	37	6	37	6			37	6
		≤ 12% Si, hardenable	hardened	90	25	35	6	35	6			35	6
		> 12% Si, cannot be hardened		130	26	32	6	32	6			32	6
	Copper and copper alloys (bronze/brass)	machining steel, PB> 1%		110	27	37	6	37	6			37	6
		CuZn, CuSnZn		90	28	34	6	34	6			34	6
		CuSn, Pb-free copper, electrolytic copper		100	29	37	6	37	6			37	6
S	Heat-resistant alloys	Fe-based alloys	annealed	200	30								
			hardened	280	31								
		Ni or Co bass	annealed	250	32								
			hardened	350	33								
			cast	320	34								
	Titanium alloys	pure titanium		R_m 400	35								
		α and β alloys	hardened	R_m 1050	36								
H	Hardened steel		hardened and tempered	55 HRC	37								
			hardened and tempered	60 HRC	38								
	Hard cast iron		cast	400	39								
	Hardened cast iron		hardened and tempered	55 HRC	40								
X	Non-metallic materials	Thermoplasts			41								
		Thermosetting plastics			42								
		Plastic, glass-fibre reinforced GFRP			43								
		Plastic, carbon fibre reinforced CFRP			44								
		Graphite			45								
		Wood			46								

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.
With hole depths of 5xD adjust the cutting data accordingly to the application.
f-group = feed rate recommendations on page C140.
For examples of material for cutting tool groups view page D22.

ZCC-CT

Recommend feed rate

Solid carbide reamers

f-group	Feed rate [mm]																			
	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8	Ø9	Ø10	Ø11	Ø12	Ø13	Ø14	Ø15	Ø16	Ø17	Ø18	Ø19	Ø20
1	0,01	0,02	0,03	0,04	0,04	0,05	0,05	0,06	0,06	0,06	0,07	0,07	0,08	0,08	0,09	0,09	0,09	0,09	0,10	0,10
2	0,01	0,02	0,03	0,04	0,05	0,06	0,06	0,06	0,07	0,07	0,08	0,09	0,09	0,09	0,10	0,10	0,10	0,11	0,11	0,11
3	0,01	0,02	0,04	0,05	0,06	0,06	0,07	0,07	0,08	0,09	0,09	0,10	0,10	0,11	0,11	0,12	0,12	0,12	0,13	0,13
4	0,02	0,03	0,04	0,06	0,06	0,07	0,08	0,09	0,09	0,10	0,11	0,11	0,12	0,12	0,13	0,13	0,14	0,14	0,15	0,15
5	0,02	0,03	0,05	0,06	0,07	0,09	0,09	0,10	0,11	0,11	0,12	0,13	0,14	0,14	0,15	0,15	0,16	0,16	0,17	0,17
6	0,02	0,04	0,06	0,07	0,09	0,10	0,11	0,11	0,12	0,13	0,14	0,15	0,16	0,17	0,17	0,18	0,18	0,19	0,19	0,20
7	0,02	0,04	0,06	0,09	0,10	0,11	0,12	0,13	0,14	0,15	0,16	0,17	0,18	0,19	0,20	0,20	0,21	0,22	0,22	0,23
8	0,03	0,05	0,07	0,10	0,11	0,13	0,14	0,15	0,16	0,17	0,18	0,20	0,21	0,22	0,23	0,23	0,24	0,25	0,26	0,26
9	0,03	0,06	0,08	0,11	0,13	0,15	0,16	0,17	0,18	0,20	0,21	0,23	0,24	0,25	0,26	0,27	0,28	0,29	0,29	0,30
10	0,04	0,07	0,10	0,13	0,15	0,17	0,19	0,20	0,21	0,23	0,24	0,26	0,27	0,29	0,30	0,31	0,32	0,33	0,34	0,35
11	0,04	0,07	0,11	0,15	0,17	0,20	0,21	0,23	0,24	0,26	0,28	0,30	0,32	0,33	0,35	0,36	0,37	0,38	0,39	0,40
12	0,05	0,09	0,13	0,17	0,20	0,23	0,25	0,26	0,28	0,30	0,32	0,35	0,36	0,38	0,40	0,41	0,42	0,44	0,45	0,46
13	0,05	0,10	0,15	0,20	0,23	0,26	0,28	0,30	0,32	0,35	0,37	0,40	0,42	0,44	0,46	0,47	0,49	0,50	0,52	0,53
14	0,06	0,11	0,17	0,23	0,26	0,30	0,33	0,35	0,37	0,40	0,43	0,46	0,48	0,50	0,53	0,54	0,56	0,58	0,59	0,61
15	0,07	0,13	0,20	0,26	0,30	0,35	0,37	0,40	0,43	0,46	0,49	0,53	0,55	0,58	0,61	0,62	0,64	0,66	0,68	0,70

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.

1. Selezionare la famiglia di prodotti adatta.
2. Determinare il rapporto di contatto.
3. Selezionare il materiale utilizzato e ricavare la velocità di taglio.
4. Determinare il gruppo di avanzamento e consultare i dati di avanzamento consigliati.
5. Selezionare il diametro dell'utensile e il rapporto di contatto.

Alesatori in metallo duro integrale

Gruppo materiali		Composizione/Struttura/Trattamento termico		Durezza HB Brinell	Gruppo di sgrossatura	Velocità di taglio v_c [m/min]								
						3101H7		3102H7		3112H7		3103H7		
						YK10F		YK10F		KRG102		YK10F		
						Alimentazione refrigerante								
						Esterna	Gruppo f	Esterna	Gruppo f	Interna	Gruppo f	Esterna	Gruppo f	
P	Acciaio non legato	ca. 0,15 % C	Temprato	125	1					85	5			
		ca. 0,45 % C	Temprato	190	2					75	5			
		ca. 0,45 % C	pre-temprato	250	3					70	5			
		ca. 0,75 % C	Temprato	270	4					60	5			
		ca. 0,75 % C	pre-temprato	300	5					55	5			
	Acciaio al carbonio		Temprato	180	6					75	5			
			pre-temprato	275	7					60	5			
			pre-temprato	300	8					55	5			
			pre-temprato	350	9					55	5			
	Acciaio alto legato e acciaio alto legato per utensili		Temprato	200	10					70	5			
			temprato e rinvenuto	325	11					55	5			
M	Acciaio inossidabile	ferritico/martensitico	Temprato	200	12									
		martensitico	pre-temprato	240	13									
		austenitico	quencing	180	14									
		austenitico-ferritico		230	15									
K	Ghisa grigia	perlitico/ferritico		180	16	23	5	23	5	75	5	23	5	
		perlitico (martensitico)		260	17	19	5	19	5	60	5	19	5	
	Ghisa sferodale	ferritico		160	18	19	5	19	5	60	5	19	5	
		perlitico		250	19	17	5	17	5	50	5	17	5	
	Ghisa malleabile	ferritico		130	20	23	5	23	5	75	5	23	5	
		perlitico		230	21	14	5	14	5	55	5	14	5	
N	Lavorazioni plastiche di leghe di alluminio	non invecchiabile		60	22	45	6	45	6			45	6	
		invecchiabile	indurito	100	23	40	6	40	6			40	6	
	Leghe di alluminio fuso	≤ 12 % Si, non invecchiabile		75	24	37	6	37	6			37	6	
		≤ 12 % Si, invecchiabile	indurito	90	25	35	6	35	6			35	6	
		> 12 % Si, non invecchiabile		130	26	32	6	32	6			32	6	
	Rame e leghe di rame (bronzo/ ottone)	Leghe per macchine di tipo multiplo, PB > 1 %		110	27	37	6	37	6			37	6	
		CuZn, CuSnZn		90	28	34	6	34	6			34	6	
		CuSn, rame senza piombo e rame elettrolitico		100	29	37	6	37	6			37	6	
S	Leghe resistenti al calore	Base Fe	Temprato	200	30									
			indurito	280	31									
		Base Ni o Co	Temprato	250	32									
			indurito	350	33									
			fuso	320	34									
	Leghe di titanio	Titanio puro		R_m 400	35									
		Leghe Alpha + Beta	indurito	R_m 1050	36									
H	Acciaio temprato		temprato e rinvenuto	55 HRC	37									
			temprato e rinvenuto	60 HRC	38									
	Ghisa dura		fuso	400	39									
	Ghise temprate		temprato e rinvenuto	55 HRC	40									
X	Materiali non metallici	Termoplastiche			41									
		Termoindurenti			42									
		Vetroresina VTR			43									
		Plastica rinforzata in fibra di carbonio CFK			44									
		Grafite			45									
		Legno			46									

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.
Per profondità di foratura di 5xD, i dati di taglio devono essere adattati al corrispondente campo di applicazione.
Gruppo f = i valori di avanzamento consigliati sono consultabili a pagina C163.
Esempi di materiali per gruppi di taglio sono disponibili a pagina D11.

ZCC-CT

Dati di avanzamento consigliato

Alesatori in metallo duro integrale

Gruppo f	Avanzamento [mm]																			
	Ø1	**Ø2**	**Ø3**	**Ø4**	**Ø5**	**Ø6**	**Ø7**	**Ø8**	**Ø9**	**Ø10**	**Ø11**	**Ø12**	**Ø13**	**Ø14**	**Ø15**	**Ø16**	**Ø17**	**Ø18**	**Ø19**	**Ø20**
1	0,01	0,02	0,03	0,04	0,04	0,05	0,05	0,06	0,06	0,06	0,07	0,07	0,08	0,08	0,09	0,09	0,09	0,09	0,10	0,10
2	0,01	0,02	0,03	0,04	0,05	0,06	0,06	0,06	0,07	0,07	0,08	0,09	0,09	0,09	0,10	0,10	0,10	0,11	0,11	0,11
3	0,01	0,02	0,04	0,05	0,06	0,06	0,07	0,07	0,08	0,09	0,09	0,10	0,10	0,11	0,11	0,12	0,12	0,12	0,13	0,13
4	0,02	0,03	0,04	0,06	0,06	0,07	0,08	0,09	0,09	0,10	0,11	0,11	0,12	0,12	0,13	0,13	0,14	0,14	0,15	0,15
5	0,02	0,03	0,05	0,06	0,07	0,09	0,09	0,10	0,11	0,11	0,12	0,13	0,14	0,14	0,15	0,15	0,16	0,16	0,17	0,17
6	0,02	0,04	0,06	0,07	0,09	0,10	0,11	0,11	0,12	0,13	0,14	0,15	0,16	0,17	0,17	0,18	0,18	0,19	0,19	0,20
7	0,02	0,04	0,06	0,09	0,10	0,11	0,12	0,13	0,14	0,15	0,16	0,17	0,18	0,19	0,20	0,20	0,21	0,22	0,22	0,23
8	0,03	0,05	0,07	0,10	0,11	0,13	0,14	0,15	0,16	0,17	0,18	0,20	0,21	0,22	0,23	0,23	0,24	0,25	0,26	0,26
9	0,03	0,06	0,08	0,11	0,13	0,15	0,16	0,17	0,18	0,20	0,21	0,23	0,24	0,25	0,26	0,27	0,28	0,29	0,29	0,30
10	0,04	0,07	0,10	0,13	0,15	0,17	0,19	0,20	0,21	0,23	0,24	0,26	0,27	0,29	0,30	0,31	0,32	0,33	0,34	0,35
11	0,04	0,07	0,11	0,15	0,17	0,20	0,21	0,23	0,24	0,26	0,28	0,30	0,32	0,33	0,35	0,36	0,37	0,38	0,39	0,40
12	0,05	0,09	0,13	0,17	0,20	0,23	0,25	0,26	0,28	0,30	0,32	0,35	0,36	0,38	0,40	0,41	0,42	0,44	0,45	0,46
13	0,05	0,10	0,15	0,20	0,23	0,26	0,28	0,30	0,32	0,35	0,37	0,40	0,42	0,44	0,46	0,47	0,49	0,50	0,52	0,53
14	0,06	0,11	0,17	0,23	0,26	0,30	0,33	0,35	0,37	0,40	0,43	0,46	0,48	0,50	0,53	0,54	0,56	0,58	0,59	0,61
15	0,07	0,13	0,20	0,26	0,30	0,35	0,37	0,40	0,43	0,46	0,49	0,53	0,55	0,58	0,61	0,62	0,64	0,66	0,68	0,70

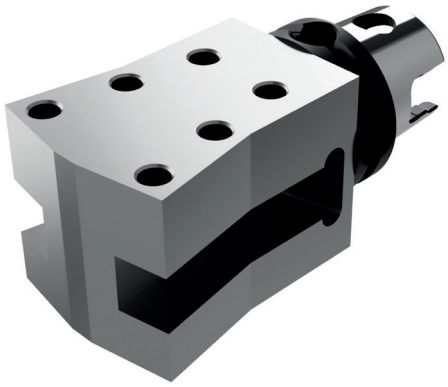
Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.

Utensili speciali: il vostro utensile ottimizzato vi aspetta

Applicazioni speciali richiedono soluzioni speciali e ottimizzate. In ogni settore industriale, gli utensili speciali possono offrire vantaggi sul piano economico, tecnico o di processo rispetto alle soluzioni tradizionali. Per ogni singolo caso, collaboriamo insieme a voi per determinare l'esatto potenziale dei benefici considerando anche tutte le condizioni specifiche dei vostri cicli operativi. Nella nostra sede centrale europea di Düsseldorf, il Reparto ricerca e sviluppo di ZCC Cutting Tools Europe realizza per voi la soluzione su misura ideale per una lavorazione particolarmente economica.

Perché scegliere gli utensili speciali di ZCC Cutting Tools?

Sviluppiamo soluzioni per utensili su misura per voi e adatte alle più disparate tipologie di lavorazione. Collaborando a stretto contatto con voi sin dalle prime fasi, riusciamo a costruire gli utensili ottimizzati che soddisfano esattamente le vostre esigenze e le vostre priorità. Il nostro know-how pluriennale spazia dalla progettazione alla fabbricazione, sino ad arrivare alla logistica. Sfruttate le nostre competenze specialistiche per un successo nel lungo termine.

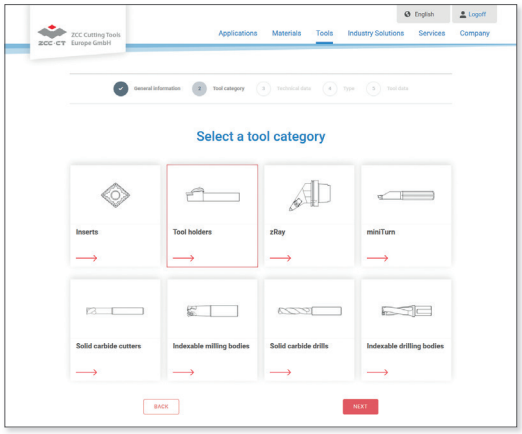


Esempio di supporto speciale

Esempio di punta speciale a gradino in metallo duro integrale

Il vostro utensile speciale personalizzato è a portata di mano

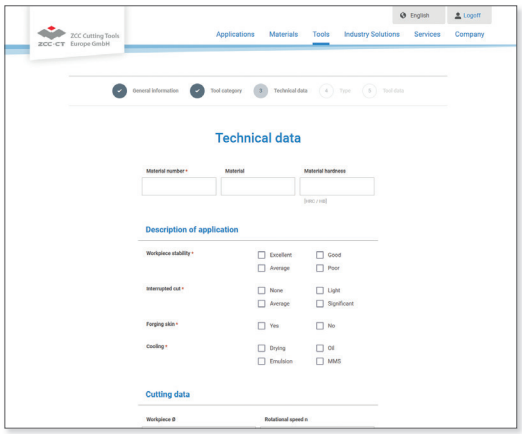
Lavorate con applicazioni per cui è possibile ottenere vantaggi in termini commerciali, tecnici o logistici impiegando utensili ottimizzati su misura e specifici per le vostre esigenze? ZCC Cutting Tools Europe vi offre consulenza e supporto personali nella programmazione, implementazione e ordinazione dei prodotti. Con il nostro innovativo Onlinetool dedicato alle richieste di utensili speciali, riceverete la vostra offerta personalizzata con pochi semplici passaggi (www.zccct-europe.com).



Home page "Strumento online per utensili speciali" con Selezione della categoria dell'utensile

Selezione della categoria dell'utensile

Scansionando il codice QR presente nella pagina, sarete reindirizzati alla home page del nostro strumento online per la richiesta di utensili speciali e qui potrete iniziare subito con la categoria precedentemente selezionata. È semplicissimo.



Definizione dei parametri pertinenti dell'utensile

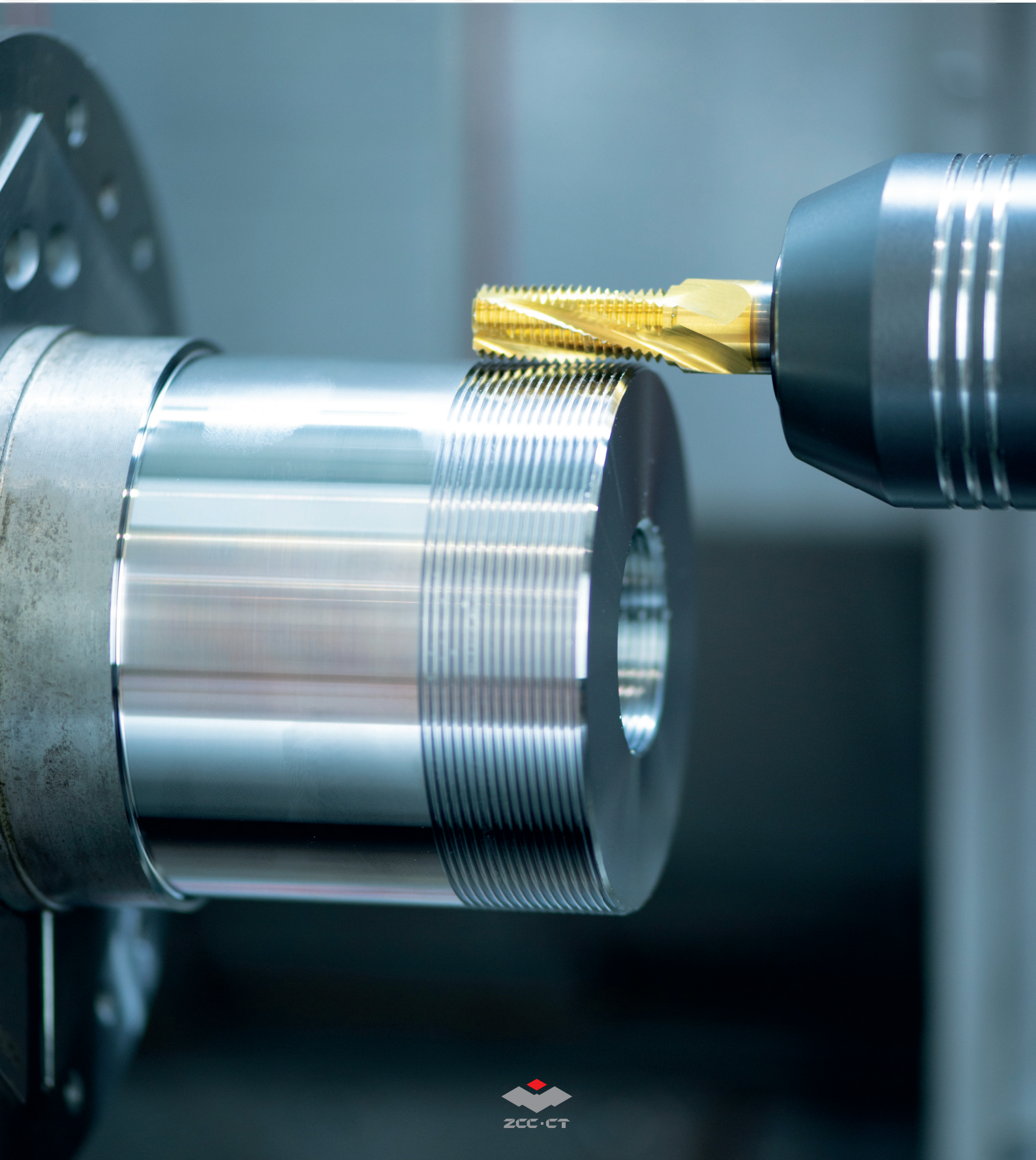
Definizione dei parametri dell'utensile

Successivamente potete seguire comodamente la procedura. Potete inoltre caricare parti di disegni, bozze e modelli 3D già esistenti in tutta sicurezza.

L'accesso rapido e diretto agli utensili speciali di ZCC Cutting Tools Europe.

Effettuate subito l'accesso al nostro sito web per visualizzare il nuovo **Modulo per utensili speciali**.

UTENSILI PER FILETTATURA IN METALLO DURO INTEGRALE



ZCC·CT

Utensili per filettatura in M. D. integrale

Panoramica prodotti	**C168**
Panoramica gradi	**C169**
Codice sistema – Utensili filettatura md integrale	**C170**
Maschi a rullare in M.D. integrale	**C171-C176**
Maschiatori in M.D. integrale	**C177-C184**
Frese a filettare inin M.D. integrale	**C185**
Dati di taglio consigliati	**C186-C189**
Informazioni tecniche	**C203-C205**
Gli utensili speciali	**C190-C191**

C

Utensili per filettatura in M. D. integrale

Panoramica prodotti

Prodotti	Utensili per filettatura in M. D. integrale	Ø	Applicazione						Versione	Pagina
			P	M	K	N	S	H		
4122A		M1-M2,5				✔			Maschi a rullare in metallo duro integrale	C171
4222A		M3-M16				✔			Maschi a rullare in metallo duro integrale	C172
4122M		M1-M2,5	✔	✔					Maschi a rullare in metallo duro integrale	C174
4222M		M3-M16	✔	✔					Maschi a rullare in metallo duro integrale	C175
4201C		M3-M16			✔				Maschiatori in md integrale, destro	C177
4202C		M3-M16			✔				Maschiatori in md integrale, diritto	C179
4201A		M3-M16				✔			Maschiatori in md integrale, destro	C181
4202A		M3-M16				✔			Maschiatori in md integrale, diritto	C183
4111		M3-M20	✔		✔	✔			Frese a filettare in metallo duro integrale	C185

✔ Molto adatto ✔ Adatto

Utensili per filettatura in M. D. integrale

Metallo duro rivestito PVD

Grado	Descrizione gradi
KTG402	Grado di metallo duro con rivestimento in PVD P20–M30/M20–P30 per la lavorazione di acciaio e acciaio inossidabile. Particolarmente adatta per utensili per filettatura.
KTG4015	Grado di metallo duro con rivestimento in PVD P20–M30/K20–K30 per la lavorazione di acciaio e materiali in ghisa. Particolarmente adatta per utensili per filettatura.

Metallo duro non rivestito

Grado	Descrizione gradi
YK40F	Substrato in metallo duro non rivestito K20-K30 / N20-N30 per l´asportazione di materiali in ghisa e metalli non ferrosi.

Frese a filettare in metallo duro

Codice sistema – utensili a filettare in metallo duro

4	2	0	1	A	(C)	(S)	– M5x0.8 –	6H
1	2	3	4	5	6	7	8	9

Versione	
Code	Descrizione
4	Utensili per filettatura

1

Versione del codolo	
Code	Descrizione
1	Codolo cilindrico
2	Codolo cilindrico DIN10
5	Codolo cilindrico DIN 6535 HA
9	Codolo conico

2

Tipologia utensile	
Code	Descrizione
0	Maschiatore
1	Fresa a filettare
2	Maschiatori a rullare

3

Scanalatura truciolo	
Code	Descrizione
1	Elicoidale destra
2	Scanalatura diritta
3	Elicoidale sinistra

4

Pezzo da lavorare	
Code	Descrizione
A	Lega di alluminio
C	Ghisa
M	Acciaio inossidabile
P	Acciaio
H	Materiali ad elevata durezza

5

Alimentazione refrigerante	
Code	Descrizione
C	Interna

6

Foro cieco	
Code	Descrizione
S	Foro cieco

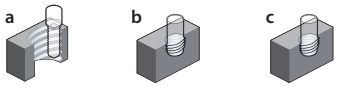
7

Versione filettatura [mm]	
Code	Descrizione
M5x0.8	Diametro x Passo
...	

8

Classe di precisione	
Code	Descrizione
6H	Tolleranza standard
6HX	Tolleranza finitura maggiore

9



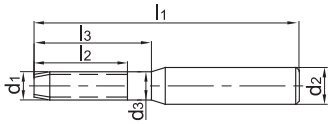
a Fresatura a filettare **b** Maschiatura **c** Maschiatura a rullare

Maschiatori a rullare

Metalli non ferrosi

4122A

– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT



Articolo	✻	Dimensioni [mm]								Denti	Carotatrice	Grado
			d_1	P	d_2	d_3	l_1	l_2	l_3		d	YK40F
4122AS-M1*0.25-6H		1,5P	M1	0,25	3	1	40	5	6	3	0,9	○
4122A-M1.2*0.25-6H		3P	M1,2	0,25	3		40	5	6	3	1,1	●
4122AS-M1.2*0.25-6H		1,5P	M1,2	0,25	3	1,2	40	5	6	3	1,1	○
4122A-M1.6*0.35-6H		3P	M1,6	0,35	3	1,1	40	5	11	3	1,47	●
4122AS-M1.6*0.35-6H		1,5P	M1,6	0,35	3	1,1	40	5	11	3	1,47	●
4122A-M2*0.4-6H		3P	M2	0,4	3	1,5	45	6	12	3	1,85	●
4122AS-M2*0.4-6H		1,5P	M2	0,4	3	1,5	45	6	12	3	1,85	●
4122A-M2.5*0.45-6H		3P	M2,5	0,45	3	1,9	50	6	14	3	2,33	○
4122AS-M2.5*0.45-6H		1,5P	M2,5	0,45	3	1,9	50	6	14	3	2,33	●

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
			✔		

✔ Molto adatto

✔ Adatto

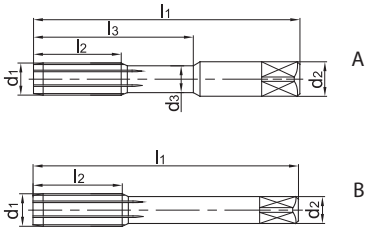
Codice sistema C170 | Indicazioni d´uso C193 | Dati di taglio C186 | Ordine utensili speciali C190

Maschiatori a rullare

Metalli non ferrosi

4222A

– Versione del codolo DIN 10
– Uscita refrigerante assiale



Articolo	✻	Dimensioni [mm]								Denti	Geometria	Carotatrice	Grado
			d_1	P	d_2	d_3	l_1	l_2	l_3			d	YK40F
4222A-M3*0.5-6H		3P	M3	0,5	3,5	2,3	56	6	18	4	A	2,8	○
4222AS-M3*0.5-6H		1,5P	M3	0,5	3,5	2,3	56	6	18	4	A	2,8	●
4222A-M4*0.5-6H		3P	M4	0,5	4,5	3,1	63	8	21	4	A	3,8	○
4222AS-M4*0.5-6H		1,5P	M4	0,5	4,5	3,1	63	8	21	4	A	3,8	○
4222A-M4*0.7-6H		3P	M4	0,7	4,5	3,1	63	8	21	4	A	3,7	○
4222AS-M4*0.7-6H		1,5P	M4	0,7	4,5	3,1	63	8	21	4	A	3,7	○
4222A-M5*0.5-6H		3P	M5	0,5	6	4,3	70	10	25	4	A	4,8	○
4222AS-M5*0.5-6H		1,5P	M5	0,5	6	4,3	70	10	25	4	A	4,8	○
4222A-M5*0.8-6H		3P	M5	0,8	6	4	70	10	25	4	A	4,65	○
4222AS-M5*0.8-6H		1,5P	M5	0,8	6	4	70	10	25	4	A	4,65	○
4222A-M6*0.75-6H		3P	M6	0,75	6	5	80	12	30	4	A	5,7	○
4222AS-M6*0.75-6H		1,5P	M6	0,75	6	5	80	12	30	4	A	5,7	○
4222A-M6*1-6H		3P	M6	1	6	4,7	80	12	30	4	A	5,6	○
4222AS-M6*1-6H		1,5P	M6	1	6	4,7	80	12	30	4	A	5,6	○
4222A-M7*1.0-6H		3P	M7	1	7	5,7	80	14	30	4	A	6,6	○
4222AS-M7*1.0-6H		1,5P	M7	1	7	5,7	80	14	30	4	A	6,6	○
4222A-M8*1.0-6H		3P	M8	1	8	6,7	90	16	35	4	A	7,6	○
4222AS-M8*1-6H		1,5P	M8	1	8	6,7	90	16	35	4	A	7,6	○
4222A-M8*1.25-6H		3P	M8	1,25	8	6,4	90	16	35	4	A	7,45	○
4222AS-M8*1.25-6H		1,5P	M8	1,25	8	6,4	90	16	35	4	A	7,45	○
4222A-M10*1-6H		3P	M10	1	10	8,7	100	20	39	5	A	9,6	○
4222AS-M10*1-6H		1,5P	M10	1	10	8,7	100	20	39	5	A	9,6	○
4222A-M10*1.25-6H		3P	M10	1,25	10	8,4	100	20	39	5	A	9,45	○
4222AS-M10*1.25-6H		1,5P	M10	1,25	10	8,4	100	20	39	5	A	9,45	○
4222A-M10*1.5-6H		3P	M10	1,5	10	8,1	100	20	39	5	A	9,35	○
4222AC-M10*1.5-6H	✻	3P	M10	1,5	10	8,1	100	20	39	5	A	9,35	○
4222AS-M10*1.5-6H		1,5P	M10	1,5	10	8,1	100	20	39	5	A	9,35	○
4222ACS-M10*1.5-6H	✻	1,5P	M10	1,5	10	8,1	100	20	39	5	A	9,35	○
4222A-M12*1.25-6H		3P	M12	1,25	9		110	24		5	B	11,45	○
4222AS-M12*1.25-6H		1,5P	M12	1,25	9		110	24		5	B	11,45	○
4222A-M12*1.5-6H		3P	M12	1,5	9		110	24		5	B	11,35	○
4222AS-M12*1.5-6H		1,5P	M12	1,5	9		110	24		5	B	11,35	○
4222A-M12*1.75-6H		3P	M12	1,75	9		110	24		5	B	11,25	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
			✔		

✔ Molto adatto
✔ Adatto

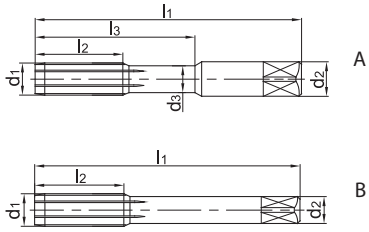
Codice sistema C170 | Indicazioni d´uso C193 | Dati di taglio C186 | Ordine utensili speciali C190

Maschiatori a rullare

Metalli non ferrosi

4222A

– Versione del codolo DIN 10
– Uscita refrigerante assiale



Articolo	✻	Dimensioni [mm]								Denti	Geometria	Carotatrice	Grado
			d_1	P	d_2	d_3	l_1	l_2	l_3			d	YK40F
4222AC-M12*1.75-6H	✻	3P	M12	1,75	9		110	24		5	B	11,25	○
4222AS-M12*1.75-6H		1,5P	M12	1,75	9		110	24		5	B	11,25	○
4222ACS-M12*1.75-6H	✻	1,5P	M12	1,75	9		110	24		5	B	11,25	○
4222A-M14*1.5-6H		3P	M14	1,5	11		110	26		6	B	13,35	○
4222AS-M14*1.5-6H		1,5P	M14	1,5	11		110	26		6	B	13,35	○
4222A-M14*2-6H		3P	M14	2	11		110	26		6	B	13,1	○
4222A-M16*1.5-6H		3P	M16	1,5	12		110	27		6	B	15,35	○
4222AS-M16*1.5-6H		1,5P	M16	1,5	12		110	27		6	B	15,35	○
4222A-M16*2-6H		3P	M16	2	12		110	27		6	B	15,1	○
4222AC-M16*2.0-6H	✻	3P	M16	2	12		110	27		6	B	15,1	○
4222AS-M16*2.0-6H		1,5P	M16	2	12		110	27		6	B	15,1	○
4222ACS-M16*2.0-6H	✻	1,5P	M16	2	12		110	27		6	B	15,1	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
			✔		

✔ Molto adatto
✔ Adatto

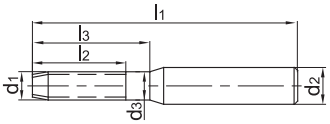
Codice sistema C170 | Indicazioni d´uso C193 | Dati di taglio C186 | Ordine utensili speciali C190

Maschiatori a rullare

Acciaio, acciaio inossidabile

4122M

– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT



Articolo	✻	Dimensioni [mm]								Denti	Carotatrice	Grado	
			d_1	P	d_2	d_3	l_1	l_2	l_3		d	KTG402	YK40F
4122M-M1*0.25-6H		3P	M1	0,25	3		40	5	6	4	0,9	●	○
4122MS-M1*0.25-6H		2P	M1	0,25	3		40	5	6	4	0,9	●	○
4122M-M1.2*0.25-6H		3P	M1,2	0,25	3		40	5	6	4	1,1	○	○
4122MS-M1.2*0.25-6H		2P	M1,2	0,25	3		40	5	6	4	1,1	○	○
4122M-M1.6*0.35-6H		3P	M1,6	0,35	3	1,1	40	5	11	4	1,47	○	○
4122MS-M1.6*0.35-6H		2P	M1,6	0,35	3	1,1	40	5	11	4	1,47	○	○
4122M-M2*0.4-6H		3P	M2	0,4	3	1,5	45	6	12	4	1,85	●	○
4122MS-M2*0.4-6H		2P	M2	0,4	3	1,5	45	6	12	4	1,85	●	○
4122M-M2.5*0.45-6H		3P	M2,5	0,45	3	1,9	50	6	14	4	2,33	○	○
4122MS-M2.5*0.45-6H		2P	M2,5	0,45	3	1,9	50	6	14	4	2,33	●	○

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔				

✔ Molto adatto
✔ Adatto

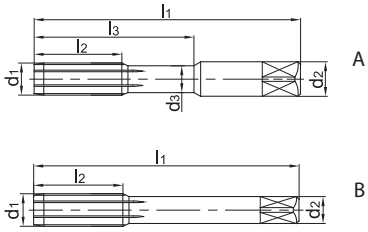
Codice sistema C170 | Indicazioni d´uso C193 | Dati di taglio C186 | Ordine utensili speciali C190

Maschiatori a rullare

Acciaio, acciaio inossidabile

4222M

– Versione del codolo DIN 10
– Uscita refrigerante assiale



Articolo	✻	Dimensioni [mm]								Denti	Geometria	Carotatrice	Grado	
			d_1	P	d_2	d_3	l_1	l_2	l_3			d	KTG402	YK40F
4222M-M3*0.5-6H		3P	M3	0,5	3,5	2,3	56	6	18	4	A	2,8	●	○
4222MS-M3*0.5-6H		2P	M3	0,5	3,5	2,3	56	6	18	4	A	2,8	○	○
4222M-M4*0.5-6H		3P	M4	0,5	4,5	3,1	63	8	21	4	A	3,8	●	○
4222MS-M4*0.5-6H		2P	M4	0,5	4,5	3,1	63	8	21	4	A	3,8	○	○
4222M-M4*0.7-6H		3P	M4	0,7	4,5	3,1	63	8	21	4	A	3,7	●	○
4222MS-M4*0.7-6H		2P	M4	0,7	4,5	3,1	63	8	21	4	A	3,7	●	○
4222M-M5*0.5-6H		3P	M5	0,5	6	4,3	70	10	25	4	A	4,8	●	○
4222MS-M5*0.5-6H		2P	M5	0,5	6	4,3	70	10	25	4	A	4,8	●	○
4222M-M5*0.8-6H		3P	M5	0,8	6	4	70	10	25	4	A	4,65	●	○
4222MS-M5*0.8-6H		2P	M5	0,8	6	4	70	10	25	4	A	4,65	●	○
4222M-M6*0.75-6H		3P	M6	0,75	6	5	80	12	30	4	A	5,7	●	○
4222MS-M6*0.75-6H		2P	M6	0,75	6	5	80	12	30	4	A	5,7	●	○
4222M-M6*1.0-6H		3P	M6	1	6	4,7	80	12	30	4	A	5,6	●	○
4222MS-M6*1.0-6H		2P	M6	1	6	4,7	80	12	30	4	A	5,6	●	○
4222M-M7*1.0-6H		3P	M7	1	7	5,7	80	14	30	4	A	6,6	○	○
4222MS-M7*1.0-6H		2P	M7	1	7	5,7	80	14	30	4	A	6,6	○	○
4222M-M8*1.0-6H		3P	M8	1	8	6,7	90	16	35	4	A	7,6	●	○
4222MS-M8*1.0-6H		2P	M8	1	8	6,7	90	16	35	4	A	7,6	○	○
4222M-M8*1.25-6H		3P	M8	1,25	8	6,4	90	16	35	4	A	7,45	●	○
4222MS-M8*1.25-6H		2P	M8	1,25	8	6,4	90	16	35	4	A	7,45	●	○
4222M-M10*1.0-6H		3P	M10	1	10	8,7	100	20	39	5	A	9,6	○	○
4222MS-M10*1.0-6H		2P	M10	1	10	8,7	100	20	39	5	A	9,6	○	○
4222M-M10*1.25-6H		3P	M10	1,25	10	8,4	100	20	39	5	A	9,45	○	○
4222MS-M10*1.25-6H		2P	M10	1,25	10	8,4	100	20	39	5	A	9,45	●	○
4222M-M10*1.5-6H		3P	M10	1,5	10	8,1	100	20	39	5	A	9,35	●	○
4222MC-M10*1.5-6H	✻	3P	M10	1,5	10	8,1	100	20	39	5	A	9,35	●	○
4222MS-M10*1.5-6H		2P	M10	1,5	10	8,1	100	20	39	5	A	9,35	●	○
4222MCS-M10*1.5-6H	✻	2P	M10	1,5	10	8,1	100	20	39	5	A	9,35	●	○
4222M-M12*1.25-6H		3P	M12	1,25	9		110	24		5	B	11,45	●	○
4222MS-M12*1.25-6H		2P	M12	1,25	9		110	24		5	B	11,45	●	○
4222M-M12*1.5-6H		3P	M12	1,5	9		110	24		5	B	11,35	○	○
4222MS-M12*1.5-6H		2P	M12	1,5	9		110	24		5	B	11,35	○	○
4222M-M12*1.75-6H		3P	M12	1,75	9		110	24		5	B	11,25	○	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔				

✔ Molto adatto
✔ Adatto

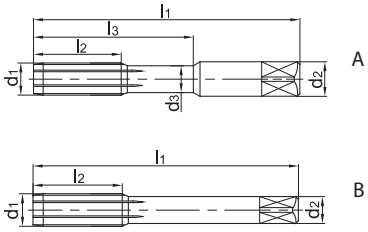
Codice sistema C170 | Indicazioni d´uso C193 | Dati di taglio C186 | Ordine utensili speciali C190

Maschiatori a rullare

Acciaio, acciaio inossidabile

4222M

– Versione del codolo DIN 10
– Uscita refrigerante assiale



Articolo	✻	Dimensioni [mm]								Denti	Geometria	Carotatrice	Grado	
			d_1	P	d_2	d_3	l_1	l_2	l_3			d	KTG402	YK40F
4222MC-M12*1.75-6H	✻	3P	M12	1,75	9		110	24		5	B	11,25	○	○
4222MS-M12*1.75-6H		2P	M12	1,75	9		110	24		5	B	11,25	●	○
4222MCS-M12*1.75-6H	✻	2P	M12	1,75	9		110	24		5	B	11,25	○	○
4222M-M14*1.5-6H		3P	M14	1,5	11		110	26		6	B	13,35	●	○
4222MS-M14*1.5-6H		2P	M14	1,5	11		110	26		6	B	13,35	○	○
4222M-M14*2.0-6H		3P	M14	2	11		110	26		6	B	13,1	○	
4222MS-M14*2.0-6H		2P	M14	2	11		110	26		6	B	13,1	○	○
4222M-M16*1.5-6H		3P	M16	1,5	12		110	27		6	B	15,35	●	○
4222MS-M16*1.5-6H		2P	M16	1,5	12		110	27		6	B	15,35	○	○
4222M-M16*2.0-6H		3P	M16	2	12		110	27		6	B	15,1	○	○
4222MC-M16*2.0-6H	✻	3P	M16	2	12		110	27		6	B	15,1	○	○
4222MS-M16*2.0-6H		2P	M16	2	12		110	27		6	B	15,1	○	○
4222MCS-M16*2.0-6H	✻	2P	M16	2	12		110	27		6	B	15,1	●	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔	✔				

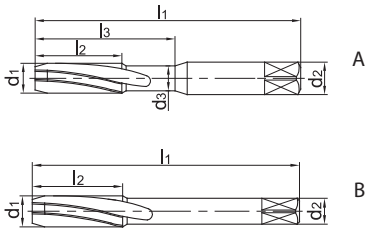
✔ Molto adatto
✔ Adatto

Codice sistema C170 | Indicazioni d´uso C193 | Dati di taglio C186 | Ordine utensili speciali C190

Maschiatori, scanalatura elicoidale destra — Ghisa

4201C

– Versione del codolo DIN 10
– Uscita refrigerante assiale



Articolo	✻	Dimensioni [mm]								Denti	Geometria	Carotatrice	Grado
			d_1	P	d_2	d_3	l_1	l_2	l_3			d	YK40F
4201C-M3*0.5-6H		3P	M3	0,5	3,5	2,3	56	11	18	3	A	2,5	●
4201C-M3*0.5-6HX		3P	M3	0,5	3,5	2,3	56	11	18	3	A	2,5	●
4201CS-M3*0.5-6H		1,5P	M3	0,5	3,5	2,3	56	11	18	3	A	2,5	●
4201CS-M3*0.5-6HX		1,5P	M3	0,5	3,5	2,3	56	11	18	3	A	2,5	●
4201C-M4*0.7-6H		3P	M4	0,7	4,5	3,1	63	13	21	3	A	3,3	●
4201C-M4*0.7-6HX		3P	M4	0,7	4,5	3,1	63	13	21	3	A	3,3	●
4201CS-M4*0.7-6H		1,5P	M4	0,7	4,5	3,1	63	13	21	3	A	3,3	●
4201CS-M4*0.7-6HX		1,5P	M4	0,7	4,5	3,1	63	13	21	3	A	3,3	●
4201C-M5*0.8-6H		3P	M5	0,8	6	4	70	16	25	3	A	4,2	●
4201C-M5*0.8-6HX		3P	M5	0,8	6	4	70	16	25	3	A	4,2	●
4201CS-M5*0.8-6H		1,5P	M5	0,8	6	4	70	16	25	3	A	4,2	●
4201C-M6*0.75-6H		3P	M6	0,75	6	5	80	19	30	3	A	5,25	●
4201CS-M6*0.75-6H		1,5P	M6	0,75	6	5	80	19	30	3	A	5,25	●
4201C-M6*1-6H		3P	M6	1	6	4,7	80	19	30	3	A	5	○
4201CC-M6*1-6H	✻	3P	M6	1	6	4,7	80	19	30	3	A	5	○
4201C-M6*1-6HX		3P	M6	1	6	4,7	80	19	30	3	A	5	○
4201CS-M6*1.0-6H		1,5P	M6	1	6	4,7	80	19	30	3	A	5	●
4201CCS-M6*1-6H	✻	1,5P	M6	1	6	4,7	80	19	30	3	A	5	●
4201CS-M6*1.0-6HX		1,5P	M6	1	6	4,7	80	19	30	3	A	5	●
4201C-M7*1-6H		3P	M7	1	7	5,7	80	19	30	3	A	6	○
4201CS-M7*1.0-6H		1,5P	M7	1	7	5,7	80	19	30	3	A	6	●
4201CS-M8*1.0-6H		1,5P	M8	1	8	6,7	90	20	35	3	A	7	●
4201C-M8*1.25-6H		3P	M8	1,25	8	6,4	90	22	35	3	A	6,75	●
4201CC-M8*1.25-6H	✻	3P	M8	1,25	8	6,4	90	22	35	3	A	6,75	●
4201C-M8*1.25-6HX		3P	M8	1,25	8	6,4	90	22	35	3	A	6,75	●
4201CS-M8*1.25-6H		1,5P	M8	1,25	8	6,4	90	22	35	3	A	6,75	○
4201CCS-M8*1.25-6H	✻	1,5P	M8	1,25	8	6,4	90	22	35	3	A	6,75	○
4201CS-M8*1.25-6HX		1,5P	M8	1,25	8	6,4	90	22	35	3	A	6,75	○
4201C-M10*1-6H		3P	M10	1	10	8,7	100	20	39	4	A	9	○
4201CS-M10*1-6H		1,5P	M10	1	10	8,7	100	20	39	4	A	9	○
4201C-M10*1.25-6H		3P	M10	1,25	10	8,4	100	24	39	4	A	8,75	○
4201CS-M10*1.25-6H		1,5P	M10	1,25	10	8,4	100	24	39	4	A	8,75	○
4201C-M10*1.5-6H		3P	M10	1,5	10	8,1	100	24	39	4	A	8,5	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
		✔			

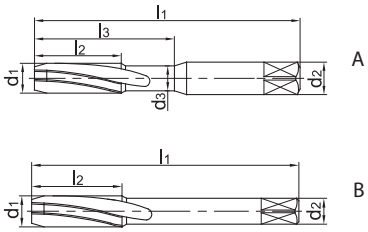
✔ Molto adatto
✔ Adatto

Codice sistema C170 | Indicazioni d´uso C193 | Dati di taglio C186 | Ordine utensili speciali C190

Maschiatori, scanalatura elicoidale destra Ghisa

4201C

– Versione del codolo DIN 10
– Uscita refrigerante assiale



Articolo	✻	Dimensioni [mm]								Denti	Geometria	Carotatrice	Grado
			d_1	P	d_2	d_3	l_1	l_2	l_3			d	YK40F
4201CC-M10*1.5-6H	✻	3P	M10	1,5	10	8,1	100	24	39	4	A	8,5	○
4201C-M10*1.5-6HX		3P	M10	1,5	10	8,1	100	24	39	4	A	8,5	○
4201CS-M10*1.5-6H		1,5P	M10	1,5	10	8,1	100	24	39	4	A	8,5	○
4201CCS-M10*1.5-6H	✻	1,5P	M10	1,5	10	8,1	100	24	39	4	A	8,5	●
4201CS-M10*1.5-6HX		1,5P	M10	1,5	10	8,1	100	24	39	4	A	8,5	○
4201C-M12*1.25-6H		3P	M12	1,25	9		110	29		4	B	10,75	○
4201CS-M12*1.25-6H		1,5P	M12	1,25	9		110	29		4	B	10,75	○
4201C-M12*1.5-6H		3P	M12	1,5	9		110	29		4	B	10,5	○
4201CS-M12*1.5-6H		1,5P	M12	1,5	9		110	29		4	B	10,5	○
4201C-M12*1.75-6H		3P	M12	1,75	9		110	29		4	B	10,25	○
4201CC-M12*1.75-6H	✻	3P	M12	1,75	9		110	29		4	B	10,25	●
4201C-M12*1.75-6HX		3P	M12	1,75	9		110	29		4	B	10,25	○
4201CS-M12*1.75-6H		1,5P	M12	1,75	9		110	29		4	B	10,25	○
4201CCS-M12*1.75-6H	✻	1,5P	M12	1,75	9		110	29		4	B	10,25	○
4201CS-M12*1.75-6HX		1,5P	M12	1,75	9		110	29		4	B	10,25	○
4201C-M14*1.5-6H		3P	M14	1,5	11		110	30		4	B	12,5	○
4201CS-M14*1.5-6H		1,5P	M14	1,5	11		110	30		4	B	12,5	○
4201C-M14*2-6H		3P	M14	2	11		110	30		4	B	12	○
4201CS-M14*2-6H		1,5P	M14	2	11		110	30		4	B	12	○
4201C-M16*1.5-6H		3P	M16	1,5	12		110	32		4	B	14,5	○
4201CS-M16*1.5-6H		1,5P	M16	1,5	12		110	32		4	B	14,5	○
4201C-M16*2-6H		3P	M16	2	12		110	32		4	B	14	○
4201C-M16*2-6HX		3P	M16	2	12		110	32		4	B	14	○
4201CS-M16*2-6H		1,5P	M16	2	12		110	32		4	B	14	○
4201CS-M16*2.0-6HX		1,5P	M16	2	12		110	32		4	B	14	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
		✔			

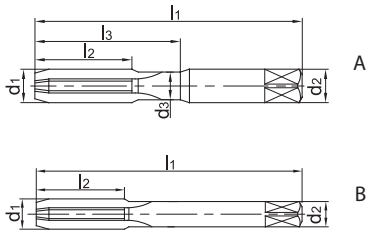
✔ Molto adatto
✔ Adatto

Codice sistema C170 | Indicazioni d´uso C193 | Dati di taglio C186 | Ordine utensili speciali C190

Maschiatori, scanalatura elicoidale diritta — Ghisa

4202C

– Versione del codolo DIN 10
– Uscita refrigerante assiale



Articolo	✻	Dimensioni [mm]								Denti	Geometria	Carotatrice	Grado
			d_1	P	d_2	d_3	l_1	l_2	l_3			d	YK40F
4202C-M3*0.5-6H		3P	M3	0,5	3,5	2,3	56	11	18	3	A	2,5	○
4202C-M3*0.5-6HX		3P	M3	0,5	3,5	2,3	56	11	18	3	A	2,5	○
4202CS-M3*0.5-6H		1,5P	M3	0,5	3,5	2,3	56	11	18	3	A	2,5	○
4202CS-M3*0.5-6HX		1,5P	M3	0,5	3,5	2,3	56	11	18	3	A	2,5	○
4202C-M4*0.7-6H		3P	M4	0,7	4,5	3,1	63	13	21	3	A	3,3	●
4202C-M4*0.7-6HX		3P	M4	0,7	4,5	3,1	63	13	21	3	A	3,3	○
4202CS-M4*0.7-6H		1,5P	M4	0,7	4,5	3,1	63	13	21	3	A	3,3	○
4202CS-M4*0.7-6HX		1,5P	M4	0,7	4,5	3,1	63	13	21	3	A	3,3	○
4202C-M5*0.8-6H		3P	M5	0,8	6	4	70	16	25	3	A	4,2	○
4202C-M5*0.8-6HX		3P	M5	0,8	6	4	70	16	25	3	A	4,2	○
4202CS-M5*0.8-6H		1,5P	M5	0,8	6	4	70	16	25	3	A	4,2	○
4202CS-M5*0.8-6HX		1,5P	M5	0,8	6	4	70	16	25	3	A	4,2	○
4202C-M6*0.75-6H		3P	M6	0,75	6	5	80	19	30	3	A	5,25	○
4202C-M6*0.75-6HX		3P	M6	0,75	6	5	80	19	30	3	A	5,25	○
4202CS-M6*0.75-6H		1,5P	M6	0,75	6	5	80	19	30	3	A	5,25	○
4202CS-M6*0.75-6HX		1,5P	M6	0,75	6	5	80	19	30	3	A	5,25	○
4202C-M6*1.0-6H		3P	M6	1	6	4,7	80	19	30	3	A	5	○
4202CC-M6*1.0-6H	✻	3P	M6	1	6	4,7	80	19	30	3	A	5	○
4202C-M6*1.0-6HX		3P	M6	1	6	4,7	80	19	30	3	A	5	○
4202CS-M6*1.0-6H		1,5P	M6	1	6	4,7	80	19	30	3	A	5	○
4202CCS-M6*1.0-6H	✻	1,5P	M6	1	6	4,7	80	19	30	3	A	5	○
4202CS-M6*1.0-6HX		1,5P	M6	1	6	4,7	80	19	30	3	A	5	○
4202C-M7*1.0-6H		3P	M7	1	7	5,7	80	19	30	3	A	6	○
4202CS-M7*1.0-6H		1,5P	M7	1	7	5,7	80	19	30	3	A	6	○
4202C-M8*1-6H		3P	M8	1	8	6,7	90	20	35	3	A	7	○
4202CS-M8*1.0-6H		1,5P	M8	1	8	6,7	90	20	35	3	A	7	○
4202C-M8*1.25-6H		3P	M8	1,25	8	6,4	90	22	35	3	A	6,75	○
4202CC-M8*1.25-6H	✻	3P	M8	1,25	8	6,4	90	22	35	3	A	6,75	○
4202C-M8*1.25-6HX		3P	M8	1,25	8	6,4	90	22	35	3	A	6,75	○
4202CS-M8*1.25-6H		1,5P	M8	1,25	8	6,4	90	22	35	3	A	6,75	○
4202CCS-M8*1.25-6H	✻	1,5P	M8	1,25	8	6,4	90	22	35	3	A	6,75	○
4202CS-M8*1.25-6HX		1,5P	M8	1,25	8	6,4	90	22	35	3	A	6,75	○
4202C-M10*1.0-6H		3P	M10	1	10	8,7	100	20	39	4	A	9	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
		✔			

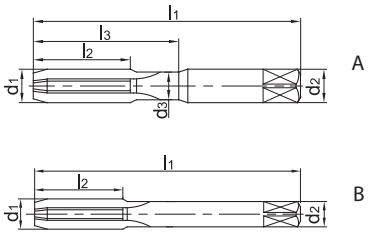
✔ Molto adatto
✔ Adatto

Codice sistema C170 | Indicazioni d´uso C193 | Dati di taglio C186 | Ordine utensili speciali C190

Maschiatori, scanalatura elicoidale diritta Ghisa

4202C

– Versione del codolo DIN 10
– Uscita refrigerante assiale



Articolo	✻	Dimensioni [mm]								Denti	Geometria	Carotatrice	Grado
			d_1	P	d_2	d_3	l_1	l_2	l_3			d	YK40F
4202CS-M10*1.0-6H		1,5P	M10	1	10	8,7	100	20	39	4	A	9	○
4202C-M10*1.25-6H		3P	M10	1,25	10	8,4	100	24	39	4	A	8,75	○
4202CS-M10*1.25-6H		1,5P	M10	1,25	10	8,4	100	24	39	4	A	8,75	○
4202C-M10*1.5-6H		3P	M10	1,5	10	8,1	100	24	39	4	A	8,5	○
4202CC-M10*1.5-6H	✻	3P	M10	1,5	10	8,1	100	24	39	4	A	8,5	○
4202C-M10*1.5-6HX		3P	M10	1,5	10	8,1	100	24	39	4	A	8,5	○
4202CS-M10*1.5-6H		1,5P	M10	1,5	10	8,1	100	24	39	4	A	8,5	○
4202CCS-M10*1.5-6H	✻	1,5P	M10	1,5	10	8,1	100	24	39	4	A	8,5	○
4202CS-M10*1.5-6HX		1,5P	M10	1,5	10	8,1	100	24	39	4	A	8,5	○
4202C-M12*1.25-6H		3P	M12	1,25	9		110	29		4	B	10,75	○
4202CS-M12*1.25-6H		1,5P	M12	1,25	9		110	29		4	B	10,75	○
4202C-M12*1.5-6H		3P	M12	1,5	9		110	29		4	B	10,5	○
4202CS-M12*1.5-6H		1,5P	M12	1,5	9		110	29		4	B	10,5	○
4202C-M12*1.75-6H		3P	M12	1,75	9		110	29		4	B	10,25	○
4202CC-M12*1.75-6H	✻	3P	M12	1,75	9		110	29		4	B	10,25	○
4202C-M12*1.75-6HX		3P	M12	1,75	9		110	29		4	B	10,25	○
4202CS-M12*1.75-6H		1,5P	M12	1,75	9		110	29		4	B	10,25	○
4202CCS-M12*1.75-6H	✻	1,5P	M12	1,75	9		110	29		4	B	10,25	○
4202CS-M12*1.75-6HX		1,5P	M12	1,75	9		110	29		4	B	10,25	○
4202C-M14*1.5-6H		3P	M14	1,5	11		110	30		4	B	12,5	○
4202CS-M14*1.5-6H		1,5P	M14	1,5	11		110	30		4	B	12,5	○
4202C-M14*2.0-6H		3P	M14	2	11		110	30		4	B	12	○
4202CS-M14*2.0-6H		1,5P	M14	2	11		110	30		4	B	12	○
4202C-M16*1.5-6H		3P	M16	1,5	12		110	32		4	B	14,5	○
4202CS-M16*1.5-6H		1,5P	M16	1,5	12		110	32		4	B	14,5	○
4202C-M16*2-6H		3P	M16	2	12		110	32		4	B	14	○
4202C-M16*2-6HX		3P	M16	2	12		110	32		4	B	14	○
4202CS-M16*2-6H		1,5P	M16	2	12		110	32		4	B	14	○
4202CS-M16*2.0-6HX		1,5P	M16	2	12		110	32		4	B	14	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
		✔			

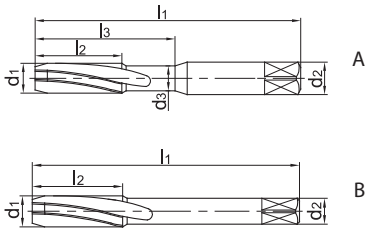
✔ Molto adatto
✔ Adatto

Codice sistema C170 | Indicazioni d´uso C193 | Dati di taglio C186 | Ordine utensili speciali C190

Maschiatori, scanalatura elicoidale destra — Metalli non ferrosi

4201A

– Versione del codolo DIN 10
– Uscita refrigerante assiale



Articolo	✻	Dimensioni [mm]								Denti	Geometria	Carotatrice	Grado
			d_1	P	d_2	d_3	l_1	l_2	l_3			d	YK40F
4201A-M3*0.5-6H		3P	M3	0,5	3,5	2,3	56	11	18	3	A	2,5	●
4201A-M3*0.5-6HX		3P	M3	0,5	3,5	2,3	56	11	18	3	A	2,5	○
4201AS-M3*0.5-6H		1,5P	M3	0,5	3,5	2,3	56	11	18	3	A	2,5	●
4201AS-M3*0.5-6HX		1,5P	M3	0,5	3,5	2,3	56	11	18	3	A	2,5	○
4201A-M4*0.7-6H		3P	M4	0,7	4,5	3,1	63	13	21	3	A	3,3	●
4201A-M4*0.7-6HX		3P	M4	0,7	4,5	3,1	63	13	21	3	A	3,3	○
4201AS-M4*0.7-6H		1,5P	M4	0,7	4,5	3,1	63	13	21	3	A	3,3	●
4201AS-M4*0.7-6HX		1,5P	M4	0,7	4,5	3,1	63	13	21	3	A	3,3	○
4201A-M5*0.8-6H		3P	M5	0,8	6	4	70	16	25	3	A	4,2	○
4201A-M5*0.8-6HX		3P	M5	0,8	6	4	70	16	25	3	A	4,2	○
4201AS-M5*0.8-6H		1,5P	M5	0,8	6	4	70	16	25	3	A	4,2	●
4201AS-M5*0.8-6HX		1,5P	M5	0,8	6	4	70	16	25	3	A	4,2	○
4201A-M6*0.75-6H		3P	M6	0,75	6	5	80	19	30	3	A	5,25	○
4201A-M6*0.75-6HX		3P	M6	0,75	6	5	80	19	30	3	A	5,25	●
4201AS-M6*0.75-6H		1,5P	M6	0,75	6	5	80	19	30	3	A	5,25	●
4201AS-M6*0.75-6HX		1,5P	M6	0,75	6	5	80	19	30	3	A	5,25	○
4201A-M6*1-6H		3P	M6	1	6	4,7	80	19	30	3	A	5	○
4201AC-M6*1-6H	✻	3P	M6	1	6	4,7	80	19	30	3	A	5	○
4201A-M6*1-6HX		3P	M6	1	6	4,7	80	19	30	3	A	5	○
4201AS-M6*1-6H		1,5P	M6	1	6	4,7	80	19	30	3	A	5	●
4201ACS-M6*1-6H	✻	1,5P	M6	1	6	4,7	80	19	30	3	A	5	●
4201AS-M6*1-6HX		1,5P	M6	1	6	4,7	80	19	30	3	A	5	○
4201A-M7*1-6H		3P	M7	1	7	5,7	80	19	30	3	A	6	○
4201AS-M7*1-6H		1,5P	M7	1	7	5,7	80	19	30	3	A	6	○
4201A-M8*1-6H		3P	M8	1	8	6,7	90	20	35	3	A	7	○
4201AS-M8*1-6H		1,5P	M8	1	8	6,7	90	20	35	3	A	7	●
4201A-M8*1.25-6H		3P	M8	1,25	8	6,4	90	22	35	3	A	6,75	○
4201AC-M8*1.25-6H	✻	3P	M8	1,25	8	6,4	90	22	35	3	A	6,75	●
4201A-M8*1.25-6HX		3P	M8	1,25	8	6,4	90	22	35	3	A	6,75	○
4201AS-M8*1.25-6H		1,5P	M8	1,25	8	6,4	90	22	35	3	A	6,75	●
4201ACS-M8*1.25-6H	✻	1,5P	M8	1,25	8	6,4	90	22	35	3	A	6,75	●
4201AS-M8*1.25-6HX		1,5P	M8	1,25	8	6,4	90	22	35	3	A	6,75	○
4201A-M10*1-6H		3P	M10	1	10	8,7	100	20	39	4	A	9	●

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
			✔		

✔ Molto adatto
✔ Adatto

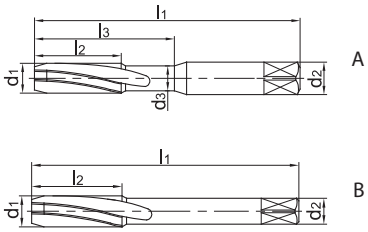
Codice sistema C170 | Indicazioni d´uso C193 | Dati di taglio C186 | Ordine utensili speciali C190

Maschiatori, scanalatura elicoidale destra

Metalli non ferrosi

4201A

– Versione del codolo DIN 10
– Uscita refrigerante assiale



Articolo	✻	Dimensioni [mm]								Denti	Geometria	Carotatrice	Grado
			d_1	P	d_2	d_3	l_1	l_2	l_3			d	YK40F
4201A-M10*1.25-6H		3P	M10	1,25	10	8,4	100	24	39	4	A	8,75	○
4201AS-M10*1.25-6H		1,5P	M10	1,25	10	8,4	100	24	39	4	A	8,75	○
4201A-M10*1.5-6H		3P	M10	1,5	10	8,1	100	24	39	4	A	8,5	○
4201AC-M10*1.5-6H	✻	3P	M10	1,5	10	8,1	100	24	39	4	A	8,5	●
4201A-M10*1.5-6HX		3P	M10	1,5	10	8,1	100	24	39	4	A	8,5	○
4201AS-M10*1.5-6H		1,5P	M10	1,5	10	8,1	100	24	39	4	A	8,5	●
4201ACS-M10*1.5-6H	✻	1,5P	M10	1,5	10	8,1	100	24	39	4	A	8,5	○
4201AS-M10*1.5-6HX		1,5P	M10	1,5	10	8,1	100	24	39	4	A	8,5	○
4201A-M12*1.25-6H		3P	M12	1,25	9		110	29		4	B	10,75	○
4201AS-M12*1.25-6H		1,5P	M12	1,25	9		110	29		4	B	10,75	○
4201A-M12*1.5-6H		3P	M12	1,5	9		110	29		4	B	10,5	○
4201AS-M12*1.5-6H		1,5P	M12	1,5	9		110	29		4	B	10,5	○
4201A-M12*1.75-6H		3P	M12	1,75	9		110	29		4	B	10,25	○
4201AC-M12*1.75-6H	✻	3P	M12	1,75	9		110	29		4	B	10,25	○
4201A-M12*1.75-6HX		3P	M12	1,75	9		110	29		4	B	10,25	○
4201AS-M12*1.75-6H		1,5P	M12	1,75	9		110	29		4	B	10,25	●
4201ACS-M12*1.75-6H	✻	1,5P	M12	1,75	9		110	29		4	B	10,25	○
4201AS-M12*1.75-6HX		1,5P	M12	1,75	9		110	29		4	B	10,25	○
4201A-M14*1.5-6H		3P	M14	1,5	11		110	30		4	B	12,5	○
4201AS-M14*1.5-6H		1,5P	M14	1,5	11		110	30		4	B	12,5	○
4201A-M14*2-6H		3P	M14	2	11		110	30		4	B	12	○
4201AS-M14*2-6H		1,5P	M14	2	11		110	30		4	B	12	○
4201A-M16*1.5-6H		3P	M16	1,5	12		110	32		4	B	14,5	○
4201AS-M16*1.5-6H		1,5P	M16	1,5	12		110	32		4	B	14,5	○
4201A-M16*2-6H		3P	M16	2	12		110	32		4	B	14	○
4201A-M16*2-6HX		3P	M16	2	12		110	32		4	B	14	○
4201AS-M16*2-6H		1,5P	M16	2	12		110	32		4	B	14	○
4201AS-M16*2-6HX		1,5P	M16	2	12		110	32		4	B	14	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
			✔		

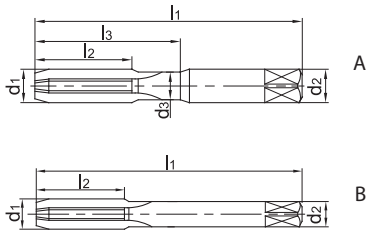
✔ Molto adatto
✔ Adatto

Codice sistema C170 | Indicazioni d´uso C193 | Dati di taglio C186 | Ordine utensili speciali C190

Maschiatori, scanalatura elicoidale diritta — Metalli non ferrosi

4202A

– Versione del codolo DIN 10
– Uscita refrigerante assiale



Articolo	✻	Dimensioni [mm]								Denti	Geometria	Carotatrice	Grado
			d_1	P	d_2	d_3	l_1	l_2	l_3			d	YK40F
4202A-M3*0.5-6H		3P	M3	0,5	3,5	2,3	56	11	18	3	A	2,5	○
4202A-M3*0.5-6HX		3P	M3	0,5	3,5	2,3	56	11	18	3	A	2,5	○
4202AS-M3*0.5-6H		1,5P	M3	0,5	3,5	2,3	56	11	18	3	A	2,5	○
4202AS-M3*0.5-6HX		1,5P	M3	0,5	3,5	2,3	56	11	18	3	A	2,5	○
4202A-M4*0.7-6H		3P	M4	0,7	4,5	3,1	63	13	21	3	A	3,3	○
4202A-M4*0.7-6HX		3P	M4	0,7	4,5	3,1	63	13	21	3	A	3,3	○
4202AS-M4*0.7-6H		1,5P	M4	0,7	4,5	3,1	63	13	21	3	A	3,3	○
4202AS-M4*0.7-6HX		1,5P	M4	0,7	4,5	3,1	63	13	21	3	A	3,3	○
4202A-M5*0.8-6H		3P	M5	0,8	6	4	70	16	25	3	A	4,2	○
4202A-M5*0.8-6HX		3P	M5	0,8	6	4	70	16	25	3	A	4,2	○
4202AS-M5*0.8-6H		1,5P	M5	0,8	6	4	70	16	25	3	A	4,2	○
4202AS-M5*0.8-6HX		1,5P	M5	0,8	6	4	70	16	25	3	A	4,2	○
4202A-M6*0.75-6H		3P	M6	0,75	6	5	80	19	30	3	A	5,25	○
4202A-M6*0.75-6HX		3P	M6	0,75	6	5	80	19	30	3	A	5,25	○
4202AS-M6*0.75-6H		1,5P	M6	0,75	6	5	80	19	30	3	A	5,25	○
4202AS-M6*0.75-6HX		1,5P	M6	0,75	6	5	80	19	30	3	A	5,25	○
4202A-M6*1-6H		3P	M6	1	6	4,7	80	19	30	3	A	5	○
4202AC-M6*1.0-6H	✻	3P	M6	1	6	4,7	80	19	30	3	A	5	○
4202A-M6*1-6HX		3P	M6	1	6	4,7	80	19	30	3	A	5	○
4202AS-M6*1.0-6H		1,5P	M6	1	6	4,7	80	19	30	3	A	5	○
4202ACS-M6*1-6H	✻	1,5P	M6	1	6	4,7	80	19	30	3	A	5	○
4202AS-M6*1.0-6HX		1,5P	M6	1	6	4,7	80	19	30	3	A	5	○
4202A-M7*1-6H		3P	M7	1	7	5,7	80	19	30	3	A	6	○
4202AS-M7*1.0-6H		1,5P	M7	1	7	5,7	80	19	30	3	A	6	○
4202A-M8*1-6H		3P	M8	1	8	6,7	90	20	35	3	A	7	○
4202AS-M8*1.0-6H		1,5P	M8	1	8	6,7	90	20	35	3	A	7	○
4202A-M8*1.25-6H		3P	M8	1,25	8	6,4	90	22	35	3	A	6,75	○
4202AC-M8*1.25-6H	✻	3P	M8	1,25	8	6,4	90	22	35	3	A	6,75	○
4202A-M8*1.25-6HX		3P	M8	1,25	8	6,4	90	22	35	3	A	6,75	○
4202AS-M8*1.25-6H		1,5P	M8	1,25	8	6,4	90	22	35	3	A	6,75	○
4202ACS-M8*1.25-6H	✻	1,5P	M8	1,25	8	6,4	90	22	35	3	A	6,75	○
4202AS-M8*1.25-6HX		1,5P	M8	1,25	8	6,4	90	22	35	3	A	6,75	○
4202A-M10*1-6H		3P	M10	1	10	8,7	100	20	39	4	A	9	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
			✔		

✔ Molto adatto
✔ Adatto

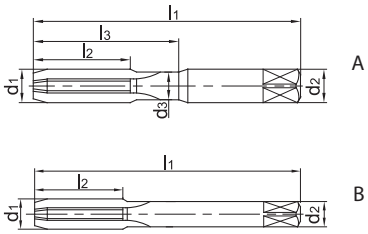
Codice sistema C170 | Indicazioni d´uso C193 | Dati di taglio C186 | Ordine utensili speciali C190

Maschiatori, scanalatura elicoidale diritta

Metalli non ferrosi

4202A

– Versione del codolo DIN 10
– Uscita refrigerante assiale



Articolo	✻	Dimensioni [mm]								Denti	Geometria	Carotatrice	Grado
			d_1	P	d_2	d_3	l_1	l_2	l_3			d	YK40F
4202AS-M10*1.0-6H		1,5P	M10	1	10	8,7	100	20	39	4	A	9	○
4202A-M10*1.25-6H		3P	M10	1,25	10	8,4	100	24	39	4	A	8,75	○
4202AS-M10*1.25-6H		1,5P	M10	1,25	10	8,4	100	24	39	4	A	8,75	○
4202A-M10*1.5-6H		3P	M10	1,5	10	8,1	100	24	39	4	A	8,5	○
4202AC-M10*1.5-6H	✻	3P	M10	1,5	10	8,1	100	24	39	4	A	8,5	○
4202A-M10*1.5-6HX		3P	M10	1,5	10	8,1	100	24	39	4	A	8,5	○
4202AS-M10*1.5-6H		1,5P	M10	1,5	10	8,1	100	24	39	4	A	8,5	○
4202ACS-M10*1.5-6H	✻	1,5P	M10	1,5	10	8,1	100	24	39	4	A	8,5	○
4202AS-M10*1.5-6HX		1,5P	M10	1,5	10	8,1	100	24	39	4	A	8,5	○
4202A-M12*1.25-6H		3P	M12	1,25	9		110	29		4	B	10,75	○
4202AS-M12*1.25-6H		1,5P	M12	1,25	9		110	29		4	B	10,75	○
4202A-M12*1.5-6H		3P	M12	1,5	9		110	29		4	B	10,5	○
4202AS-M12*1.5-6H		1,5P	M12	1,5	9		110	29		4	B	10,5	○
4202A-M12*1.75-6H		3P	M12	1,75	9		110	29		4	B	10,25	○
4202AC-M12*1.75-6H	✻	3P	M12	1,75	9		110	29		4	B	10,25	○
4202A-M12*1.75-6HX		3P	M12	1,75	9		110	29		4	B	10,25	○
4202AS-M12*1.75-6H		1,5P	M12	1,75	9		110	29		4	B	10,25	●
4202ACS-M12*1.75-6H	✻	1,5P	M12	1,75	9		110	29		4	B	10,25	○
4202AS-M12*1.75-6HX		1,5P	M12	1,75	9		110	29		4	B	10,25	○
4202A-M14*1.5-6H		3P	M14	1,5	11		110	30		4	B	12,5	○
4202AS-M14*1.5-6H		1,5P	M14	1,5	11		110	30		4	B	12,5	○
4202A-M14*2-6H		3P	M14	2	11		110	30		4	B	12	○
4202AS-M14*2.0-6H		1,5P	M14	2	11		110	30		4	B	12	○
4202A-M16*1.5-6H		3P	M16	1,5	12		110	32		4	B	14,5	○
4202AS-M16*1.5-6H		1,5P	M16	1,5	12		110	32		4	B	14,5	○
4202A-M16*2-6H		3P	M16	2	12		110	32		4	B	14	○
4202A-M16*2-6HX		3P	M16	2	12		110	32		4	B	14	○
4202AS-M16*2.0-6H		1,5P	M16	2	12		110	32		4	B	14	○
4202AS-M16*2.0-6HX		1,5P	M16	2	12		110	32		4	B	14	○

● In magazzino ○ Su richiesta
✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
			✔		

✔ Molto adatto
✔ Adatto

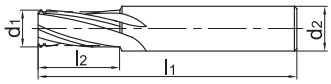
Codice sistema C170 | Indicazioni d´uso C193 | Dati di taglio C186 | Ordine utensili speciali C190

Frese a filettare, rivestita

Acciaio, ghise, metalli non ferrosi

4111

– Versione del codolo Codolo cilindrico standard di fabbrica ZCC-CT



Articolo	✻	Dimensioni [mm]						Denti	Carotatrice	Grado	
		D	d_1	P	d_2	l_1	l_2		d	KTG4015	YK40F
4111-M3*0.5		M3	2,35	0,5	4	50	6	3	2,5	●	●
4111-M4*0.7		M4	3,15	0,7	4	50	8	3	3,3	●	○
4111-M5*0.8		M5	4	0,8	6	50	10	3	4,2	●	○
4111-M5*0.5		M5	4,3	0,5	6	50	10	3	4,5	●	○
4111-M6*1		M6	4,75	1	6	60	12	4	5	●	●
4111-M6*0.75		M6	5	0,75	6	60	12	4	5,25	●	○
4111-M8*1.25		M8	6,45	1,25	8	60	16	4	6,75	●	●
4111-M8*1		M8	6,65	1	8	60	16	4	7	●	○
4111-M10*1.5		M10	8,1	1,5	10	75	20	4	8,5	●	○
4111-M10*1		M10	8,55	1	10	75	20	4	9	●	○
4111-M12*1.75		M12	9,75	1,75	12	75	24	4	10,25	●	○
4111-M12*1.25		M12	10,25	1,25	12	75	24	4	10,75	●	○
4111-M14*2		M14	11,4	2	14	75	28	4	12	●	○
4111-M14*1.5		M14	11,9	1,5	14	75	28	4	12,5	●	○
4111-M14*1		M14	12,35	1	14	75	20	4	13	●	○
4111-M16*2		M16	13,3	2	16	90	32	6	14	●	○
4111-M18*2.5		M18	14,75	2,5	18	90	36	6	15,5	●	○
4111-M18*1		M18	16,15	1	18	90	20	6	17	●	○
4111-M20*2.5		M20	16,65	2,5	18	100	40	6	17,5	●	○
4111-M20*2		M20	17,1	2	18	100	40	6	18	●	○

● In magazzino ○ Su richiesta

✻ Con raffreddamento interno

Campo di applicazione

P	M	K	N	S	H
✔		✔	✔		

✔ Molto adatto

✔ Adatto

Codice sistema C170 | Indicazioni d´uso C193 | Dati di taglio C186 | Ordine utensili speciali C190

Principi guida per i dati di taglio consigliati – Utensili per filettatura in metallo duro integrale

Solid carbide threading tools

	Material group	Composition / structure / heat treatment		Brinell hardness HB	Machining group	Starting values for cutting speed v_c [m/min]							
						Thread former		Thread former				Thread former	
						4122A 4222A	4122M 4222M	4201C	4201A	4202C	4202A		
						YK40F	YK40F	YK40F	YK40F	YK40F	YK40F	KTG40115	
						Coolant							
						external	external	external	external	external	external	external	f-group
P	Unalloyed steel	ca. 0,15 % C	annealed	125	1		20					100	1
		ca. 0,45 % C	annealed	190	2		20					90	1
		ca. 0,45 % C	tempered	250	3		20					80	1
		ca. 0,75 % C	annealed	270	4		20					70	1
		ca. 0,75 % C	tempered	300	5		20					70	1
	Low-alloyed steel		annealed	180	6		20					90	1
			tempered	275	7		20					70	1
			tempered	300	8		20					60	1
			tempered	350	9		20					55	1
	High-alloyed steel and high-alloyed tool steel		annealed	200	10		20					80	1
			hardened and tempered	325	11		20					50	1
M	Stainless steel	ferritic/martensitic	annealed	200	12		20						
		martensitic	tempered	240	13		20						
		austenitic	quench hardened	180	14		20						
		austenitic-ferritic		230	15		20						
K	Grey cast iron	perlitic/ferritic		180	16			20		20		80	1
		perlitic (martensitic)		260	17			20		20		60	1
	Cast iron with spheroidal graphite	ferritic		160	18			15		15		80	1
		perlitic		250	19			15		15		60	1
	Malleable cast iron	ferritic		130	20			20		20		60	1
		perlitic		230	21			20		20		80	1
N	Aluminium wrought alloys	cannot be hardened		60	22							180	1
		hardenable	hardened	100	23							150	1
	Cast aluminium alloys	≤ 12 % Si, cannot be hardened		75	24	30	30		30		30	150	1
		≤ 12 % Si, hardenable	hardened	90	25	25	25		25		25	150	1
		> 12 % Si, cannot be hardened		130	26							150	1
	Copper and copper alloys (bronze/brass)	machining steel, PB> 1%		110	27							150	1
		CuZn, CuSnZn		90	28							150	1
		CuSn, Pb-free copper, electrolytic copper		100	29							150	1
S	Heat-resistant alloys	Fe-based alloys	annealed	200	30								
			hardened	280	31								
		Ni or Co bass	annealed	250	32								
			hardened	350	33								
			cast	320	34								
	Titanium alloys	pure titanium		R_m 400	35								
		α and β alloys	hardened	R_m 1050	36								
H	Hardened steel		hardened and tempered	55 HRC	37								
			hardened and tempered	60 HRC	38								
	Hard cast iron		cast	400	39								
	Hardened cast iron		hardened and tempered	55 HRC	40								
X	Non-metallic materials	Thermoplasts			41								
		Thermosetting plastics			42								
		Plastic, glass-fibre reinforced GFRP			43								
		Plastic, carbon fibre reinforced CFRP			44								
		Graphite			45								
		Wood			46								

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.
With hole depths of 5xD adjust the cutting data accordingly to the application.
f-group = feed rate recommendations on page C164.
For examples of material for cutting tool groups view page D22.

ZCC-CT

Utensili per filettatura in metallo duro integrale

Recommend feed rate

Solid carbide threading tools

4

5

f-group	Feed rate [mm]																			
	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8	Ø9	Ø10	Ø11	Ø12	Ø13	Ø14	Ø15	Ø16	Ø17	Ø18	Ø19	Ø20
1	0,01	0,02	0,03	0,04	0,04	0,05	0,05	0,06	0,06	0,06	0,07	0,07	0,08	0,08	0,09	0,09	0,09	0,09	0,10	0,10
2	0,01	0,02	0,03	0,04	0,05	0,06	0,06	0,06	0,07	0,07	0,08	0,09	0,09	0,09	0,10	0,10	0,10	0,11	0,11	0,11
3	0,01	0,02	0,04	0,05	0,06	0,06	0,07	0,07	0,08	0,09	0,09	0,10	0,10	0,11	0,11	0,12	0,12	0,12	0,13	0,13
4	0,02	0,03	0,04	0,06	0,06	0,07	0,08	0,09	0,09	0,10	0,11	0,11	0,12	0,12	0,13	0,13	0,14	0,14	0,15	0,15
5	0,02	0,03	0,05	0,06	0,07	0,09	0,09	0,10	0,11	0,11	0,12	0,13	0,14	0,14	0,15	0,15	0,16	0,16	0,17	0,17
6	0,02	0,04	0,06	0,07	0,09	0,10	0,11	0,11	0,12	0,13	0,14	0,15	0,16	0,17	0,17	0,18	0,18	0,19	0,19	0,20
7	0,02	0,04	0,06	0,09	0,10	0,11	0,12	0,13	0,14	0,15	0,16	0,17	0,18	0,19	0,20	0,20	0,21	0,22	0,22	0,23
8	0,03	0,05	0,07	0,10	0,11	0,13	0,14	0,15	0,16	0,17	0,18	0,20	0,21	0,22	0,23	0,23	0,24	0,25	0,26	0,26
9	0,03	0,06	0,08	0,11	0,13	0,15	0,16	0,17	0,18	0,20	0,21	0,23	0,24	0,25	0,26	0,27	0,28	0,29	0,29	0,30
10	0,04	0,07	0,10	0,13	0,15	0,17	0,19	0,20	0,21	0,23	0,24	0,26	0,27	0,29	0,30	0,31	0,32	0,33	0,34	0,35
11	0,04	0,07	0,11	0,15	0,17	0,20	0,21	0,23	0,24	0,26	0,28	0,30	0,32	0,33	0,35	0,36	0,37	0,38	0,39	0,40
12	0,05	0,09	0,13	0,17	0,20	0,23	0,25	0,26	0,28	0,30	0,32	0,35	0,36	0,38	0,40	0,41	0,42	0,44	0,45	0,46
13	0,05	0,10	0,15	0,20	0,23	0,26	0,28	0,30	0,32	0,35	0,37	0,40	0,42	0,44	0,46	0,47	0,49	0,50	0,52	0,53
14	0,06	0,11	0,17	0,23	0,26	0,30	0,33	0,35	0,37	0,40	0,43	0,46	0,48	0,50	0,53	0,54	0,56	0,58	0,59	0,61
15	0,07	0,13	0,20	0,26	0,30	0,35	0,37	0,40	0,43	0,46	0,49	0,53	0,55	0,58	0,61	0,62	0,64	0,66	0,68	0,70

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.

1. Selezionare la famiglia di prodotti adatta.
2. Determinare il rapporto di contatto.
3. Selezionare il materiale utilizzato e ricavare la velocità di taglio.
4. Determinare il gruppo di avanzamento e consultare i dati di avanzamento consigliati.
5. Selezionare il diametro dell'utensile e il rapporto di contatto.

Utensili per filettatura in metallo duro integrale

Gruppo materiali		Composizione/Struttura/Trattamento termico		Durezza HB Brinell	Gruppo di sgrossatura	Velocità di taglio v_c [m/min]							
						Maschiatori a rullare		Maschiatore				Fresa a filettare	
						4122A 4222A	4122M 4222M	4201C	4201A	4202C	4202A	4111	
						YK40F	YK40F	YK40F	YK40F	YK40F	YK40F	KTG4015	
						Alimentazione refrigerante							
						Esterna	Esterna	Esterna	Esterna	Esterna	Esterna	Esterna	Gruppo f
P	Acciaio non legato	ca. 0,15 % C	Temprato	125	1		20					100	1
		ca. 0,45 % C	Temprato	190	2		20					90	1
		ca. 0,45 % C	pre-temprato	250	3		20					80	1
		ca. 0,75 % C	Temprato	270	4		20					70	1
		ca. 0,75 % C	pre-temprato	300	5		20					70	1
	Acciaio al carbonio		Temprato	180	6		20					90	1
			pre-temprato	275	7		20					70	1
			pre-temprato	300	8		20					60	1
			pre-temprato	350	9		20					55	1
	Acciaio alto legato e acciaio alto legato per utensili		Temprato	200	10		20					80	1
			temprato e rinvenuto	325	11		20					50	1
M	Acciaio inossidabile	ferritico/martensitico	Temprato	200	12		20						
		martensitico	pre-temprato	240	13		20						
		austenitico	quencing	180	14		20						
		austenitico-ferritico		230	15		20						
K	Ghisa grigia	perlitico/ferritico		180	16			20		20		80	1
		perlitico (martensitico)		260	17			20		20		60	1
	Ghisa sferodale	ferritico		160	18			15		15		80	1
		perlitico		250	19			15		15		60	1
	Ghisa malleabile	ferritico		130	20			20		20		60	1
		perlitico		230	21			20		20		80	1
N	Lavorazioni plastiche di leghe di alluminio	non invecchiabile		60	22							180	1
		invecchiabile	indurito	100	23							150	1
	Leghe di alluminio fuso	≤ 12 % Si, non invecchiabile		75	24	30	30		30		30	150	1
		≤ 12 % Si, invecchiabile	indurito	90	25	25	25		25		25	150	1
		> 12 % Si, non invecchiabile		130	26							150	1
	Rame e leghe di rame (bronzo/ottone)	Leghe per macchine di tipo multiplo, PB > 1 %		110	27							150	1
		CuZn, CuSnZn		90	28							150	1
		CuSn, rame senza piombo e rame elettrolitico		100	29							150	1
S	Leghe resistenti al calore	Base Fe	Temprato	200	30								
			indurito	280	31								
		Base Ni o Co	Temprato	250	32								
			indurito	350	33								
			fuso	320	34								
	Leghe di titanio	Titanio puro		R_m 400	35								
		Leghe Alpha + Beta	indurito	R_m 1050	36								
H	Acciaio temprato		temprato e rinvenuto	55 HRC	37								
			temprato e rinvenuto	60 HRC	38								
	Ghisa dura		fuso	400	39								
	Ghise temprate		temprato e rinvenuto	55 HRC	40								
X	Materiali non metallici	Termoplastiche			41								
		Termoindurenti			42								
		Vetroresina VTR			43								
		Plastica rinforzata in fibra di carbonio CFK			44								
		Grafite			45								
		Legno			46								

Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.
Per profondità di foratura di 5xD, i dati di taglio devono essere adattati al corrispondente campo di applicazione.
Gruppo f = i valori di avanzamento consigliati sono consultabili a pagina C189.
Esempi di materiali per gruppi di taglio sono disponibili a pagina D11.

ZCC-CT

Dati di avanzamento consigliato

Utensili per filettatura in metallo duro integrale

Gruppo f	Avanzamento [mm]																			
	Ø1	**Ø2**	**Ø3**	**Ø4**	**Ø5**	**Ø6**	**Ø7**	**Ø8**	**Ø9**	**Ø10**	**Ø11**	**Ø12**	**Ø13**	**Ø14**	**Ø15**	**Ø16**	**Ø17**	**Ø18**	**Ø19**	**Ø20**
1	0,01	0,02	0,03	0,04	0,04	0,05	0,05	0,06	0,06	0,06	0,07	0,07	0,08	0,08	0,09	0,09	0,09	0,09	0,10	0,10
2	0,01	0,02	0,03	0,04	0,05	0,06	0,06	0,06	0,07	0,07	0,08	0,09	0,09	0,09	0,10	0,10	0,10	0,11	0,11	0,11
3	0,01	0,02	0,04	0,05	0,06	0,06	0,07	0,07	0,08	0,09	0,09	0,10	0,10	0,11	0,11	0,12	0,12	0,12	0,13	0,13
4	0,02	0,03	0,04	0,06	0,06	0,07	0,08	0,09	0,09	0,10	0,11	0,11	0,12	0,12	0,13	0,13	0,14	0,14	0,15	0,15
5	0,02	0,03	0,05	0,06	0,07	0,09	0,09	0,10	0,11	0,11	0,12	0,13	0,14	0,14	0,15	0,15	0,16	0,16	0,17	0,17
6	0,02	0,04	0,06	0,07	0,09	0,10	0,11	0,11	0,12	0,13	0,14	0,15	0,16	0,17	0,17	0,18	0,18	0,19	0,19	0,20
7	0,02	0,04	0,06	0,09	0,10	0,11	0,12	0,13	0,14	0,15	0,16	0,17	0,18	0,19	0,20	0,20	0,21	0,22	0,22	0,23
8	0,03	0,05	0,07	0,10	0,11	0,13	0,14	0,15	0,16	0,17	0,18	0,20	0,21	0,22	0,23	0,23	0,24	0,25	0,26	0,26
9	0,03	0,06	0,08	0,11	0,13	0,15	0,16	0,17	0,18	0,20	0,21	0,23	0,24	0,25	0,26	0,27	0,28	0,29	0,29	0,30
10	0,04	0,07	0,10	0,13	0,15	0,17	0,19	0,20	0,21	0,23	0,24	0,26	0,27	0,29	0,30	0,31	0,32	0,33	0,34	0,35
11	0,04	0,07	0,11	0,15	0,17	0,20	0,21	0,23	0,24	0,26	0,28	0,30	0,32	0,33	0,35	0,36	0,37	0,38	0,39	0,40
12	0,05	0,09	0,13	0,17	0,20	0,23	0,25	0,26	0,28	0,30	0,32	0,35	0,36	0,38	0,40	0,41	0,42	0,44	0,45	0,46
13	0,05	0,10	0,15	0,20	0,23	0,26	0,28	0,30	0,32	0,35	0,37	0,40	0,42	0,44	0,46	0,47	0,49	0,50	0,52	0,53
14	0,06	0,11	0,17	0,23	0,26	0,30	0,33	0,35	0,37	0,40	0,43	0,46	0,48	0,50	0,53	0,54	0,56	0,58	0,59	0,61
15	0,07	0,13	0,20	0,26	0,30	0,35	0,37	0,40	0,43	0,46	0,49	0,53	0,55	0,58	0,61	0,62	0,64	0,66	0,68	0,70

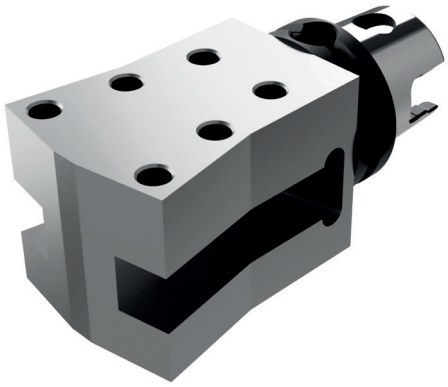
Note: I dati di taglio dati sono valori guida, che sono stati determinati in condizioni ideali.
A seconda dell'applicazione, devono essere adattati individualmente.

Utensili speciali: il vostro utensile ottimizzato vi aspetta

Applicazioni speciali richiedono soluzioni speciali e ottimizzate. In ogni settore industriale, gli utensili speciali possono offrire vantaggi sul piano economico, tecnico o di processo rispetto alle soluzioni tradizionali. Per ogni singolo caso, collaboriamo insieme a voi per determinare l'esatto potenziale dei benefici considerando anche tutte le condizioni specifiche dei vostri cicli operativi. Nella nostra sede centrale europea di Düsseldorf, il Reparto ricerca e sviluppo di ZCC Cutting Tools Europe realizza per voi la soluzione su misura ideale per una lavorazione particolarmente economica.

Perché scegliere gli utensili speciali di ZCC Cutting Tools?

Sviluppiamo soluzioni per utensili su misura per voi e adatte alle più disparate tipologie di lavorazione. Collaborando a stretto contatto con voi sin dalle prime fasi, riusciamo a costruire gli utensili ottimizzati che soddisfano esattamente le vostre esigenze e le vostre priorità. Il nostro know-how pluriennale spazia dalla progettazione alla fabbricazione, sino ad arrivare alla logistica. Sfruttate le nostre competenze specialistiche per un successo nel lungo termine.

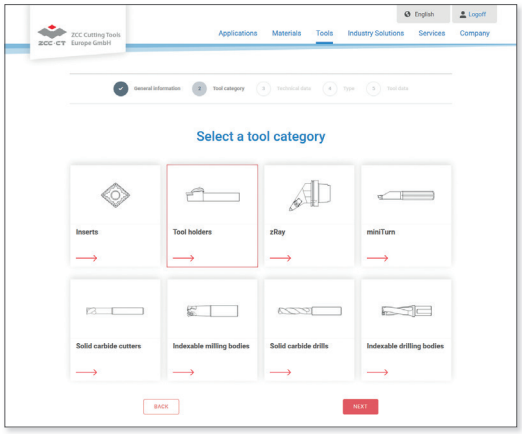


Esempio di supporto speciale

Esempio di punta speciale a gradino in metallo duro integrale

Il vostro utensile speciale personalizzato è a portata di mano

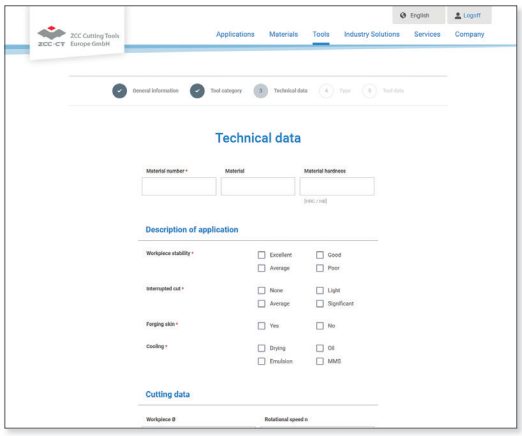
Lavorate con applicazioni per cui è possibile ottenere vantaggi in termini commerciali, tecnici o logistici impiegando utensili ottimizzati su misura e specifici per le vostre esigenze? ZCC Cutting Tools Europe vi offre consulenza e supporto personali nella programmazione, implementazione e ordinazione dei prodotti. Con il nostro innovativo Onlinetool dedicato alle richieste di utensili speciali, riceverete la vostra offerta personalizzata con pochi semplici passaggi (www.zccct-europe.com).



Home page "Strumento online per utensili speciali" con Selezione della categoria dell'utensile

Selezione della categoria dell'utensile

Scansionando il codice QR presente nella pagina, sarete reindirizzati alla home page del nostro strumento online per la richiesta di utensili speciali e qui potrete iniziare subito con la categoria precedentemente selezionata. È semplicissimo.



Definizione dei parametri pertinenti dell'utensile

Definizione dei parametri dell'utensile

Successivamente potete seguire comodamente la procedura. Potete inoltre caricare parti di disegni, bozze e modelli 3D già esistenti in tutta sicurezza.

L'accesso rapido e diretto agli utensili speciali di ZCC Cutting Tools Europe.

Effettuate subito l'accesso al nostro sito web per visualizzare il nuovo **Modulo per utensili speciali**.

Note

Informazioni tecniche

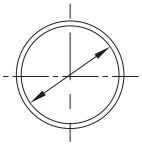
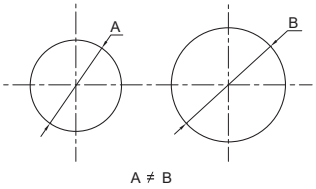
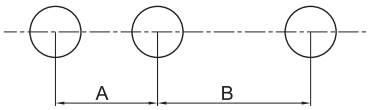
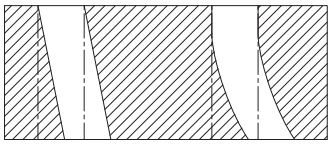
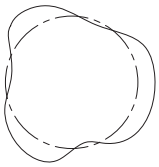
Misure per la risoluzione dei problemi – Foratura **C194-C198**

Informazioni tecniche – Foratura **C199-C205**

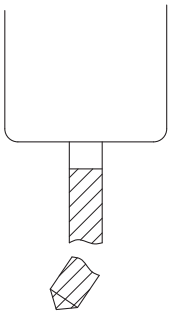
Gli utensili speciali – foratura **C206**

C

Misure per la risoluzione dei problemi – punte in metallo duro integrale

Difetto	Causa	Soluzione
Foro troppo grande 	– Bloccaggio del pezzo o dell'utensile insufficiente – Errore di concentricità – Mandrino decentrato	– Utilizzare bloccaggio di precisione – Diminuire il gioco del mandrino – Controllare la condizione di serraggio della punta e regolarla
	– Angolo di punta non simmetrico – Errore di concentricità – Mandrino decentrato	– Riaffilare la punta – Controllare la riaffilatura
Dimensioni del foro irregolari 	– Angolo di punta non simmetrico – Errore di concentricità – Mandrino decentrato – Usura elevata	– Utilizzare bloccaggio di precisione – Diminuire il gioco del mandrino – Controllare la condizione di serraggio della punta e regolarla
	– Bloccaggio del pezzo o dell'utensile insufficiente – Errore di concentricità – Mandrino decentrato – Usura elevata	– Utilizzare bloccaggio di precisione – Diminuire il gioco del mandrino – Controllare la condizione di serraggio della punta e regolarla
	– Velocità di avanzamento troppo alta	– Ridurre la velocità di avanzamento
	– Refrigerante insufficiente	– Aumentare o modificare l'alimentazione del refrigerante
Posizionamento errato della punta 	– Serraggio insufficiente e posizionamento del mandrino – Errore di concentricità del mandrino elevato	– Migliorare il posizionamento della macchina – Utilizzare bloccaggio di precisione – Calibrare il mandrino – Controllare la condizione di serraggio della punta e regolarla
	– La direzione di avanzamento non è perpendicolare alla superficie del pezzo	– Impostare la direzione di avanzamento in maniera da risultare verticale rispetto alla superficie del pezzo
	– Il centro utensile non è allineato con il centro del mandrino (tornio)	– Allineare il centro dell'utensile
Percorso di foratura di scarsa qualità 	– Elevata usura dell'utensile	– Rettificare
	– Scarsa precisione di foratura	– Migliorare la posizione della punta
	– Angolo di punta non simmetrico – Errore di concentricità – Mandrino decentrato	– Riaffilare la punta – Controllare la riaffilatura
	– Stabilità della punta insufficiente	– Migliorare la stabilità della punta
	– Superficie del pezzo irregolare – Il centro utensile non è allineato con il centro del mandrino (torni)	– Il pezzo deve essere allineato orizzontalmente o pre-lavorato prima della foratura
Foro impreciso (rotondità) 	– Angolo di punta non simmetrico – Errore di concentricità – Centro di taglio decentrato – Usura elevata	– Riaffilare la punta – Controllare la riaffilatura
	– Serraggio insufficiente (pezzo, utensile) – Errore di concentricità del mandrino elevato	– Utilizzare bloccaggio di precisione – Calibrare il mandrino – Controllare la condizione di serraggio della punta e regolarla
	– Angolo di spoglia inferiore troppo grande	– Riaffilare la punta
	– Stabilità della punta insufficiente	– Migliorare la stabilità della punta

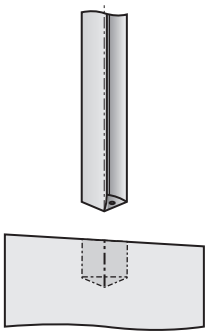
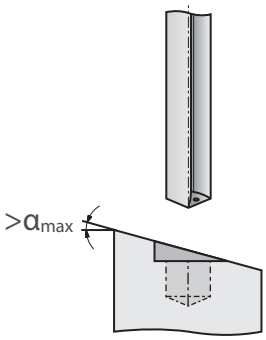
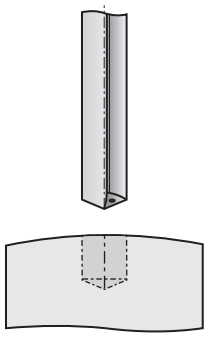
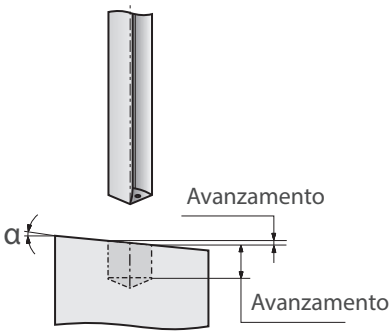
Misure per la risoluzione dei problemi – punte in metallo duro integrale

Difetto	Causa	Soluzione
Pessima finitura superficiale	– Scarsa riaffilatura della punta	– Migliorare la riaffilatura
	– Quantità di liquido refrigerante insufficiente o metodo errato	– Cambiare il metodo di alimentazione del refrigerante – Aumentare la quantità di refrigerante
	– Serraggio insufficiente – Grande errore di concentricità	– Utilizzare bloccaggio di precisione – Calibrare il mandrino
	– Velocità di avanzamento troppo alta	– Diminuire l'avanzamento
	– Elevata usura del tagliente – Elevata formazione di tagliente di riporto	– Riaffilare la punta – Utilizzare punte con rivestimento
	– Scarso deflusso del truciolo	– Selezionare una punta idonea (con scanalatura adeguata, angolo elicoidale, ecc) – Regolare la velocità di taglio (ridurre l'avanzamento ecc.)
Scarsa cilindricità 	– Angolo di punta non simmetrico – Errore di concentricità (foratura) – Centro di taglio decentrato – Elevata usura del tagliente – Velocità di avanzamento troppo bassa	– Riaffilare la punta – Controllare la riaffilatura – Aumentare l'avanzamento
Rottura della punta 	– Serraggio dell'utensile e/o del pezzo insufficiente	– Migliorare la stabilità o il serraggio dell'utensile o del pezzo
	– Angolo di spoglia inferiore troppo piccolo	– Utilizzare una punta con un angolo di spoglia inferiore più grande o riaffilare
	– Velocità di avanzamento troppo alta	– Diminuire l'avanzamento
	– Usura elevata	– Riaffilare la punta
	– Intasamento dei trucioli	– Selezionare una punta idonea (con scanalatura adeguata, angolo elicoidale, ecc) – Regolare la velocità di taglio – Diminuire l'avanzamento
	– Foratura su superfici irregolari	– Migliorare la stabilità dell'utensile o il serraggio della macchina o del pezzo – Punta con tagliente centrale affilato – Realizzare un pre-foro – Creare una superficie diritta (ad es. con frese in metallo duro integrale) – Utilizzo di una guida di riferimento o un inserto di riferimento
Scheggiatura della punta 	– Superficie dura o spazi vuoti	– Controllare il materiale e selezionare il grado corretto – Cambiare le condizioni di taglio (velocità di taglio, avanzamento o metodo di lavorazione)
	– Velocità di avanzamento troppo alta	– Diminuire l'avanzamento
	– Refrigerante insufficiente	– Migliorare/aumentare l'alimentazione di refrigerante
Scheggiatura sul tagliente 	– Bloccaggio errato – Grande errore di concentricità	– Utilizzare uno strumento di serraggio con precisione superiore – Allineare di nuovo il mandrino
	– Velocità di taglio e avanzamento troppo elevati	– Ridurre la velocità di taglio e l'avanzamento
	– Angolo di spoglia inferiore troppo grande	– Utilizzare una punta con un angolo di spoglia inferiore più grande o riaffilare

Misure per la risoluzione dei problemi – punte in metallo duro integrale

Difetto	Causa	Soluzione
Usura eccessiva	– Mancata riaffilatura	– Eseguire la riaffilatura in tempo
	– La parte terminale della punta non è centrata	– Allineare la punta con il centro del mandrino
	– Velocità di taglio troppo elevata	– Ridurre la velocità di taglio
	– Angolo del tagliente non adatto	– Selezionare l'angolo del tagliente corretto
	– Grado tagliente non adatto	– Selezionare un materiale del tagliente adatto
	– Raffreddamento insufficiente	– Utilizzare una quantità di refrigerante sufficiente
Usura e scheggiature sul tagliente trasversale	– Velocità di avanzamento troppo alta	– Ridurre la velocità di avanzamento
	– Angolo del tagliente non adatto	– Selezionare l'angolo del tagliente corretto
	– Grado tagliente non adatto	– Selezionare un materiale del tagliente adatto
	– Angolo di spoglia inferiore troppo piccolo	– Riaffilare la punta
Rottura della fase di guida	– Guida di riferimento troppo grande	– Sostituire la guida di riferimento
Formazione di saldature in corrispondenza della fase di guida	– Elevata usura e produzione di calore	– Riaffilare la punta
	– Raffreddamento insufficiente	– Cambiare il metodo di alimentazione del refrigerante
	– Refrigerante errato	– Cambiare il tipo di refrigerante
	– Materiale difficile da sgrossare	– Selezionare punta con angolo di spoglia inferiore più piccolo
Vibrazioni elevate	– Angolo di spoglia inferiore troppo grande	– Riaffilare la punta
	– Stabilità della punta troppo bassa	– Migliorare la stabilità
Senza spira	– Trucioli lunghi – Asportazione insufficiente	– Ottimizzare i dati di taglio – Eventualmente cambiare la punta o regolare nuovamente la macchina
Usura su un solo lato	– La parte terminale della punta non è centrata	– Allineare la punta con il centro del mandrino
	– Bloccaggio errato	– Migliorare il serraggio della punta – Controllare la concentricità

Misure per la risoluzione dei problemi – serie PC

Lavorazione	Raccomandato
Foratura di superfici inclinate 	– Durante la foratura di superfici inclinate molto grandi, è consigliato un pre-trattamento (smussatura). 
Foratura di superfici convesse 	– Per superfici convesse ridurre la velocità di avanzamento conformemente. 

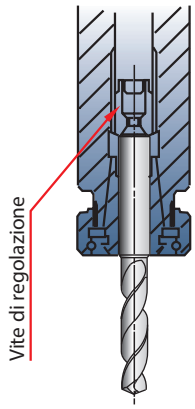
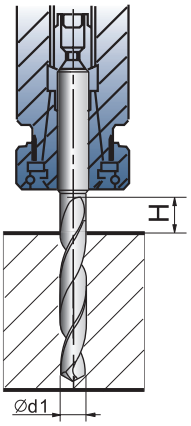
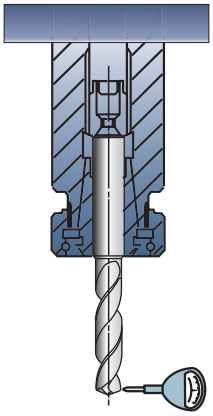
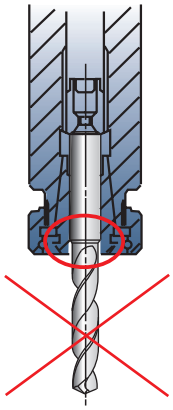
Angolo d'inclinazione	Max. avanzamento
1°	80 %
2°	50 %
3°	30 %

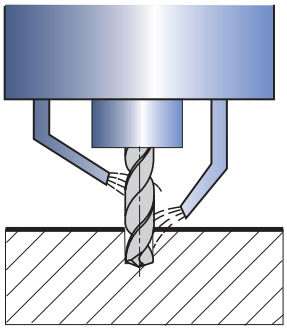
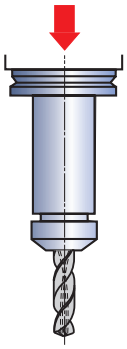
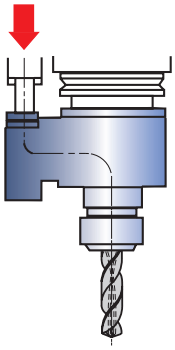
Misure per la risoluzione dei problemi – alesatori in metallo duro integrale

Difetto	Soluzioni
Foro troppo grande	- Diminuire il diametro dell'alesatore. - Controllare la concentricità dell'alesatore e del foro. - Controllare la concentricità dell'alesatore. - Verificare la presenza di graffi o danni sullo codolo dell'alesatore. - Utilizzare il refrigerante corretto. - Regolare i dati di taglio.
Foro troppo piccolo	- Aumentare il diametro dell'alesatore. - Ridurre la velocità di taglio. - Diminuire il margine. - Rettificare o sostituire l'alesatore. - Assicurare un adeguato raffreddamento.
Scarsa rotondità e rettilineità del foro	- Controllare la concentricità dell'alesatore. - Ridurre la sporgenza. - Controllare la concentricità dell'alesatore in condizione di serraggio. - Regolare la concentricità dell'alesatore e del foro. - Garantire l'uguaglianza dei margini di alesaggio.
Pessima finitura superficiale	- Ridurre la velocità di taglio. - Assicurare un corretto margine dell'alesatore. - Verificare l'usura o la formazione di saldature della fase di rastrematura dell'alesatore. - Assicurare la stabilità della macchina, dell'alloggiamento e dell'alesatore . - Verificare la corretta scelta dell'alesatore per l'impiego relativo. - Verificare il margine di foratura.
Bassa qualità del foro	- Estrarre l'alesatore nella direzione di taglio. - Ridurre la velocità di taglio - Impiegare alesatori a più taglienti. - Verificare la centricità e la concentricità. - Migliorare l'apporto di refrigerante. - Scelta della tipologia ottimale di refrigerante.
Rottura dell'alesatore e deformazione termica	- La qualità del foro guida è insufficiente. Verificare la punta e l'asse di foratura. - Assicurare l'apporto di una quantità di refrigerante sufficiente. - Assicurare l'apporto di una quantità di refrigerante sufficiente. - Impostare velocità di taglio e avanzamenti adeguati. - Migliorare la stabilità della macchina, dell'attacco o dell'utensile. - In caso di usura elevata del tagliente sostituire o riaffilare l'utensile.
Danneggiamento del codolo dell'alesatore	- Verificare la presenza di danni al manicotto e al portautensili.
Durata breve dell'utensile	- Verificare l'apporto di refrigerante. - Passare da alesatori con scanalatura diritta a quelli con scanalatura elicoidale. - Controllare i fattori che influenzano la precisione di lavorazione.
Superfici di foratura graffiate	- Esaminare il tagliente alla ricerca di eventuali formazioni di saldature e se necessario correggere i dati di taglio. - Migliorare il bloccaggio del pezzo.
Area di ingresso del foro troppo grande	- Migliorare il bloccaggio del pezzo. - Controllare la concentricità dell'alesatore nello stato bloccato. - Il centro dell'utensile non è allineato con il centro del foro. Regolare la concentricità.

Punte in metallo duro integrale

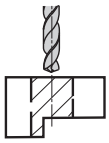
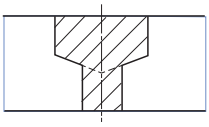
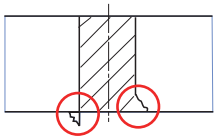
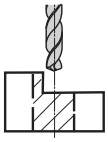
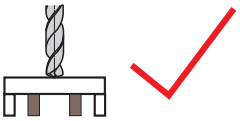
Avvertenze per l'utilizzo

Fissaggio corretto della punta	Lunghezza punta	Misurazione della tolleranza di concentricità	Fissaggio errato della punta
			
Utilizzare pinze di serraggio di precisione	H = 1,5 x d1	Errore di concentricità < 0,02 mm	Non bloccare sul tagliente

Alimentazione esterna di refrigerante	Alimentazione interna di refrigerante	
		
Sono ideali due linee di refrigerante (nella parte iniziale e terminale della punta, come mostrato nella figura sopra)	La pressione del refrigerante è di circa 0,5-1 mPa (per diametri inferiori a 5 mm, aumentare la pressione del refrigerante a 2 – 3 mPa). Flusso di liquido refrigerante: 1,5 – 4 L / min	

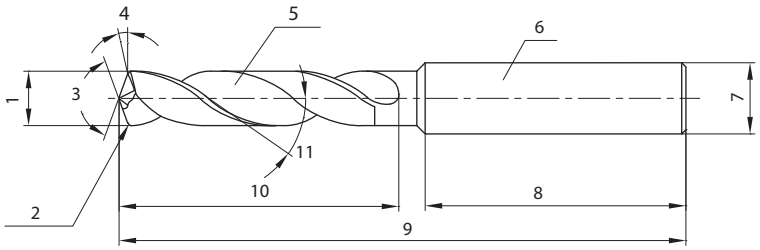
Utilizzo del refrigerante:

1. Piccole particelle possono ostruire i fori di refrigerazione. Pertanto, si prega di utilizzare un filtro per il refrigerante.
2. Un refrigerante molto sporco riduce il flusso dei trucioli. E' consigliabile sostituire regolarmente il refrigerante. Si prega di controllare che l'alimentazione del refrigerante non sia ostruita.

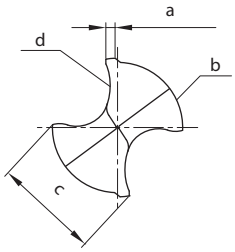
Lavorazione interrotta	Pezzi sottili	Foratura a gradino	Formazione di bave o scheggiature durante l'estrazione della punta
 Ridurre la velocità di avanzamento al punto di interruzione.			
 Spianare la superficie in anticipo con una fresa.	 Se i pezzi sottili si curvano, usare strumenti di supporto.	- Praticare il foro più grande prima, poi quello più piccolo. - Su richiesta, offriamo inoltre punte a gradino in grado di praticare fori a gradino in un unico processo.	- Ridurre l'avanzamento di circa la metà durante l'estrazione. - Utilizzare una punta con un altro angolo della punta.

Punte in metallo duro integrale

Spiegazione dei termini

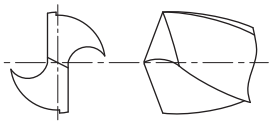
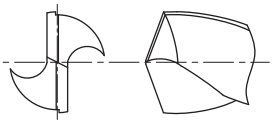
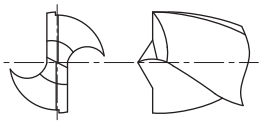


1. Diametro di foratura
2. Smusso
3. Angolo della punta
4. Angolo di spoglia inferiore
5. Tasca del truciolo
6. Codolo
7. Diametro stelo
8. Lunghezza stelo
9. Lunghezza totale
10. Lunghezza tagliente
11. Angolo di inclinazione dell'elica



a. Larghezza fase
b. Scanalatura del corpo
c. Larghezza fase primaria
d. Tagliente principale

Versione taglienti

Versione taglienti	 (conico)	 (piatto)	 (centrante)
Caratteristiche	– Il fianco è conico e l'angolo di spoglia inferiore aumenta verso il centro della punta. – Forma comune per materiali morbidi e duri.	– Fianco piatto per la sgrossatura leggera. – Questa forma è adatta per punte di piccolo diametro.	– Questa forma ha due punti angolari, per una migliore centratura e la riduzione di bave. – Adatto per la lavorazione di strutture in acciaio e lamiere.

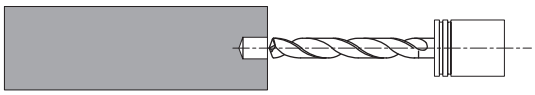
Punte in metallo duro integrale

Specifiche punte e dati di taglio

Scanalatura truciolo	Durante la foratura ,attraverso la tasca del truciolo, vengono asportati i trucioli.
Angolo di inclinazione dell'elica	L'angolo elicoidale individua il passo della scanalatura. Viene selezionato a seconda del materiale da lavorare. Materiale ad elevata durezza — piccolo ← angolo elicoidale → grande — Materiale morbido
Lunghezza tagliente e lunghezza elicoide	La lunghezza del tagliente deve tener conto della profondità del foro, della lunghezza della guida di riferimento e della lunghezza totale di riaffilatura. Più lunga è l'angolo di inclinazione dell'elica, minore è la stabilità della punta. Come risultato, la durata viene fortemente influenzata. È necessario mantenerla al valore più piccolo possibile. La lunghezza minima consigliata dell'elicoide dovrebbe essere la profondità del foro +1,5 x diametro.
Angolo della punta	L'angolo della punta normalmente è di 140°, per applicazioni speciali è consigliabili scegliere un utensile con un altro angolo. Materiale morbido, facile da lavorare — piccolo ← Angolo della punta → grande — Materiale temprato e foratura ad alte prestazioni
Diametro interno	Il diametro del nucleo è un fattore importante e influenza la stabilità e il controllo della truciolo. Bassa forza assiale, Bassa stabilità, Per materiali facili da sgrossare — piccolo ← diametro interno → grande — Elevata forza assiale, Alta stabilità, Per materiali temprati o forature trasversali
Larghezza di onatura	La larghezza della fase influenza la gestione e l'attrito della punta durante la lavorazione. Basso attrito e scarsa guida di foratura — piccolo ← Larghezza di onatura → grande — Alto attrito e buona guida di foratura
Sottosquadra	Per ridurre l'attrito durante la lavorazione, il diametro della punta del tagliente è leggermente ridotto fino allo codolo.
Scanalatura del corpo	Descrive la punta dietro la larghezza della fase. La scanalatura è necessaria al fine di ridurre l'attrito della punta durante la lavorazione.

Foratura profonda

1 Realizzazione di un foro pilota con 1534SP03C *

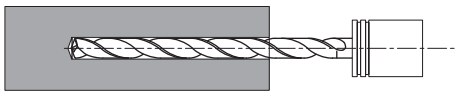


– L'angolo di punto della punta pilota deve essere maggiore rispetto a quello della punta SL.
– Il diametro della punta pilota deve essere 0,01-0,04 mm maggiore rispetto a quello della punta SL.
– La profondità del foro pilota deve essere 1–3×D

2 Inserimento della punta SL nel foro pilota

– Inserire la punta SL con una velocità di rotazione ridotta nel foro pilota. (V_C: 20–30 m/min)
– Fermarsi 1-3 mm prima della fine del foro. ($V_f = 0$)
– Aumentare la velocità di taglio ai parametri raccomandati e solo allora iniziare con l'avanzamento

3 Esecuzione del foro in profondità



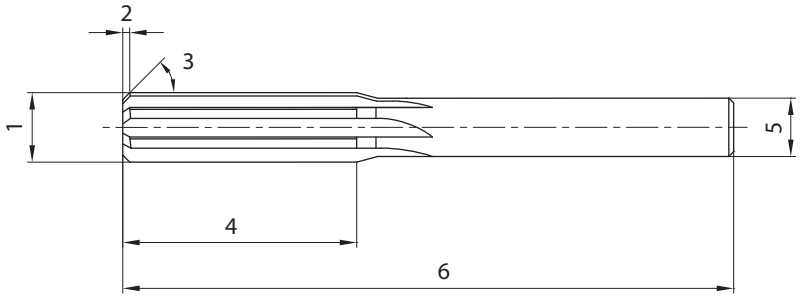
– Forare con velocità e avanzamento di taglio adeguati.
– Per le forature trasversali ridurre l'avanzamento a 0.05 mm/u.

4 Estrazione della punta

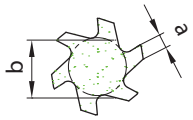
– Dopo il raggiungimento della profondità di foratura desiderata, ridurre la velocità di taglio (V_C: 20–30 m/min) ed estrarre la punta con un avanzamento (V_f: 2000 mm/min)

Alesatori in metallo duro integrale

Spiegazione dei termini

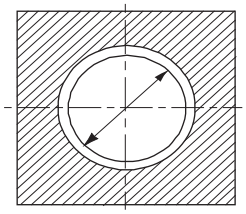
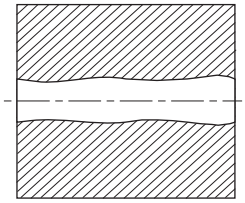
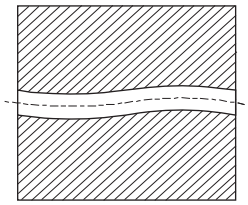
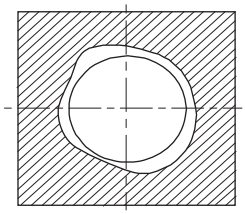
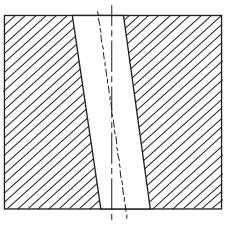
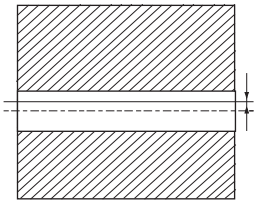


1. Diametro nominale
2. Lunghezza smusso
3. Angolo di attacco
4. Lunghezza tagliente
5. Diametro stelo
6. Lunghezza totale



a. Durezza del tagliente
b. Diametro del nucleo

Per alesatura s'intendono le lavorazioni preliminari e di finitura di un foro preesistente entro una tolleranza determinata, con elevata qualità superficiale, concentricità perfetta, cilindricità ecc.
Per ottenere un foro perfetto mediante alesaggio, è importante selezionare correttamente l'alesatore e il diametro dello stesso. Inoltre è necessario tenere in considerazione le tolleranze di foratura, il materiale del pezzo e le condizioni della macchina. La qualità di foratura è inoltre fortemente influenzata dalla concentricità dell'utensile.

 Tolleranza/margine diametro	 Cilindricità	 Rettilineità
 Rotondità	 Deviazione verticale	 Decentraggio

Maschi a rullare in metallo duro integrale

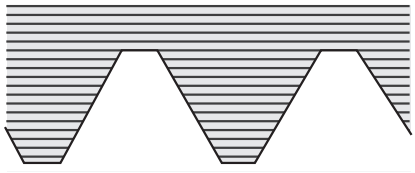
Cosa è la maschiatura a rullare?

Le fibre del materiale non vengono tagliate ma compresse sul fondo della filettatura. In contrapposizione al taglio, non viene perso alcun materiale, ma viene completamente conservato attraverso il rimodellamento.

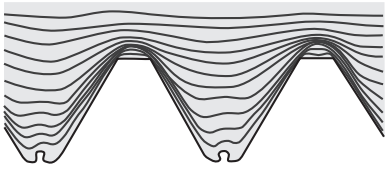
Vantaggi della maschiatura a rullare:
- La filettatura realizzata è molto più precisa.
- I filetti sono più resistenti alla trazione.
- I filetti hanno una superficie molto liscia.
- Sono possibili velocità e avanzamento più elevati rispetto alla filettatura.
- La maggiore durata dell'utensile aumenta la produttività.

Svantaggi della maschiatura a rullare:
- È necessaria la realizzazione del foro del nucleo.
- Non può essere usato come strumento a mano.
- Maggiore sviluppo di calore rispetto alla maschiatura
- Scelta del materiale limitata.
- Spesso è necessario l'uso di un agente di distacco.

La maschiatura a rullare dovrebbe essere impiegata per i materiali con buona deformabilità a freddo. Detti materiali sono, in aggiunta all'acciaio e all'acciaio inossidabile, le leghe di alluminio e anche metalli leggeri e le leghe leggere, con un resistenza allo snervamento di 1200 N/mm^2. Fondamentalmente si tratta di materiali che durante la foratura producono dei trucioli lunghi.



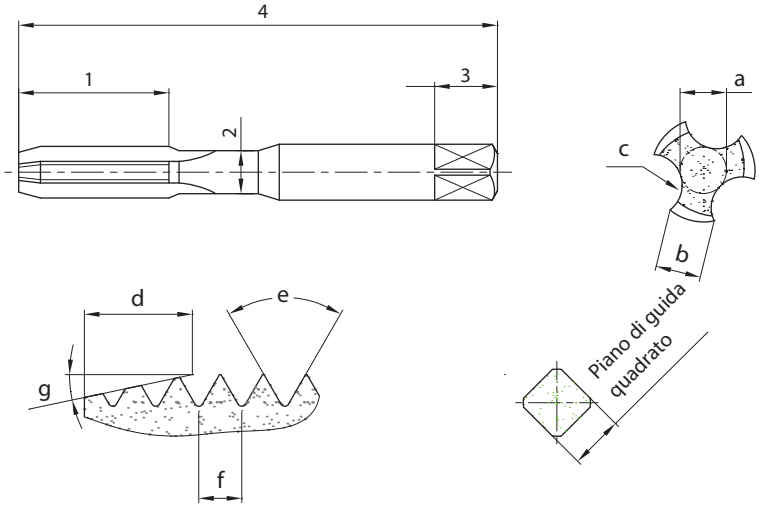
Orientamento delle fibre dopo la filettatura



Orientamento delle fibre dopo la maschiatura a rullare

Maschiatori in metallo duro integrale

Spiegazione dei termini



Lamatura e profilo del filetto

1. Lunghezza del filetto
2. Diametro del collo
3. Lunghezza del quadrato
4. Lunghezza totale

a. Diametro interno
b. Durezza del tagliente
c. Tasca del truciolo

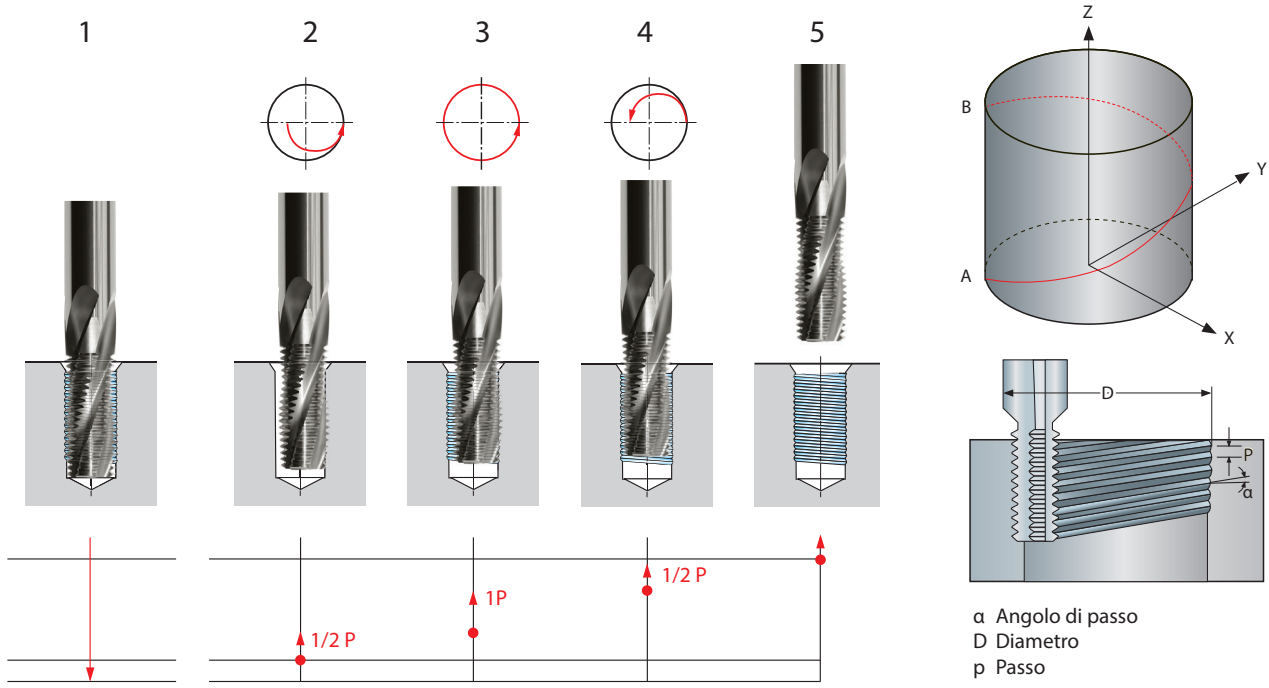
d. Lunghezza rastrematura
e. Angolo del profilo del filetto
f. Passo
g. Angolo di rastrematura

Vano truciolo e applicazione

Tipologia vano del truciolo	Proprietà	Applicazione
Scanalatura elicoidale	- Vano del truciolo elicoidale - Nessun truciolo nel foro - Buona prestazione di rastrematura - Centraggio semplice	- Per materiali a truciolo lungo - Adatta per fori ciechi - Per fori con scanalatura assiale sulla parete interna
Scanalatura diritta	- Tasca del truciolo con scanalatura diritta - Tagliente stabile - Facile da rettificare	- Per la lavorazione di pezzi temprati - Per materiali a trucioli corti - Per fori passanti e ciechi - Per materiali che producono usura

Frese a filettare in metallo duro integrale

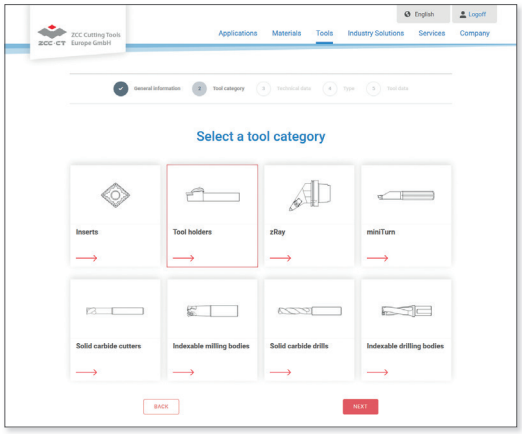
Frese a filettare con codolo cilindrico – Esempio di lavorazione



α Angolo di passo
D Diametro
p Passo

Andate direttamente all’utensile speciale personalizzato per operazioni di foratura

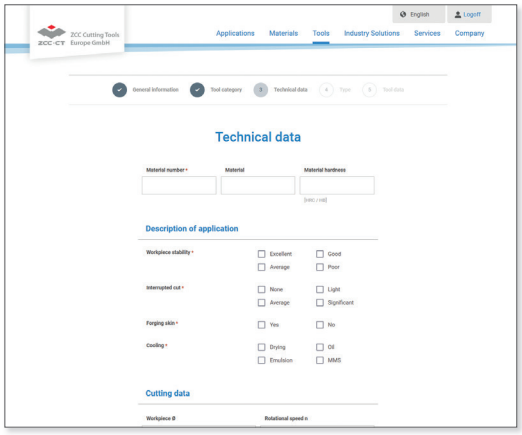
Lavorate con cicli di foratura per cui è possibile ottenere vantaggi in termini commerciali, tecnici, logistici o di processo impiegando utensili ottimizzati su misura e specifici per le vostre esigenze? ZCC Cutting Tools Europe vi offre consulenza e supporto personali nella programmazione, implementazione e ordinazione dei prodotti. Con il nostro innovativo Onlinetool dedicato alle richieste di utensili speciali, riceverete la vostra offerta personalizzata con pochi semplici passaggi (https://www.zccct-europe.com/it/gli-utensili/gli-utensili-speciali).



Home page “Strumento online per utensili speciali” con Selezione della categoria dell’utensile

Selezione della categoria dell’utensile

Scansionando il codice QR presente nella pagina, sarete reindirizzati alla home page del nostro strumento online per la richiesta di utensili speciali e qui potrete iniziare subito con la categoria precedentemente selezionata. È semplicissimo.



Definizione dei parametri pertinenti dell’utensile

Definizione dei parametri dell’utensile

Successivamente potrete seguire comodamente la procedura. Potrete inoltre caricare parti di disegni, bozze e modelli 3D già esistenti in tutta sicurezza.

Con noi, il vostro utensile speciale è a portata di mano.
ZCC Cutting Tools Europe GmbH.

Effettuate subito l’accesso al nostro sito web per visualizzare il nuovo **Modulo per utensili speciali**.

Informazioni tecniche

Tabella di confronto materiali	**D2-D8**
Tabella confronto durezza e resistenza alla trazione	**D9-D10**
Esempi materiali per gruppi	**D11**
Momento torcente per viti	**D12**

D

Tabella di confronto materiali

ISO	Denominazione standard per paese											
	China	USA	Germany		Great Britain		Sweden	France	Italy	Spain	Japan	Russia
	GB	AISI/SAE	W.-nr	DIN	BS	EN	SS	AFNOR	UNI	UNE	JIS	GOST
P	**Acciaio legato**											
	15	1015	1.0401	C15	080M15	–	1350	CC12	C15C16	F.111	–	
	20	1020	1.0402	C22	050A20	2C	1450	CC20	C20C21	F.112	–	20
	35	1035	1.0501	C35	060A35	–	1550	CC35	C35	F.113	–	35
	45	1045	1.0503	C45	080M40	–	1650	CC45	C45	F.114	–	45
	55	1055	1.0535	C55	070M55	–	1655	–	C55	–	–	55
	60	1060	1.0601	C60	080A62	43D	–	CC55	C60	–	–	60
	Y15	1213	1.7015	9SMn28	230M07	–	1912	S250	CF9SMn28	11SMn28	SUM22	15Ch
	–	12L13	1.0718	9SMnPb28	–	–	1914	S250Pb	CF9MnPb28	11SMnPb28	SUM22L	–
	–	–	1.0722	10SPb20	–	–	–	10PbF2	CF10Pb20	10SPb20	–	–
	–	1140	1.0726	35S20	212M36	8M	1957	35MF4	–	F210G	–	–
	Y13	1215	1.0736	9SMn36	240M07	1B	–	S300	CF9SMn36	12SMn35	–	–
	–	12L14	1.0737	9SMnPb36	–	–	1926	S300Pb	CF9SMnPb36	12SMnP35	–	–
	55Si2Mn	9255	1.0904	55Si9	250A53	45	2085	55S7	55Si8	56Si7	–	–
	–	9262	1.0961	60SiCr7	–	–	–	60SC7	60SiCr8	60SiCr8	–	–
	15	1015	1.1141	Ck15	080M15	32C	1370	XC12	C16	C15K	S15C	15
	40Mn	1039	1.1157	40Mn4	150M36	15	–	35M5	–	–	–	40G
	25	1025	1.1158	Ck25	–	–	–	–	–	–	S25C	25
	35Mn2	1335	1.1167	36Mn5	–	–	2120	40Mn5	–	36Mn5	SMn438(H)	35G2,35GL
	30Mn	1330	1.1170	28Mn6	150M28	14A	–	20M5	C28Mn	–	SCMn1	30G
	35Mn	1035	1.1183	Cf35	060A35	–	1572	XS38TS	C36	–	S35C	–
	Ck45	1045	1.1191	45	080M46	–	1672	XC42	C45	C45K	S45C	–
	55	1055	1.1203	Ck55	070M55	–	–	XC45	C50	C55K	S55C	55
	50	1050	1.1213	Cf53	060A52	–	1674	XC48TS	C53	–	S50C	–
	60Mn	1060	1.1221	Ck60	080A62	43D	1678	XC60	C60	–	S58C	60,60G
	–	1095	1.1274	Ck101	060A96	–	1870	–	–	–	SUP4	–
	–	–	1.3401	X120Mn12	Z120M12	–	–	X120M12	XG120Mn12	X120Mn12	SCMnH/1	110G13L
	Gr15;45Gr	52100	1.3505	100Cr6	534A99	31	2258	100C6	100Cr6	F.131	SUJ2	SchCh 15
	–	ASTM A204Gr.A	1.5415	15Mo3	1501-240	–	2912	15D3	16Mo3KW	16Mo3	–	–
	–	4520	1.5426	16Mo5	1503-245-420	–	–	–	16Mo5	16Mo5	–	–
	–	ASTM A350LF5	1.5622	14Ni6	–	–	–	16N6	14Ni6	15Ni6	–	–
	–	ASTM A353	1.5662	X8Ni9	1501-509;510	–	–	–	X10Ni9	XBNi09	–	–

Tabella di confronto materiali

ISO	Denominazione standard per paese											
	China	USA	Germany		Great Britain		Sweden	France	Italy	Spain	Japan	Russia
	GB	AISI/SAE	W.-nr	DIN	BS	EN	SS	AFNOR	UNI	UNE	JIS	GOST
P	**Acciaio legato**											
	–	2515	1.5680	12Ni19	–	–	–	Z18N5	–	–	–	–
	–	3135	1.5710	36NiCr6	640A35	111A	–	35NC6	–	–	SNC236	–
	–	3415	1.5732	14NiCr10	–	–	–	14NC11	16NiCr11	15NiCr11	SNC415(H)	–
	–	3415 3310	1.5752	14NiCr14	655M13 655A12	36A	–	12NC15	–	–	SNC815(H)	–
	–	9840	1.6511	36CrNiMo4	816M40	110	–	40NCD3	38CrNiMo4(KB)	35CrNiMo4	–	40 ChN2MA
	–	8620	1.6523	21NiCrMo2	850M20	362	2503	20NCD2	20NiCrMo2	20NiCrMo2	SNCCM220(H)	–
	–	8740	1.6546	40NiCrMo2	311-Type7	–	–	–	40NiCrMo2(KB)	40NiCrMo2	SNC240	38ChGNM
	40CrNiMoA	4340	1.6582	34CrNiMo6	817M40	24	2541	35NCD6	35CrNiMo6(KB)	–	–	38Ch2N2MA
	–	–	1.6587	17CrNiMo6	820A16	–	–	18NCD6	–	14CrNiMo13	–	–
	15Cr	5015	1.7015	15Cr3	523M15	–	–	12C3	–	–	SCr415(H)	15Ch
	35Cr	5132	1.7033	34Cr4	530A32	18B	–	32C4	34Cr4(KB)	35Cr4	SCr430(H)	35Ch
	40Cr	5140	1.7035	41Cr4	530M40	18	–	42C4	41Cr4	42Cr4	SCr440(H)	40Ch
	40Cr	5140	1.7045	42Cr4	–	–	2245	–	–	42Cr4	SCr440	40Ch
	18CrMn	5115	1.7131	16MnCr15	(527M20)	–	2511	16MC5	16MnCr15	16MnCr15	–	18ChG
	20CrMn	5155	1.7176	55Cr3	527A60	48	–	55C3	–	–	SUP9(A)	50ChGA
	30CrMn	4130	1.7218	25CrMo4	1717CDS110	–	2225	25CD4	25CrMo4(KB)	55Cr3	SCM420; SCM430	30ChM
	35CrMo	4137;4135	1.7220	34CrMo4	708A37	19B	2234	35CD4	35CrMo4	34CrMo4	SCM432; SCRRM3	AS38ChGM
	40CrMoA	4140;4142	1.7223	41CrMo4	708M40	19A	2244	42CD4TS	41CrMo4	41CrMo4	SCM440	40 ChFA
	42CrMo 42CrMnMo	4140	1.7225	42CrMo4	708M40	19A	2244	42CD4	42CrMo4	42CrMo4	SCM440(H)	–
	–	–	1.7262	15CrMo5	–	–	2216	12CD4	–	12CrMo4	SCM415(H)	–
	–	ASTM A182 F11;F12	1.7335	13CrMo44	1501- 620Gr.27	–	–	15CD3.5; 15CD4.5	14CrMo44	14CrMo45	–	12ChM , 15ChM
	–	–	1.7361	32CrMo12	722M24	40B	2240	30CD12	32CrMo12	F.124.A	–	–
	–	ASTM A182 F.22	1.7380	10CrMo910	1501- 622Gr.31;45	–	2218	12CD9;10	12CrMo9,10	TU.H	–	–
	–	–	1.7715	14MoV63	1503-660-440	–	–	–	–	13MoCrV6	–	–
	50CrVA	6150	1.8159	50CrV4	735A50	47	2230	50CV4	50CrV4	51CrV4	SUP10	50ChGFA
	–	–	1.8509	41CrAlMo7	905M39	41B	2940	40CAD6,12	41CrAlMo7	41CrAlMo7	–	38ChMJuA
	–	–	1.8523	39CrMoV139	897M39	40C	–	–	36CrMoV12	–	–	–

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ISO	Denominazione standard per paese											
	China	USA	Germany		Great Britain		Sweden	France	Italy	Spain	Japan	Russia
	GB	AISI/ SAE	W.-nr	DIN	BS	EN	SS	AFNOR	UNI	UNE	JIS	GOST
P	**Acciaio legato**											
	T10	W.110	1.1545	C105W1	–	–	1880	Y1105	C98KU C100KU	F.515 F.516	–	U10A
	T12A	W.112	1.1663	C125W	–	–	–	Y2120	C120KU	(C120)	SK2	U13
	CrV;9SiCr	L3	1.2067	100Cr6	BL3	–	–	Y100C6	–	100Cr6	–	–
	Cr12	D3	1.2080	X210Cr12	BD3	–	–	Z200Cr12	X210Cr13KU X250Cr12KU	X210Cr12	SKD1	Ch12
	4Cr5MoVSi	H13	1.2344	X40CrMoV5 1	BH13	–	2242	Z40CDV5	X35CrMoV05KU X40CrMoV51KU	X40CrMoV5	SKD61	4Ch5MF1S
	Cr6WV	A2	1.2363	X100CrMoV5 1	BA2	–	2260	Z100CDV5	X100CrMoV51KU	X100CrMoV5	SKD12	–
	CrWMo	–	1.2419	105WCr6	–	–	2140	105WC13	10WCr6 107WCr5KU	105WCr5	SKS31 SKS2 SKS3	ChWG
	Cr12W	–	1.2436	X210CrW12	–	–	2312	–	X215CrW12 1KU	X210CrW12	SKD2	–
	5CrNiMo	S1	1.2542	45WCrV7	BS1	–	2710	–	45WCrV8KU	45WCrSi8	–	–
	3Cr2W8V	H21	1.2581	X30WCrV9 3 X30WCrV93KU	BH21	–	–	Z30WCV9	X28W09KU X30WCrV9 3KU	X30WCrV9	SKD5	3Ch2W8F
	Cr12MoV	–	1.2601	X165CrMoV 12	–	–	2310	–	X165CrMoW12KU	X160CrMoV12	SKD11	–
	5CrNiMo	L6	1.2713	55NiCrMoV6	–	–	–	55NCDV7	–	F.250.S	SKT4	5ChNM
	V	W210	1.2833	100V1	BW2	–	–	Y1105V	–	–	SKS43	–
	W6Mo5Cr4V2Co5	–	1.3243	S6-5-2-5	–	–	2723	Z85WDKCV	HS6–5–2–5	HS6-5-2-5	SKH55	R6M5K5
	W18Cr4VCo5	T4	1.3255	S18-1-2-5	BT4	–	–	Z80WKCV 10-05-04-01	X78WCo1805KU	HS18-1-1-5	SKH3	–
	W6Mo5Cr4V2	M2	1.3343	S6-5-2	BM2	–	2722	Z85WDCV 06-05-04-02	X82WMo0605KU	HS6-5-2	SKH9	R6M5
	–	M7	1.3348	S2-9-2	–	-Z-	2782	Z100WCWV 09-02-04-02	HS2-9-2	HS2-9-2	–	–
	W18Cr4V	T1	1.3355	S18-0-1	BT1	–	–	Z80WCV 18-04-01	X75W18KU	HS18-0-1	SKH2	–
	W6Mo5Cr4V3	M3	–	S6-5-3	–	–	–	–	–	–	SKH52	–
	–	M42	–	–	BM42	–	–	–	–	–	SKH59	–

Tabella di confronto materiali

ISO	Denominazione standard per paese						Applicazione principale
	China	USA	Germany	Japan	Daido Steel Co., Ltd (Japan)	Russia	
	GB	AISI/SAE	DIN	JIS	DAIDO	GOST	
P	**Acciaio stampato**						
	–	P20 mod.		–	PX5N		Grandi stampi di precisione ad alta lucentezza per la produzione in serie. Parti per automobili, videocamere, elettrodomestici ecc.
	–	–		–	NAK55		Stampi di precisione ad alta lucentezza per videocamere, CD musicali, contenitori cosmetici, coperture trasparenti.
	–	–		–	NAK80		Stampi di precisione ad alta lucentezza per videocamere, CD musicali, contenitori cosmetici, coperture trasparenti e rivestimenti.
	3Cr13	420 mod.		SUS420J2 mod.	S-STAR		Per stampi ultra-sottili,riflettenti e resistenti alla corrosione per gli accessori di macchine fotografiche. CD, lenti, orologi da polso.
	Acciaio per utensili per lavorazioni a freddo						
	–	02	–	SKS93	YK30		Punzoni per stampi, calibri, taglierine, utensili
	9CrWMn	01 mod.	–	SKS3 mod.	GOA		Per matrici di taglio, calibri, maschiatori, utensili di perforazione, trafile a freddo
	Cr12MoV	D2	X165CrMoV12	SKD11	DC11		Per matrici di taglio, stampi a pressione a freddo, trafile a freddo, cilindri di trafilatura.
	–	D2 mod.	–	SKD11 mod.	DC53		Per matrici di taglio, stampi a pressione a freddo, trafile a freddo, cilindri di trafilatura.
	Acciaio per lavorazioni a caldo						
	4Cr5MoSiV1	H13	X40CrMoV51	SKD61	DHA1		Stampi a pressione in alluminio, raccordi per stampi a pressione, matrici a caldo, stampi per estrusione a caldo, lame resistenti al calore ecc,
	–	–	–	–	DH21		Stampi a pressione in alluminio di lunga durata
	–	–	–	–	DH31-S		Stampi a pressione
	–	–	–	–	DH2F		Stampi a pressione, stampi in plastica

Tabella di confronto materiali

ISO	Denominazione standard per paese											
	China	USA	Germany		Great Britain		Sweden	France	Italy	Spain	Japan	Russia
	GB	AISI/ SAE	W.-nr	DIN	BS	EN	SS	AFNOR	UNI	UNE	JIS	GOST
M	**Acciaio inossidabile**											
	0Cr13; 1Cr12	403	1.4000	X6Cr13	403S17	–	2301	Z6C13	X6Cr13	F.3110	SUS403	08Ch13
	–	–	1.4001	X7Cr14	–	–	–	–	–	F.8401	–	–
	1Cr13	410	1.4006	X10Cr13	410S21	56A	2302	Z10C14	X12Cr13	F.3401	SUS410	12Ch13
	1Cr17	430	1.4016	X6Cr17	430S15	60	220	Z8C17	X8Cr17	F.3113	SUS430	12Ch17
	2Cr13	410	1.4021	X20Cr13	S62	56B; 56C	–	Z20C13	X20C13	F.3401	SUS410	20Ch13
	–	–	1.4027	G-X20Cr14	420C29	56B	–	Z20C13M	–	–	SCS2	20Ch13L
	4Cr13	–	1.4034	X46Cr13	420S45	56D	2304	Z40CM Z38C13M	X40Cr14	F.3405	SUS420J2	40Ch13
	1Cr17Ni2	431	1.4057	X20CrNi172	431S29	57	2321	Z15CNi6.02	X16CNi16	F.3427	SUS431	20Ch17N2
	Y1Cr17	430F	1.4104	X12CrMoS17	–	–	2383	Z10CF17	X10CrS17	F.3117	SUS430F	–
	1Cr17Mo	434	1.4113	X6CrMo171	434S17	–	2325	Z8CD17.01	X8CrMo17	–	SUS434	–
	–	–	1.4313	X5CrNi134	425C11	–	–	Z4CND13.4M	–	–	SCS5	–
	–	–	1.4408	G-X6CrNiMo1810	316C16	–	–	–	–	F.8414	SCS14	07Ch18N10G2S2M2L
	4Cr9Si2	HW3	1.4718	X45CrSi93	401S45	52	–	Z45CS9	X45CrSi8	F.322	SUH1	40Ch9S2
	0Cr13Al	405	1.4724	X10CrAl13	403S17	–	–	Z10C13	X10CrAl12	F.311	SUS405	10Ch13SJu
	Cr17	430	1.4742	X10CrAl18	430S15	60	–	Z10CAS18	X8Cr17	F.3113	SUS430	15Ch18SJu
	8Cr20Si2Ni	HNV6	1.4757	X80CrNiSi20	443S65	59	–	Z80CSN20.02	X80CrSiNi20	F.320V	SUH4	–
	2Cr25N	446	1.4762	X10CrAl24	–	–	2322	Z10CAS24	X16Cr26	–	SUH446	–
	Acciaio inossidabile austenitico											
	0Cr18Ni9	304	1.4301	X5CrNi1810	304S15	58E	2332	Z6CN18.09	X5CrNi1810	F.3551; F.3541; F.3504	SUS304	08Ch18N10
	1Cr18Ni9MoZr	303	1.4305	X10CrNiS189	303S21	58M	2346	Z10CNF18.09	X10CrNiS18.09	F.3508	SUS303	–
	0Cr19Ni10	304L	1.4306	X2CrNi1911	304S12	–	2352	Z2CN18.10	X2CrNi18.11	F.3503	SCS19	03Ch18N11
	–	–	1.4308	G–X6CrNi189	304C15	–	–	Z6CN18.10M	–	–	SCS13	07Ch18N9L
	Cr17Ni7	301	1.4310	X12CrNi177	–	–	2331	Z12CN17.07	X12CrNi1707	F.3517	SUS301	–
	–	304LN	1.4311	X2CrNiN1810	304S62	–	2371	Z2CN18.10	–	–	SUS304LN	–
	0Cr19Ni9	304	1.4350	X5CrNi189	304S31	58E	–	Z6CN18.09	X5CrNi1810	–	SUS304	–
	0Cr17Ni11Mo2	316	1.4401	X5CrNiMo1712	316S16	Z6CND17.11	2347	1.4401	X5CrNiMo1712	F.3543	SUS316	–
	00Cr17Ni13Mo2	316LN	1.4429	X2CrNiMoN17133	–	–	2375	Z2CND17.13	–	–	SUS316LN	–
	0Cr27Ni12Mo3	316L	1.4435	X2CrNiMo18143	316S12	–	2353	Z2CDN17.13	X2CrNiMo1713	–	SCS16,	03Ch17N14M2
	00Cr19Ni13Mo3	317L	1.4438	X2CrNiMo17133	317S12	–	2367	Z2CND19.15	X2CrNiMo18.16	–	SUS317L	–
	–	329L	1.4460	X8CrNiMo275	–	–	2324	–	–	–	SUS329L; SCH11; SCS11	–
	1Cr18Ni9Ti	321	1.4541	X6CrNiTi1810	2337	321S12	58B	Z6CNT18.10	X6CrNiTi1811	F.3553	SUS321	12Ch18N10T
	1Cr18Ni11Nb	347	1.4550	X6CrNiNb1810	347S17	58F	2338	Z6CNNb18.1	X6CrNiTi1811	F.3552	SUS347	08Ch18N12B
	Cr18Ni12Mo2Ti	316Ti	1.4571	X6CrNiMoTi17122	320S17	58J	2350	Z6NDT17.12	X6CrNiMoTi17	F.3535	–	10Ch17N13M2T

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ISO	Denominazione standard per paese											
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	GB	AISI/ SAE	W.-nr	DIN	BS	EN	SS	AFNOR	UNI	UNE	JIS	GOST
M	**Acciaio inossidabile austenitico**											
	–	–	1.4581	G–X5CrNiMoNb1810	318C7	–	–	Z4CNDNb1812M	XG8CrNiMo18	–	SCS22	–
	Cr17Ni12Mo3Nb	318	1.4583	X10CrNiMoNb1812	–	–	–	Z6CNDNb1713B	X6CrNiMoTiNb17	–	–	–
	1Cr23Ni13	309	1.4828	X15CrNiSi2012	309S24	–	–	Z15CNS20.1	–	–	SUH309	20Ch20N14S2
	0Cr25Ni20	310S	1.4845	X12CrNi2521	310S24	–	2361	Z12CN2520	X6CrNi2520	F.331	SUH310	20Ch23N18
	Cr15Ni36W3Ti	330	1.4864	X12NiCrSi3616	–	–	–	Z12CNS35.1	–	–	SUH330	–
	–	–	1.4865	G–X40NiCrSi3818	330C11	–	–	–	XG50NiCr3919	–	SCH15	–
	5Cr2Mn9Ni4N	EV8	1.4871	X53CrMnNiN219	349S54; 321S12	– 58B	–	Z52CMN21.0	X53CrMnNiN219	–	SUH35	55Ch20G9AN4
	1Cr18Ni9Ti	321	1.4878	X12CrNiTi189	321S320	58C	–	Z6CNT18.12	X6CrNiTi1811	F.3523	SU321	09Ch18N10T

ISO	Denominazione standard per paese									
	China	USA	Germany	Great Britain	Sweden	France	Italy	Spain	Japan	Russia
K	**GGG**									
	QT400-18	60-40-18	GGG40	400/17	0717-02	FGS370-17	GS370-17	FGE38-17	FCD400	VC 42–12
	QT450-10	65-45-12	––	420/12	––	FGS400-12	GS400-12	FGE42-12	FCD450	–
	QT500-7	70-50-05	GGG50	500/7	0727-02	FGS500-7	GS500-7	FGE50-7	FCD500	VC 50–2
	QT600-3	80-60-03	GGG60	600/7	0732-03	FGS600-2	GS600-2	FGE60-2	FCD600	VC 60–2
	QT700-2	100-70-03	GGG70	700/2	0737-01	FGS700-2	GS700-2	FGE70-2	FCD700	VC 70–2
	QT800-2	120-90-02	GGG80	800/2	0864-03	FGS800-2	GS800-2	FGE80-2	FCD800	VC 80–2
	QT900-2	––	––	900/2	––	––	––	––	––	–
	Ghisa grigia									
	––	NO.60	GG40	––	0140	FGL400	––	––		Sc 40
	HT350	NO.50	GG35	350	0135	FGL350	G35	FG35	FC350	Sc 35
	HT300	NO.45	GG30	300	0130	FGL300	G30	FG30	FC300	Sc 30
	HT250	NO.35	GG25	250	0125	FGL250	G25	FG25	FC250	Sc 25
	HT200	NO.30	GG20	200	0120	FGL200	G20	FG20	FC200	Sc 20
	HT150	NO.20	GG15	150	0115	FGL150	G15	FG15	FC150	Sc 15
	HT100	––	––	100	0110	––	G10	––	FC100	–

ISO	Denominazione standard per paese											
	China	USA	Germany		Great Britain		Sweden	France	Italy	Spain	Japan	Russia
	GB	AISI/SAE	W.-nr	DIN	BS	EN	SS	AFNOR	UNI	UNE	JIS	GOST
H	**Materiali temprati**											
	–	440A	1.4108	X100CrMo03	–	–	2258 08	–	–	–	C4BS	–
	–	610	1.4111	X100CrMoV15	–	–	2534 05	–	–		AC4A	–
	–	0-2	–	X65CrMo14	–	–	2541 06	–	–		AC4A	–

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	GB	AISI/SAE	W.-nr	DIN	BS	EN	SS	AFNOR	UNI	UNE	JIS	GOST
N	**Leghe di alluminio**											
	–	SC64D	3.2373	G-AISI9MGWA			4251	A-S7G			C4BS	–
	–	DG-AISI12		G-ALMG5	LM5		4252	A-SU12			AC4A	
	–	356.1			LM25		4244				A5052	
	–	A413.0		GD-AISi12			4247				A6061	
	–	A380.1		GD-AISi8Cu3	LM24		4250				A7075	
	–	A413.1		G-AISi12(Cu)	LM20		4260				ADC12	
	–	A413.2		G-AISi12	LM6		4261					
	–	A360.2		G-AISi10Mg(Cu)	LM9		4253					

ISO	Denominazione standard per paese											
	China	USA	Germany		Great Britain		Sweden	France	Italy	Spain	Japan	Russia
	GB	AISI/SAE	W.-nr	DIN	BS	EN	SS	AFNOR	UNI	UNE	JIS	GOST
S	**Leghe di nichel**											
	–	5391	LW2 4670	S-NiCr13A16MoNb	mar-46	–	–	NC12AD	–	–		
	–	AMS 5397	LW2 4674	NiCo15Cr10MoAlTi	–	–	–	–	–	–		
	–	5660	LW2.4662	NiFe35Cr14MoTi	–	–	–	ZSNCDT42	–	–		
	–	5383	LW2.4668	NiCr19Fe19NbMo	HR8	–	–	NC19eNB	–	–		
	–	–	2.4631	NiCr20TiAk	Hr401.601	–	–	NC20TA	–	–		–
	–	AMS 5399	2.4973	NiCr19Co11MoTi	–	–	–	NC19KDT	–	–		–
	–	AMS 5544	LW2.4668	NiCr19Fe19NbMo	–	–	–	NC20K14	–	–		
	–	5390A	2.4603	–	–	–	–	NC22FeD	–	–		–
	–	5666	2.4856	NiCr22Mo9Nb	–	–	–	NC22FeDNB	–	–		–
	–	–	2.4630	NiCr20Ti	HR5.2034	–	–	NC20T	–	–		–
	–	4676	2.4375	NiCu30AL3Ti	3072-76	–	–	–	–	–		–
	Leghe di cobalto											
	–	5537C AMS		CoCr20W15Ni	–	–	–	KC20WN	–	–		
	–	5772	LW2.4964	CoCr20W14Ni				KC22WN				
	Leghe di titanio											
	–	UNS R54520	3.7115.1	TiAl5Sn2.5	TA14/17	–	–	T-A5E	–	–		
	–							UNS R56400				
	–	–	3.7165.1	TiAl6V4	TA10-13/ TA28		–	UNS R56401	T-A6V	–	–	
	–			TiAl5V5Mo5Cr3								
	–	–	3.7185	TiAl4Mo4Sn4Si0.5	–	–	–	–	–	–		

Tabella di confronto durezza e resistenza alla trazione

Durezza				Resistenza alla trazione di rottura N/mm²
Rockwell Durezza		Vickers Durezza	Brinell Durezza	
HRC	HRA	HV	HB	
70.0	86.6	1037	—	—
69.5	86.3	1017	—	—
69.0	86.1	997	—	—
68.5	85.8	978	—	—
68.0	85.5	959	—	—
67.5	85.2	941	—	—
67.0	85.0	923	—	—
66.5	84.7	906	—	—
66.0	84.4	889	—	—
65.5	84.1	872	—	—
65.0	83.9	856	—	—
64.5	83.6	840	—	—
64.0	83.3	825	—	—
63.5	83.1	810	—	—
63.0	82.8	795	—	—
62.5	82.5	780	—	—
62.0	82.2	766	—	—
61.5	82.0	752	—	—
61.0	81.7	739	—	—
60.5	81.4	726	—	—
60.0	81.2	713	—	2555
59.5	80.9	700	—	2500
59.0	80.6	688	—	2450
58.5	80.3	676	—	2395
58.0	80.1	664	—	2345
57.5	79.8	653	—	2295
57.0	79.5	642	—	2250
56.5	79.3	631	—	2205
56.0	79.0	620	—	2160
55.5	78.7	609	—	2115
55.0	78.5	599	—	2075
54.5	78.2	589	—	2035
54.0	77.9	579	—	1995
53.5	77.7	570	—	1955
53.0	77.4	561	—	1920
52.5	77.1	551	—	1885
52.0	76.9	543	—	1850
51.5	76.6	534	—	1815

Durezza				Resistenza alla trazione di rottura N/mm²
Rockwell Durezza		Vickers Durezza	Brinell Durezza	
HRC	HRA	HV	HB	
51.0	76.3	525	501	1780
50.5	76.1	517	494	1750
50.0	75.8	509	488	1720
49.5	75.5	501	481	1690
49.0	75.3	493	474	1660
48.5	75.0	485	468	1630
48.0	74.7	478	461	1605
47.5	74.5	470	455	1575
47.0	74.2	463	449	1550
46.5	73.9	456	442	1525
46.0	73.7	449	436	1500
45.5	73.4	443	430	1475
45.0	73.2	436	424	1450
44.5	72.9	429	418	1430
44.0	72.6	423	413	1405
43.5	72.4	417	407	1385
43.0	72.1	411	401	1360
42.5	71.8	405	396	1340
42.0	71.6	399	391	1320
41.5	71.3	393	385	1300
41.0	71.1	388	380	1280
40.0	70.8	382	375	1260
40.0	70.5	377	370	1245
39.5	70.3	372	365	1225
39.0	70.0	367	360	1210
38.5	—	362	355	1190
38.0	—	357	350	1175
37.5	—	352	345	1160
37.0	—	347	341	1140
36.5	—	342	336	1125
36.0	—	338	332	1110
35.5	—	333	327	1095
35.0	—	329	323	1080
34.5	—	324	318	1065
34.0	—	320	314	1050
33.5	—	316	310	1035
33.0	—	312	306	1020
32.5	—	308	302	1010

Tabella di confronto durezza e resistenza alla trazione

Durezza				Resistenza alla trazione di rottura N/mm²	Durezza				Resistenza alla trazione di rottura N/mm²
Rockwell Durezza		Vickers Durezza	Brinell Durezza		Rockwell Durezza		Vickers Durezza	Brinell Durezza	
HRC	HRA	HV	HB		HRC	HRA	HV	HB	
32.0	—	304	298	995	24.0	—	249	245	820
31.5	—	300	294	980	23.5	—	246	242	810
31.0	—	296	291	970	23.0	—	243	240	800
30.5	—	292	287	960	22.5	—	240	237	790
30.0	—	289	283	950	22.0	—	237	234	785
29.5	—	285	280	935	21.5	—	234	232	775
29.0	—	281	276	920	21.0	—	231	229	765
28.5	—	278	273	910	20.5	—	229	227	760
28.0	—	274	269	900	20.0	—	226	225	750
27.5	—	271	266	890	19.5	—	223	222	745
27.0	—	268	263	880	19.0	—	221	220	735
26.5	—	264	260	870	18.5	—	218	218	730
26.0	—	261	257	860	18.0	—	216	216	725
25.5	—	258	254	850	17.5	—	214	214	715
25.0	—	255	251	835	17.0	—	211	211	710
24.5	—	252	248	830					

Osservazioni: I valori indicati nella tabella sono utilizzabili per l'acciaio al carbonio.

Esempi materiali per gruppi

Materiale cod.	Denominazione	Gruppo di sgrossatura
1.0722	10SPb20	1
1.0715	9SMn28	1
1.0736	9SMn36	1
1.0718	9SMnPb28	1
1.0737	9SMnPb36	1
1.0401	C15	1
1.0402	C22	1
1.1141	Ck15	1
1.1170	28Mn6	2
1.0726	35S20	2 / 3
1.1167	36Mn5	2 / 3
1.1157	40Mn4	2 / 3
1.0501	C35	2 / 3
1.0503	C45	2 / 3
1.1191	Ck45	2 / 3
1.1183	Cf35	2 /3
1.1213	Cf53	2 /3
1.1545	C 105 W1	4 / 5
1.1663	C 125 W	4 / 5
1.0535	C55	4 / 5
1.0601	C60	4 / 5
1.1274	Ck101	4 / 5
1.1203	Ck55	4 / 5
1.1221	Ck60	4 / 5
1.5710	36NiCr6	5 / 9
1.5120	38MnSi 4	5 / 9
1.1545	C 105 W2	4 / 5
1.1663	C 125 W	4 / 5
1.0535	C65	4 / 5
1.0601	C70	4 / 5
1.1274	Ck101	4 / 5
1.1203	Ck55	4 / 5
1.1221	Ck60	4 / 5
1.5710	36NiCr7	5 / 9
1.5120	38MnSi 5	5 / 9
1.1545	C 105 W3	4 / 5
1.1663	C 125 W	4 / 5
1.0535	C75	4 / 5
1.0601	C80	4 / 5
1.1274	Ck101	4 / 5
1.1203	Ck55	4 / 5
1.1221	Ck60	4 / 5
1.5710	36NiCr8	5 / 9
1.5120	38MnSi 6	5 / 9
1.1545	C 105 W4	4 / 5
1.1663	C 125 W	4 / 5
1.0535	C85	4 / 5
1.0601	C90	4 / 5
1.1274	Ck101	4 / 5

Materiale cod.	Denominazione	Gruppo di sgrossatura
1.1203	Ck55	4 / 5
1.1221	Ck60	4 / 5
1.5710	36NiCr9	5 / 9
1.5120	38MnSi 7	5 / 9
1.1545	C 105 W5	4 / 5
1.1663	C 125 W	4 / 5
1.0535	C95	4 / 5
1.0601	C100	4 / 5
1.1274	Ck101	4 / 5
1.1203	Ck55	4 / 5
1.1221	Ck60	4 / 5
1.5710	36NiCr10	5 / 9
1.5120	38MnSi 8	5 / 9
1.5680	12Ni19	10 / 11
1.3255	S 18-1-2-5	10 / 11
1.3348	S 2-9-2	10 / 11
1.3343	S 6-5-2	10 / 11
1.3243	S 6-5-2-5	10 / 11
1.2363	X 100 CrMoV 5-1	10 / 11
1.2601	X165CrMoV12	10 / 11
1.2080	X210 Cr 12	10 / 11
1.2581	X30WCrV 9-3	10 / 11
1.2344	X40CrMoV 5-1	10 / 11
1.4718	X45CrSi9-3	10 / 11
1.3355	S 18–0–1	10 /11
1.4027	G–X20Cr14	12 / 13
1.4006	X12 Cr 13	12 / 13
1.4104	X12CrMoS 17	12 / 13
1.4057	X19CrNi 17-2	12 / 13
1.4034	X46Cr 13	12 / 13
1.4871	X53 CrMnNiN 21-9	12 / 13
1.4113	X6CrMo 17	12 / 13
1.4000	X6CR 13	12 / 13
1.4001	X7Cr14	12 / 13
1.4016	X6Cr17	12 / 13
1.4581	G–X5CrNiMoNb 18	14
1.4308	G–X6CrNi 18-9	14
1.4408	G–X6CrNiMo 18-10	14
1.4583	X6CrNiMoNb 18-12	14
1.4571	X6CrNiMoTi 17-12-2	14
1.4550	X6CrNiNb 18-10	14
1.4541	X14CrNiTi 18-10	14
1.4845	X12CrNi 25-21	14
1.4310	X10CrNi 18-8	14
1.4305	X10CrNiS 18-10	14
1.4878	X12CrNiTi 18-9	14
1.4317	X2CrNi 18-8	14
1.4436	X3CrNiMo 17-13-3	14
1.4440	X2CrNiMo 18-16	14

Materiale cod.	Denominazione	Gruppo di sgrossatura
1.4429	X2CrNiMoN 17-13-3	14
1.4311	X2CrNiN 18-10	14
1.4301	X5CrNi 18-10	14
1.4401	X5CrNiMo 17-12-2	14
0.6010	GG10	16
0.6015	GG15	16
0.6020	GG20	16
0.6025	GG25	16 / 17
0.6030	GG30	17
0.6035	GG35	17
0.6040	GG40	17
1.4829	X12NiCrSi 22-12	17
1.4828	X15CrNiSi20-12	17
0.7033	GGG35.3	18
0.7040	GGG40	18
0.7043	GGG40.3	18
0.8135	GTS-35	18
0.7050	GGG50	19
0.7060	GGG60	19
0.7070	GGG70	19
0.7660	GGGNiCr 20-2	19
0.7652	GGGNiMn 13-7	19
0.8155	GTS-55	21
0.8165	GTS-65	21
0.8170	GTS-70	21
0.8145	GTS-45	21
3.0205	Al99	22
3.3315	AlMg 1	22
3.1325	AlCuMg 1	23
3.2315	AlMgSi 1	23
3.2581	G-AlSi12	24
3.2163	G-AlSi9Cu3	24
3.2381	G-AlSi10Mg	25
2.0375	CuZn36Pb 3	27
2.1096	G-CuSn5ZnPb	27
2.0590	G-CuZn40Fe	27
2.0240	CuZn15	28
2.0060	E-Cu 57	29
1.4865	G-X40NiCrSi 38-18	30
1.4864	X12NiCrSi 36-16	30
2.4631	NiCr20TiAl	32
2.4856	NiCr22Mo9Nb	32
2.4375	NiCu30Al	33
2.4955	NiFe25Cr20NbTi	33
2.4764	CoCr20W15Ni	34
1.3401	G-X120Mn12	34
3.7165	TiAl6V4	36

Momento torcente per viti

Filettatura	M1,6	M1,8	M2	M2,2	M2,5	M3	M3,5	M4	M4,5	M5	M6	M7	M8	M10	M12
Momento torcente [Nm]	0,2	0,3	0,4	0,7	0,8	1,5	2,3	3,4	5,0	6,7	11,4	19,2	27,0	55,8	85

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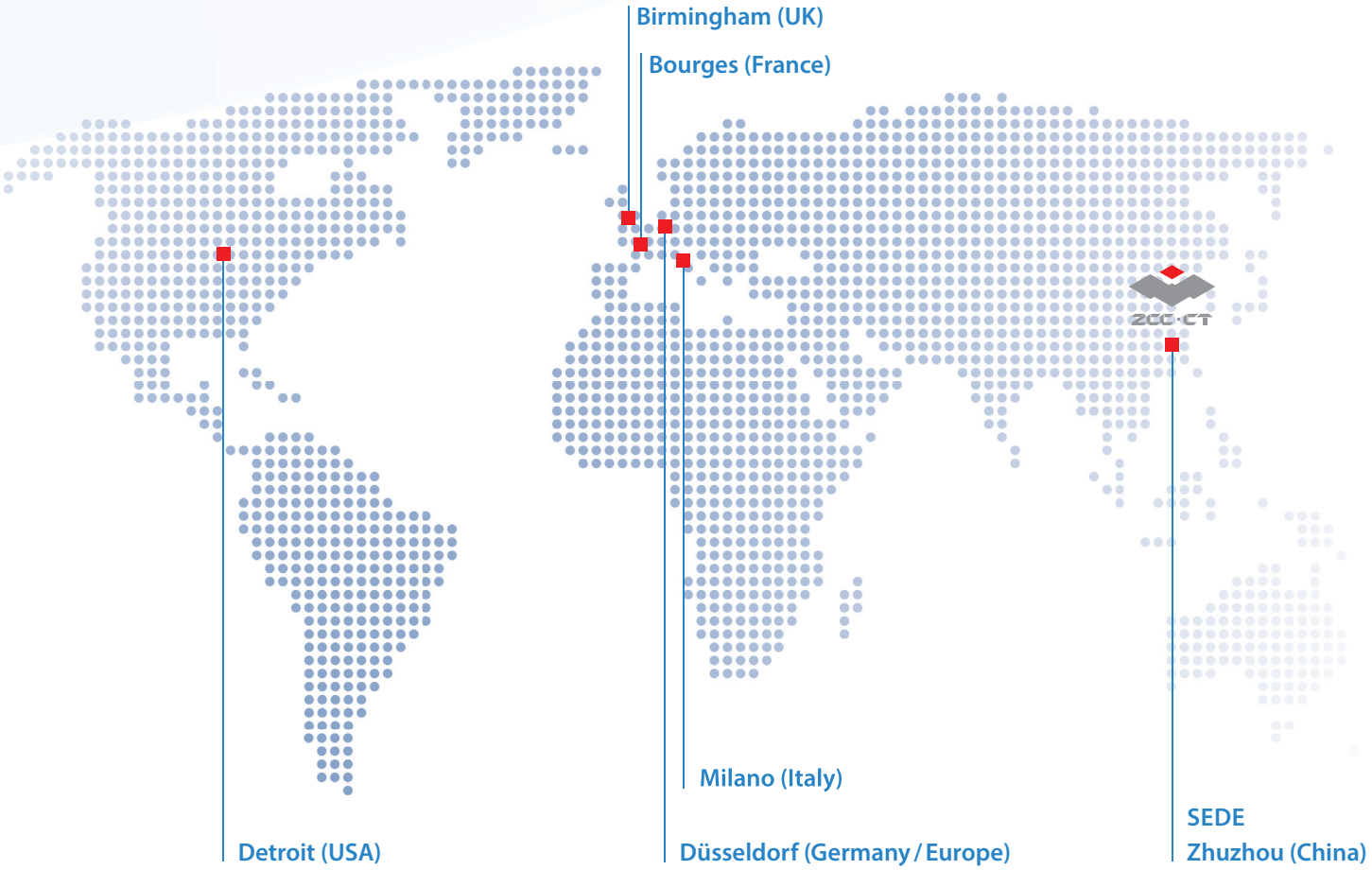

QUALITY MANAGEMENT SYSTEM CERTIFICATE

Certificate No. 00123Q33145R7L/4300

We hereby certify that

Zhuzhou Cemented Carbide Cutting Tools Co.,Ltd.

Business Registration Number: 91430207189786137P

Registration Address: Huanghe Southern Road, Hi-Tech Development Zone, Zhuzhou City, Hunan Province, P.R.China

Production Address1: Huanghe Southern Road, Hi-Tech Development Zone, Zhuzhou City, Hunan Province, P.R.China

Production Address2: 399 Xirena Southern Road and, Hi-Tech Development Zone, Zhuzhou City, Hunan Province, P.R.China

by reason of its

Quality Management System

has been awarded this certificate for compliance with the standard

ISO 9001:2015

The Quality Management System Applies in the following area:

Research, Design, Production and Service of Matching Technology for Cemented Carbide, Super Hard Material Indexable Inserts, Tips and Brazed Insert, Matched Toolholder, Solid Carbide Cutting Tools for Bore Machining and End Mills

Certified since: December 18, 2002 Valid from: May 10, 2023 Valid until: May 26, 2026

After a surveillance cycle, the certificate is valid only when used together with an Acceptance Notice of Surveillance Audit issued by CQC. Please access www.cqc.com.cn for checking validity of the certificate.
This certificate and its relevant information can query in the website of Certification and Accreditation Administration of the People's Republic of China (www.cnca.gov.cn).

MEMBER OF IAF CNAS IQNET

CHINA QUALITY CERTIFICATION CENTRE

Section B, No.818, Nanshihuan(the South Fourth Ring Road) Xiu(West Road), Beijing 100070, China
http://www.cqc.com.cn

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ENVIRONMENTAL MANAGEMENT SYSTEM CERTIFICATE

Certificate No. 00124E32226R7L/4300

We hereby certify that

Zhuzhou Cemented Carbide Cutting Tools Co.,Ltd.

Business Registration Number: 91430207189786137P

Registration Address: Huanghe Southern Road, Hi-Tech Development Zone, Zhuzhou City, Hunan Province, P.R.China
Production Address1: Huanghe Southern Road, Hi-Tech Development Zone, Zhuzhou City, Hunan Province, P.R.China
Production Address2: 399 Xirena Southern Road and Hi-Tech Development Zone, Zhuzhou City, Hunan Province, P.R.China

by reason of its

Environmental Management System

has been awarded this certificate for compliance with the standard

ISO 14001:2015

The Environmental Management System Applies in the following area:

Research, Design, Production and Service of Matching Technology for Cemented Carbide, Super Hard Material Indexable Inserts, Tips and Brazed Insert, Matched Toolholder, Solid Carbide Cutting Tools for Bore Machining and End Mills and Related Management Activities

Certified since: May 30, 2003 Valid from: June 5, 2024 Valid until: June 25, 2027

After a surveillance cycle, the certificate is valid only when used together with an Acceptance Notice of Surveillance Audit issued by CQC. Please access www.cqc.com.cn for checking validity of the certificate.
This certificate and its relevant information can query in the website of Certification and Accreditation Administration of the People's Republic of China (www.cnca.gov.cn).

MEMBER OF IAF CNAS IQNET

中国质量认证中心

CHINA QUALITY CERTIFICATION CENTRE

Section B, No. 818, Nanshihuan Xilu, Beijing 100070 P. R. China
http://www.cqc.com.cn

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bsi.

Certificate of Registration

QUALITY MANAGEMENT SYSTEM - ISO 9001:2015

This is to certify that:

ZCC Cutting Tools Europe GmbH
Wanheimer Str. 57
Düsseldorf
40472
Germany

Holds Certificate No: FS 651501

and operates a Quality Management System which complies with the requirements of ISO 9001:2015 for the following scope:

Development, Construction, Distribution and Logistics for Metal Cutting Tools. Activities are related to the IAF sector 29.

For and on behalf of BSI:

David Fardel, Country Manager, EMEA Assurance

Original Registration Date: 2010-06-17
Latest Revision Date: 2025-06-02

Effective Date: 2025-06-18
Expiry Date: 2028-06-17

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This certificate was issued electronically and remains the property of BSI and is bound by the conditions of contract.
An electronic certificate can be authenticated online.
Printed copies can be validated at www.bsigroup.com/ClientDirectory

Information and contacts: BSI Group Italia srl, via Gaetano De Castillia 23, Milano, Italy, phone: +39 02 4991 8130
A Member of the BSI Group of Companies.

7 Il valore aggiunto in una partnership con ZCC Cutting Tools Europe

1 Prodotti di punta innovativi per maggiori prestazioni, redditività e qualità costante

Attraverso la nostra esperienza all'interno dell'intera catena di produzione di utensili in metallo duro, dall'estrazione delle materie prime e la loro ulteriore lavorazione fino al prodotto finale finito e trasformato, riusciamo a garantire costantemente **soluzioni lavorative caratterizzate da un'elevata qualità**. La nostra è un'offerta completa che assicura maggiore **efficienza, costi ridotti, una produttività superiore** e **e una redditività ottimizzata per la vostra produzione**.

2 Rapporto prezzo/prestazioni ottimale

I nostri prodotti e le nostre soluzioni si collocano, dal punto di vista tecnico e tecnologico, a **livello premium** Grazie alla nostra disponibilità di materie prime, nonché a impianti di produzione all'avanguardia e a processi produttivi scalabili, possiamo offrirvi **Prodotti di altissima qualità** ad un **prezzo conveniente**.

3 Offerta completa di utensili standard per tutti i settori industriali rilevanti in Europa

Con il nostro assortimento di oltre 25.000 prodotti dedicati a **tornitura, fresatura, foratura e filettatura**, disponiamo di soluzioni per tutte le applicazioni rilevanti nei settori industriali come ingegneria meccanica e di impiantistica, aerospaziale, automotive, tecnologia ferroviaria, costruzione di stampi, tecnologia medica ed elettronica. I processi di ricerca e sviluppo integrati tra Europa e Asia garantiscono una continua innovazione dei prodotti e l'ulteriore espansione del portfolio in base alle specifiche esigenze europee. Conosciamo **le vostre sfide** e vi offriamo **le risposte di cui avete bisogno sul piano tecnico**.

4 Una supply chain continua, tempi di consegna di 24 ore

Le materie prime per gli utensili di ZCC Cutting Tools provengono dai giacimenti del Gruppo e vengono convogliate direttamente nel resto della catena produttiva, a seconda delle necessità. Questo crea la sicurezza necessaria per una costante disponibilità degli utensili necessari alla vostra produzione. Il trasporto aereo garantisce inoltre la **disponibilità più rapida possibile** per i nostri clienti in Europa. Grazie a **scorte di magazzino ottimizzate per i clienti** nel nostro centro logistico europeo, processi logistici efficienti e una fitta rete di distribuzione in Europa, garantiamo ai nostri clienti di poter ricevere in ogni momento **prodotti standard** con rapidità e affidabilità, solitamente entro **24 ore dal ricevimento dell'ordine**.

5 Il partner competente **vicino a voi**

Conosciamo bene i nostri clienti e siamo al vostro fianco a livello nazionale e locale da oltre vent'anni. I nostri dipendenti sono altamente qualificati ed esperti. Investiamo nel perfezionamento di tutti i team in modo mirato e continuo. Düsseldorf è la sede centrale in UE che ospita un Centro dimostrativo e di prova all'avanguardia, la progettazione e realizzazione dei prodotti, la tecnologia applicativa, la sede del reparto vendite interne e il magazzino. **Il nostro servizio sul campo** è sempre **vicino alle vostre sedi.** Attualmente abbiamo filiali di distribuzione a Bourges (Francia), Birmingham (Regno Unito) e Milano (Italia), e ne seguiranno altre ancora grazie alla nostra crescita in Europa. Negli altri Paesi, i **nostri partner commerciali altamente qualificati sono il vostro primo punto di riferimento**.

6 **Soluzioni personalizzate** su richiesta di utensili e processi lavorativi con **requisti speciali**

Se necessario ed economicamente vantaggioso, ZCC Cutting Tools Europe sviluppa rapidamente e localmente **soluzioni progettuali e personalizzate** oltre a **processi ottimizzati** che vengono anche completamente simulati in anticipo. Il nostro motto per il vostro ambiente di produzione è infatti: **First part – Good part**, ovvero il primo pezzo fornito deve essere ottimale.

7 Assistenza con **offerte di servizi orientati al cliente**

Per ZCC Cutting Tools Europe, lavorare in partnership significa anche offrire importanti servizi relativi ai prodotti e al loro impiego economico. Tra questi, ad esempio **corsi tecnici di formazione** per i dipendenti e per i clienti, il **servizio di rigenerazione** per utensili in metallo duro integrale e **offerte e soluzioni per la gestione degli utensili e dei loro dati**.

ISO 14001:2015

ISO 9001:2015

ISO 9001:2015

Membro VDMA

Siamo certificati

ZCC Cutting Tools Europe fa parte attivamente, da anni, della Federazione tedesca di ingegneria (**VDMA**) e possiede le certificazioni in conformità a tutti gli **standard e norme** nei settori della produzione, dell'ambiente e della qualità.

Contattateci direttamente:

Scriveteci a **infoit@zccct-europe.com**

Chiamateci durante gli orari di ufficio (dal lunedì al venerdì, dalle 8:00 alle 17:00) al numero **+49 211-989240-390** e potrete parlare direttamente con il vostro referente personale.

Visitate il nostro sito web all'indirizzo **www.zccct-europe.com** e registratevi come nuovo cliente. Sfruttate poi il sistema di ordinazione online per ordinare i componenti dei vostri utensili in qualsiasi momento.

Seguite ZCC Cutting Tools Europe anche sui **social media**:

Catalogo Principale

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Sede Centrale Europea

ZCC Cutting Tools Europe GmbH
www.zccct-europe.com
Wanheimer Str. 57, 40472 Düsseldorf, Germany
Tel.: +49 (0) 211-989240-0
Fax: +49 (0) 211-989240-111
E-mail: info@zccct-europe.com

Filiale Francia

ZCC Cutting Tools Europe GmbH
Succursale Française
www.zccct-europe.com
14, Allée Charles Pathé, 18000 Bourges, France
Tel.: +33 (0) 2 45 41 01 40
Fax: +33 (0)2 48 66 19 46
E-mail: ventes@zccct-europe.com

Filiale Italia

ZCC Cutting Tools Europe GmbH
Italy Branch
www.zccct-europe.com
Via Giuseppe di Vittorio 24
20068 Peschiera Borromeo (Milano), Italia
Tel.: +49 (0)211-989240-390
+39 (0)2 39261 156
E-mail: infoit@zccct-europe.com

Filiale Regno Unito

ZCC Cutting Tools Europe GmbH
UK Division
www.zccct-europe.com
Technology & Demonstration Centre UK
Block 1D & 1E Grazebrook Industrial Park, Hulbert Drive
Dudley, West Midlands, DY2 0BE
Tel.: +44 (0)330 441 8766
E-mail: infouk@zccct-europe.com

ZCC Cutting Tools Europe GmbH

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