

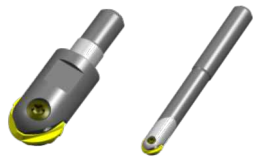
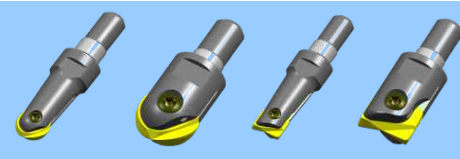
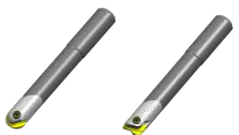
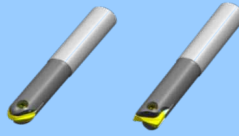
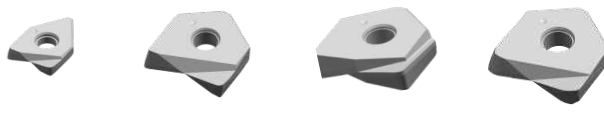
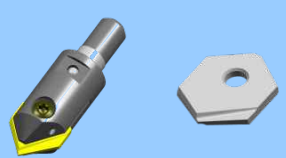


zerm^{et}

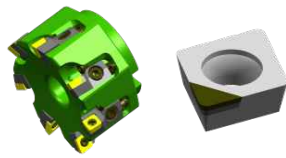
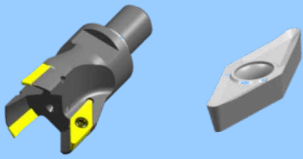
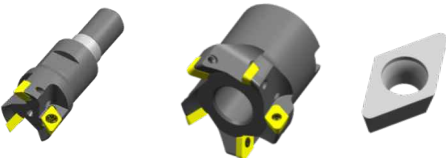
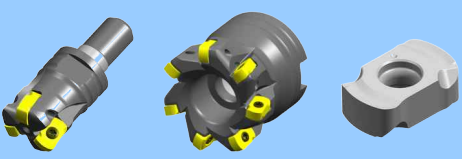
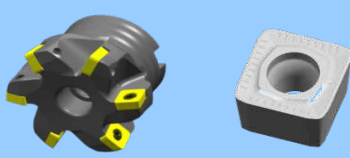
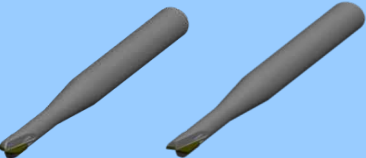
Zerspanungstechnik GmbH & Co KG

z1
2025

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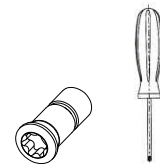
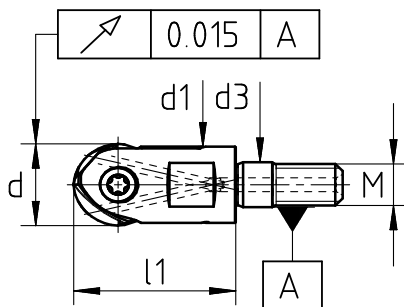
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z1HBduo-...M..

Einschraub-Kopierfräser | Modular Copy Mill |
Fresa modulare per inserti sferici

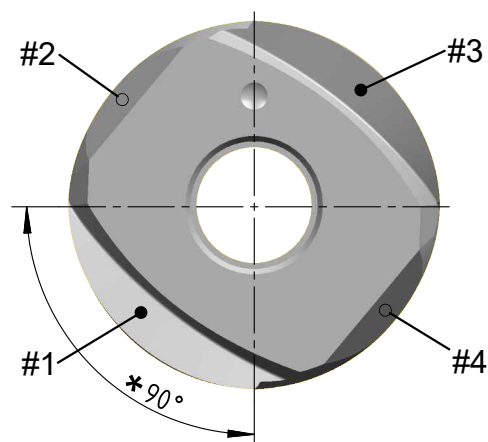


z1HBduo-12...22-..



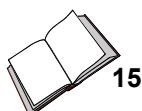
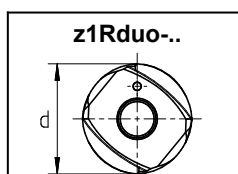
Code	Type	d	l1	d1	d3	a	M	Nm		s	
45890	z1HBduo-12-22-M6	12	22	10,8	6,5	-	M6	8	8	zS-12	T10
50285	Z1HBduo-16-27-M8	16	27	14,4	8,5	-	M8	15	13	zS-16	T20
50286	Z1HBduo-20-33-M10	20	33	18,0	10,5	-	M10	30	15	zS-20	T20
50287	z1HBduo-25-40-M12	25	40	22,5	12,5	-	M12	50	19	zS-25	T20

Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

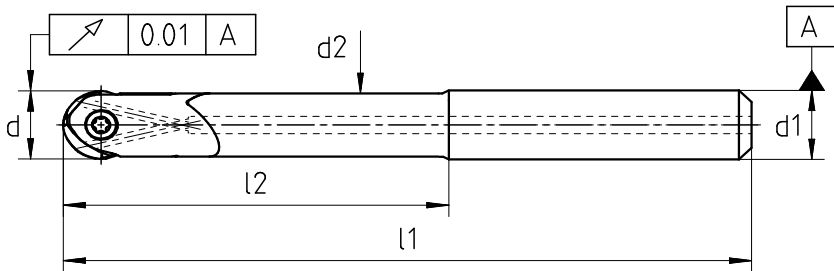
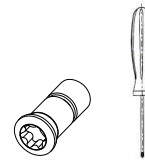
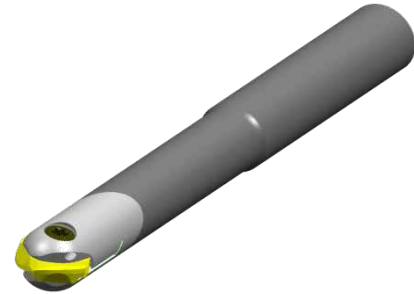
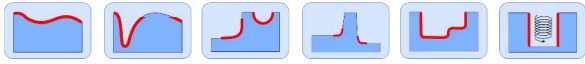


= Schneide Nr.
cutting edge no.

* = Schneidenbereich
cutting range

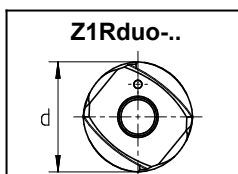


z1SBduo-... Kopierfräser mit VHM-Schaft | Copy end mill with solid carbide shank | Fresa per inserti sferici con stelo in MDI



Code	Type	d	l1	d1	l2	d2	s	T
50288	z1SBduo-12-110-12-060	12	110	12	60	10,8	zS-12	T10
50289	z1SBduo-12-140-12-080	12	140	12	80	10,8	zS-12	T10
50290	z1SBduo-12-180-12-120	12	180	12	120	10,8	zS-12	T10
50291	z1SBduo-16-120-16-040	16	120	16	40	15,0	zS-16	T20
50292	z1SBduo-16-150-16-090	16	150	16	90	15,0	zS-16	T20
50293	z1SBduo-16-180-16-120	16	180	16	120	15,0	zS-16	T20
50294	z1SBduo-16-220-16-160	16	220	16	160	15,0	zS-16	T20
50295	z1SBduo-20-120-20-040	20	120	20	40	19,0	zS-20	T20
50296	z1SBduo-20-150-20-100	20	150	20	100	19,0	zS-20	T20
50297	z1SBduo-20-180-20-120	20	180	20	120	19,0	zS-20	T20
50298	z1SBduo-20-220-20-160	20	220	20	160	19,0	zS-20	T20
50299	z1SBduo-25-180-25-120	25	180	25	120	23,0	zS-25	T20
50300	z1SBduo-25-230-25-170	25	230	25	170	23,0	zS-25	T20

Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

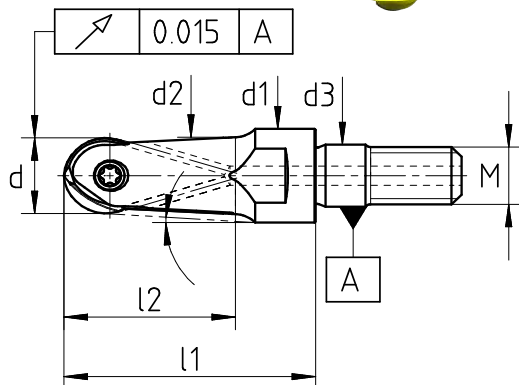


z1HB-...M..

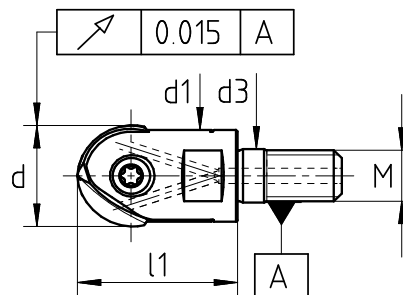
Einschraub-Kopierfräser | Modular Copy Mill |
Fresa modulare per inserti sferici



z1HB-06-25-M6
z1HB-08-25-M6

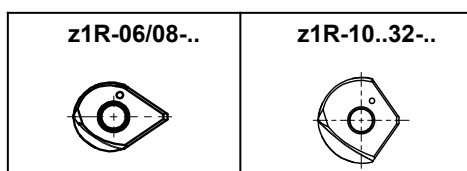


z1HB-10...32-..



Code	Type	d	l1	d1	l2	d2	d3	a	M	Nm		s	
40210	z1HB-06-25-M6	6	25	9,8	16,5	6,6	6,5	6,7	M6	8	8	zS-06	T7
40211	z1HB-08-25-M6	8	25	9,8	17,0	8,1	6,5	3,4	M6	8	8	zS-08	T7
40212	z1HB-10-20-M6	10	20	9,8	12,5	9,0	6,5	-	M6	8	8	zS-10	T8
40213	z1HB-12-22-M6	12	22	10,8	-	-	6,5	-	M6	8	8	zS-12	T10
40214	z1HB-16-25-M8	16	25	14,4	-	-	8,5	-	M8	15	13	zS-16	T20
40215	z1HB-20-30-M10	20	30	18,0	-	-	10,5	-	M10	30	15	zS-20	T20
40216	z1HB-25-40-M12	25	40	22,5	-	-	12,5	-	M12	50	19	zS-25	T20
40217	z1HB-32-50-M16	32	50	28,6	-	-	17,0	-	M16	100	24	zS-32	T30

Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

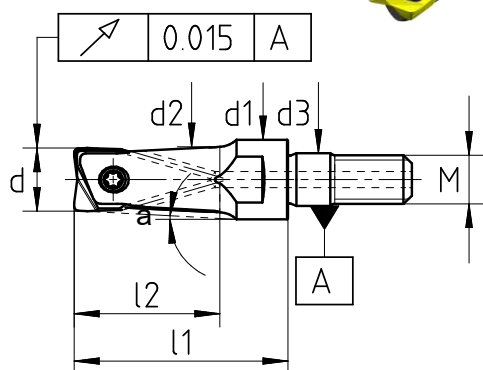


z1HT-...M..

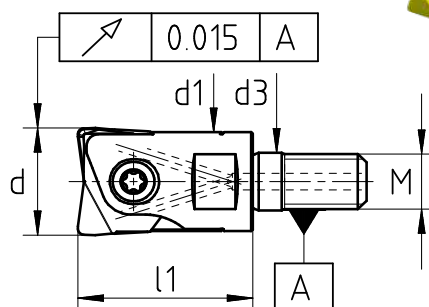
Einschraub-Kopierfräser | Modular Copy Mill |
Fresa modulare per inserto torico



z1HT-06-25-M6
z1HT-08-25-M6

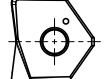


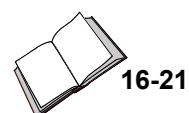
z1HT-10..32-..



Code	Type	d	l1	d1	l2	d2	d3	a	M	Nm		s	
40376	z1HT-06-25-M6	6	25	9,8	16,5	6,6	6,5	5,9	M6	8	8	zS-06	T7
40377	z1HT-08-25-M6	8	25	9,8	17,0	8,1	6,5	2,8	M6	8	8	zS-08	T7
40378	z1HT-10-20-M6	10	20	9,8	12,5	9,0	6,5	-	M6	8	8	zS-10	T8
40379	z1HT-12-22-M6	12	22	10,8	-	-	6,5	-	M6	8	8	zS-12	T10
40380	z1HT-16-25-M8	16	25	14,4	-	-	8,5	-	M8	15	13	zS-16	T20
40381	z1HT-20-30-M10	20	30	18,0	-	-	10,5	-	M10	30	15	zS-20	T20
40534	z1HT-25-40-M12	25	40	22,5	-	-	12,5	-	M12	50	19	zS-25	T20
40535	z1HT-32-50-M16	32	50	28,6	-	-	17,0	-	M16	100	24	zS-32	T30

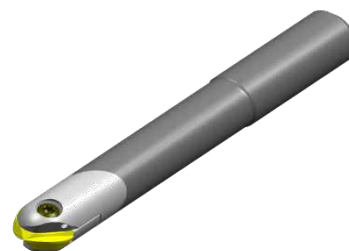
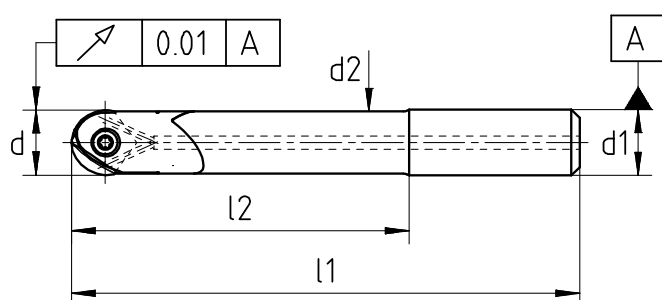
Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

Z1T-06/08-..	z1T-10..32-..	z1THF-10...20-..	z1TSP-08..20-..
			



z1SB-..

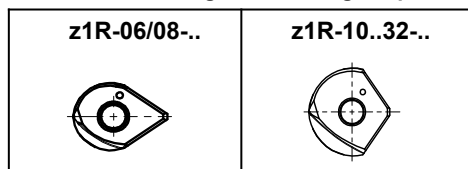
Kopierfräser mit VHM-Schaft | Copy end mill with solid carbide shank |
Fresa per inserti sferici con stelo in MDI



Code	Type	d	l1	d1	l2	d2		s	
61723	z1SB-06-100-06-040	6	100	6	40	5,6		zS-06	T7
46652	z1SB-06-060-08-020	6	60	8	20	5,6		zS-06	T7
40385	z1SB-06-080-08-040	6	80	8	40	5,6		zS-06	T7
40386	z1SB-06-100-08-060	6	100	8	60	5,6		zS-06	T7
61724	z1SB-08-105-08-40	8	105	8	40	7,2		zS-08	T7
46653	z1SB-08-070-10-025	8	70	10	25	7,2		zS-08	T7
40387	z1SB-08-085-10-040	8	85	10	40	7,2		zS-08	T7
40388	z1SB-08-105-10-060	8	105	10	60	7,2		zS-08	T7
46654	z1SB-10-080-10-030	10	80	10	30	9,0		zS-10	T8
40389	z1SB-10-100-10-060	10	100	10	60	9,0		zS-10	T8
40391	z1SB-10-140-10-100	10	140	10	100	9,0		zS-10	T8
46655	z1SB-12-090-12-040	12	90	12	40	10,8		zS-12	T10
40392	z1SB-12-110-12-060	12	110	12	60	10,8		zS-12	T10
40393	z1SB-12-140-12-080	12	140	12	80	10,8		zS-12	T10
40394	z1SB-12-180-12-120	12	180	12	120	10,8		zS-12	T10
46061	z1SB-16-120-16-040	16	120	16	40	15,0		zS-16	T20
40395	z1SB-16-150-16-090	16	150	16	90	15,0		zS-16	T20
40396	z1SB-16-180-16-120	16	180	16	120	15,0		zS-16	T20
40397	z1SB-16-220-16-160	16	220	16	160	15,0		zS-16	T20
46062	z1SB-20-120-20-040	20	120	20	40	19,0		zS-20	T20
40398	z1SB-20-150-20-100	20	150	20	100	19,0		zS-20	T20
40399	z1SB-20-180-20-120	20	180	20	120	19,0		zS-20	T20
40400	z1SB-20-220-20-160	20	220	20	160	19,0		zS-20	T20
40401	z1SB-25-180-25-120	25	180	25	120	23,0		zS-25	T20
40402	z1SB-25-230-25-170	25	230	25	170	23,0		zS-25	T20

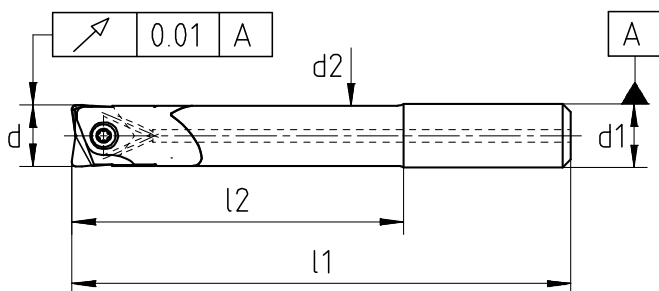
Abmessungen [mm]	Dimensions [mm]	Dimensioni [mm]
------------------	-----------------	-----------------

* Sonderabmessungen auf Anfrage | Special dimensions on request | Dimensioni speciali su richiesta



z1ST-..

Kopierfräser mit VHM-Schaft | Copy end mill with solid carbide shank |
Fresa per inserto torico con stelo in MDI

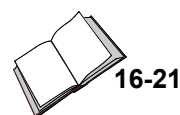


Code	Type	d	l1	d1	l2	d2	s	
61725	z1ST-06-100-06-040	6	100	6	40	5,6	zS-06	T7
46656	z1ST-06-060-08-020	6	60	8	20	5,6	zS-06	T7
40403	z1ST-06-080-08-040	6	80	8	40	5,6	zS-06	T7
40404	z1ST-06-100-08-060	6	100	8	60	5,6	zS-06	T7
61726	z1ST-08-105-08-040	8	105	8	40	7,2	zS-08	T7
46657	z1ST-08-070-10-025	8	70	10	25	7,2	zS-08	T7
40405	z1ST-08-085-10-040	8	85	10	40	7,2	zS-08	T7
40406	z1ST-08-105-10-060	8	105	10	60	7,2	zS-08	T7
46658	z1ST-10-080-10-030	10	80	10	30	9,0	zS-10	T8
40407	z1ST-10-100-10-060	10	100	10	60	9,0	zS-10	T8
40408	z1ST-10-140-10-100	10	140	10	100	9,0	zS-10	T8
46659	z1ST-12-090-12-040	12	90	12	40	10,8	zS-12	T10
40409	z1ST-12-110-12-060	12	110	12	60	10,8	zS-12	T10
40410	z1ST-12-140-12-080	12	140	12	80	10,8	zS-12	T10
40411	z1ST-12-180-12-120	12	180	12	120	10,8	zS-12	T10
46060	z1ST-16-120-16-040	16	120	16	40	15,0	zS-16	T20
40412	z1ST-16-150-16-090	16	150	16	90	15,0	zS-16	T20
40413	z1ST-16-180-16-120	16	180	16	120	15,0	zS-16	T20
40414	z1ST-16-220-16-160	16	220	16	160	15,0	zS-16	T20
46063	z1ST-20-120-20-040	20	120	20	40	19,0	zS-20	T20
40415	z1ST-20-150-20-100	20	150	20	100	19,0	zS-20	T20
40416	z1ST-20-180-20-120	20	180	20	120	19,0	zS-20	T20
40417	z1ST-20-220-20-160	20	220	20	160	19,0	zS-20	T20
40418	z1ST-25-180-25-120	25	180	25	120	23,0	zS-25	T20
40419	z1ST-25-230-25-170	25	230	25	170	23,0	zS-25	T20

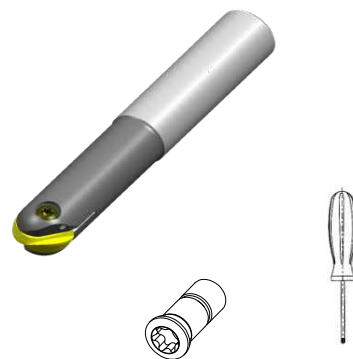
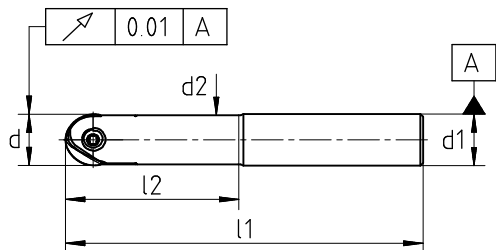
Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

* Sonderabmessungen auf Anfrage | Special dimensions on request | Dimensioni speciali su richiesta

z1T-06/08-..	z1T-10..32-..	z1THF-10..20-..	z1TSP-10..20-..
			

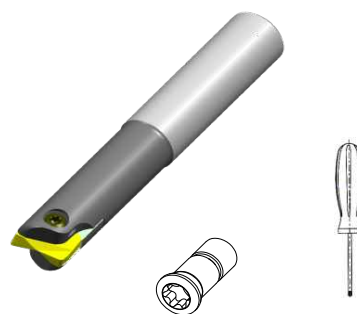
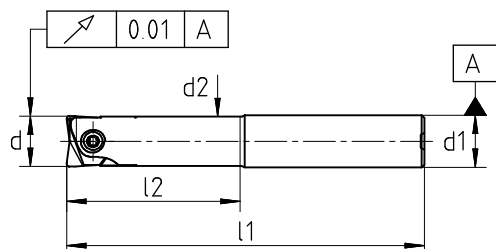


z1SBS-.. Kopierfräser | Copy-Endmill | Fresa per inserti sferici



Code	Type	d	l1	d1	l2	d2	s	
45950	z1SBS-06-060-10-014	6	60	10	14	5,6	zS-06	T7
45951	z1SBS-08-070-10-025	8	70	10	25	7,2	zS-08	T7
45954	z1SBS-10-080-12-031	10	80	12	31	9	zS-10	T8
45955	z1SBS-12-090-12-037	12	90	12	37	10,8	zS-12	T10
45988	z1SBS-16-110-16-050	16	110	16	50	15	zS-16	T20
45989	z1SBS-20-130-20-063	20	130	20	63	19	zS-20	T20

z1STS-.. Kopierfräser | Copy-Endmill | Fresa per inserto torico

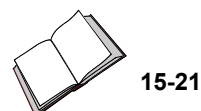
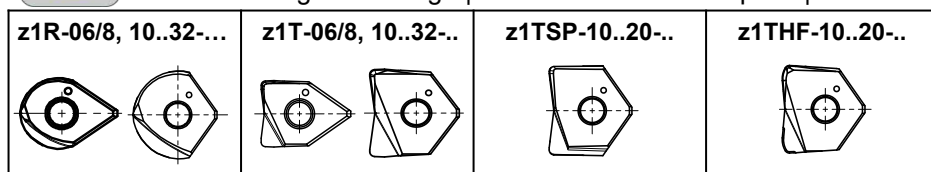


Code	Type	d	l1	d1	l2	d2	s	
45963	z1STS-06-060-10-014	6	60	10	14	5,6	zS-06	T7
45962	z1STS-08-070-10-025	8	70	10	25	7,2	zS-08	T7
45959	z1STS-10-080-12-031	10	80	12	31	9	zS-10	T8
45958	z1STS-12-090-12-037	12	90	12	37	10,8	zS-12	T10
45990	z1STS-16-110-16-050	16	110	16	50	15	zS-16	T20
45991	z1STS-20-130-20-063	20	130	20	63	19	zS-20	T20

Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

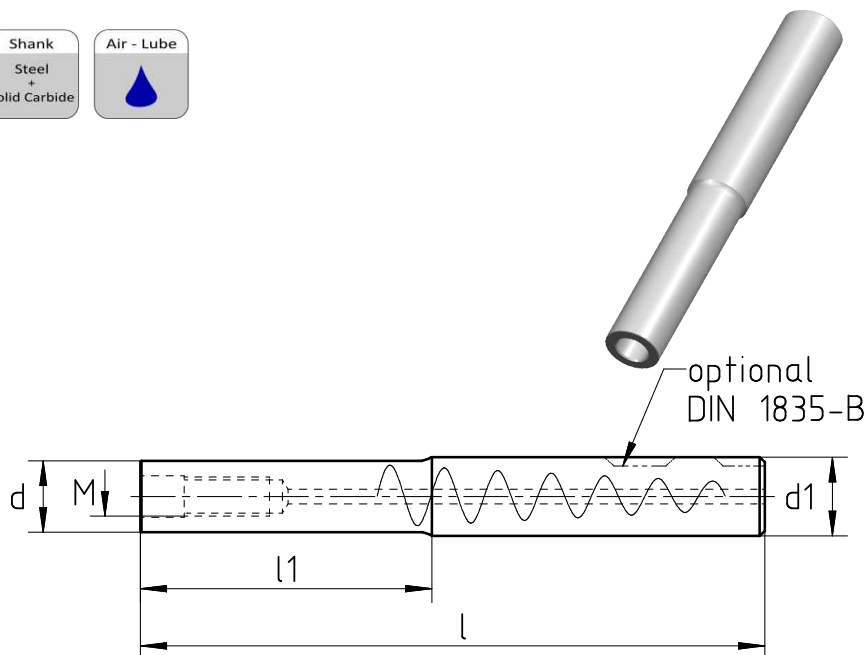
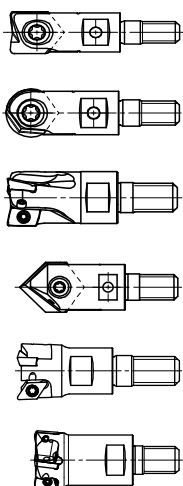


Innenkühlung auf Anfrage | Internal coolant on request | Lubrificazione interna su richiesta



CY--ST

Zylinderschaft mit Hartmetallkern | Cylindrical extension with solid carbide core |
Prolunga in acciaio con anima in MDI



schwingungsgedämpft | anti-vibration | effetto ammortizzante

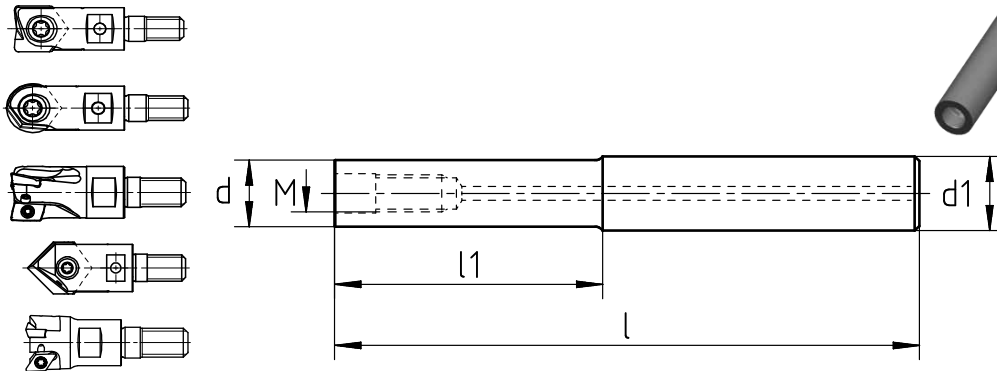
Code	Type	d	l	d1	l1	M	
35046	CY-12-070-12-5-ST-M6	11,0	70	12	5	M6	
5143	CY-12-070-12-20-ST-M6	11,0	70	12	20	M6	
35047	CY-12-120-12-55-ST-M6	11,0	120	12	55	M6	
5150	CY-12-120-12-70-ST-M6	11,0	120	12	70	M6	
5133	CY-16-070-16-6-ST-M8	14,5	70	16	6	M8	
5139	CY-16-120-16-56-ST-M8	14,5	120	16	56	M8	
5157	CY-20-064-20-6-ST-M10	18,0	64	20	6	M10	
5153	CY-20-089-20-24-ST-M10	18,0	89	20	24	M10	
5160	CY-20-130-20-70-ST-M10	18,0	130	20	70	M10	
5100	CY-20-180-20-125-ST-M10	18,0	180	20	125	M10	
5091	CY-25-081-25-15-ST-M12	22,6	81	25	15	M12	
5098	CY-25-111-25-45-ST-M12	22,6	111	25	45	M12	
5125	CY-25-180-25-110-ST-M12	22,6	180	25	110	M12	
5121	CY-25-220-25-155-ST-M12	22,6	220	25	155	M12	
5111	CY-32-103-32-14-ST-M16	29,4	103	32	14	M16	
5112	CY-32-160-32-90-ST-M16	29,4	160	32	90	M16	
5120	CY-32-200-32-108-ST-M16	29,4	200	32	108	M16	
30693	CY-32-250-32-159-ST-M16	29,4	250	32	159	M16	
33879	CY-32-300-32-60-ST-M16	30,0	300	32	60	M16	
4312	CY-32-300-32-207-ST-M16	30,0	300	32	207	M16	

Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

Lieferumfang ohne Kopierfräser | Delivery without copy end mill | Consegna senza corpo fresa

CY-...HM

Zylindrische Vollhartmetallaufnahme | Cylindrical solid carbide extension |
Prolunga cilindrica in MDI



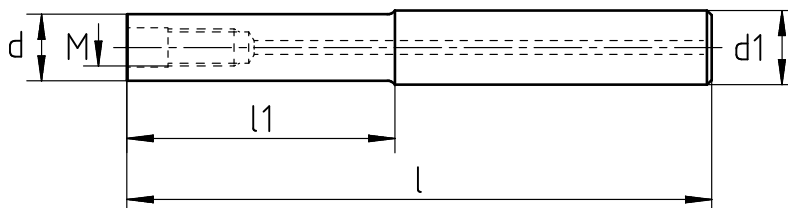
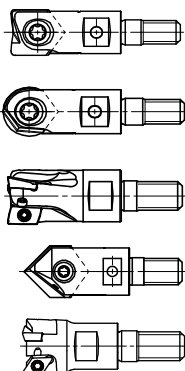
Code	Type	d	l	d1	l1	M
5146	CY-10-80-10-31-HM-M6	9,8	80	10	31	M6
5145	CY-10-80-10-D-HM-M6	10,0	80	10	80	M6
5035	CY-10-150-10-24-HM-M6	9,8	150	10	24	M6
33036	CY-10-150-10-100-HM-M6	9,8	150	10	100	M6
34957	CY-12-65-12-20-HM-M7	11,4	65	12	20	M7
5134	CY-12-80-12-31-HM-M6	10,8	80	12	31	M6
5136	CY-12-80-12-D-HM-M6	12,0	80	12	80	M6
34958	CY-12-85-12-40-HM-M7	11,4	85	12	40	M7
34959	CY-12-105-12-60-HM-M7	11,4	105	12	60	M7
34956	CY-12-125-12-80-HM-M7	11,4	125	12	80	M7
5151	CY-12-150-12-30-HM-M6	10,8	150	12	30	M6
33037	CY-12-150-12-100-HM-M6	10,8	150	12	100	M6
35016	CY-12,5-88-16-40-HM-M8	12,5	88	16	40	M8
35017	CY-12,5-108-16-60-HM-M8	12,5	108	16	60	M8
35018	CY-13,6-88-16-40-HM-M8	13,6	88	16	40	M8
35019	CY-13,6-108-16-60-HM-M8	13,6	108	16	60	M8
34962	CY-13,6-128-16-80-HM-M8	13,6	128	16	80	M8
34963	CY-16-148-16-100-HM-M8	13,6	148	16	100	M8
34964	CY-16-68-16-20-HM-M8	14,0	68	16	20	M8
34965	CY-16-70-16-20-HM-M10	15,4	70	16	20	M10
5170	CY-16-80-14-D-HM-M8	14,0	80	14	80	M8
34966	CY-16-90-16-40-HM-M10	15,4	90	16	40	M10
34967	CY-16-110-16-60-HM-M10	15,4	110	16	60	M10
5141	CY-16-120-16-24-HM-M8	14,4	120	16	24	M8

Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

Lieferumfang ohne Kopierfräser | Delivery without copy end mill | Consegna senza corpo fresa

CY--HM

Zylindrische Vollhartmetallaufnahme | Cylindrical solid carbide extension |
Prolunga cilindrica in MDI



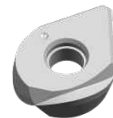
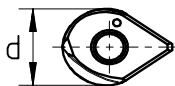
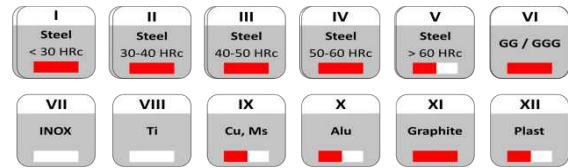
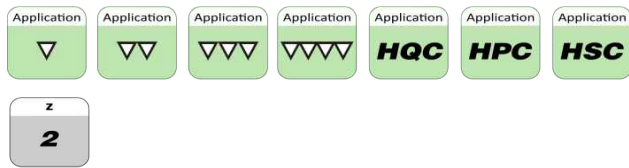
Code	Type	d	l	d1	l1	M
33038	CY-16-120-16-55-HM-M8	14,4	120	16	55	M8
34968	CY-16-130-16-80-HM-M10	15,4	130	16	80	M10
34969	CY-16-150-20-100-HM-M10	15,4	150	20	100	M10
34970	CY-16-150-16-100-HM-M10	15,4	150	16	100	M10
34972	CY-16-170-16-120-HM-M10	15,4	170	16	120	M10
33205	CY-16-200-16-24-HM-M8	14,4	200	16	24	M8
5163	CY-16-200-16-135-HM-M8	14,4	200	16	135	M8
5161	CY-20-120-20-40-HM-M10	18,0	120	20	40	M10
33039	CY-20-120-20-55-HM-M10	18,0	120	20	55	M10
5108	CY-20-200-18-D-HM-M10	18,0	200	18	200	M10
5109	CY-20-200-19-40-HM-M10	18,0	200	19	40	M10
33040	CY-20-200-19-135-HM-M10	18,0	200	19	135	M10
5107	CY-20-200-20-40-HM-M10	18,0	200	20	40	M10
33041	CY-20-200-20-135-HM-M10	18,0	200	20	135	M10
5099	CY-25-125-25-60-HM-M12	22,5	125	25	60	M12
5097	CY-25-145-25-80-HM-M12	22,5	145	25	80	M12
5110	CY-25-165-25-100-HM-M12	22,5	165	25	100	M12
5129	CY-25-250-25-48-HM-M12	22,5	250	25	48	M12
33042	CY-25-250-25-157-HM-M12	22,5	250	25	157	M12
5128	CY-25-300-25-55-HM-M12	22,5	300	25	55	M12
33043	CY-25-300-25-207-HM-M12	22,5	300	25	207	M12
5118	CY-32-300-32-56-HM-M16	28,6	300	32	56	M16
33044	CY-32-300-32-207-HM-M16	28,6	300	32	207	M16

Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

Lieferumfang ohne Kopierfräser | Delivery without copy end mill | Consegna senza corpo fresa

z1R-...H-N050-..

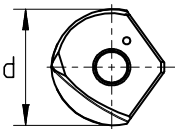
Kopier-Rundplatten | Round inserts | Monoplacchette sferiche



Sorten | Grades | Gradi

Beschichtung | Coating | Rivestimento

Type	d		F10	F10	F10	F10	
				TiAlN	H66+	DMD-G	
z1R-06-H-N050	6	C O D E	40224	40548	53572	40550	
z1R-08-H-N050	8		40551	40552	53571	40554	



[mm]



Sorten | Grades | Gradi

Beschichtung | Coating | Rivestimento

Type	d		F10	F10	F10	F10	
				TiAlN	H66+	DMD-G	
z1R-10-H-N050	10	C O D E	40226	40556	52696	40558	
z1R-12-H-N050	12		40227	40560	52695	40562	
z1R-16-H-N050	16		40228	40563	52694	40565	
z1R-20-H-N050	20		40229	40566	52693	40568	
z1R-25-H-N050	25		40230	40569	53570	(40571)	
z1R-32-H-N050	32		40231	40572	53454	(40573)	

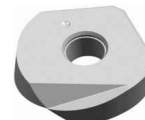
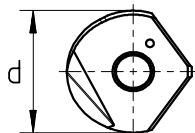
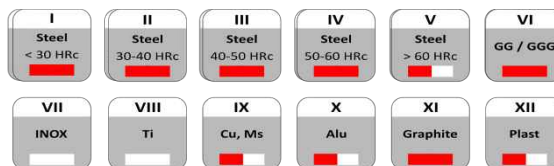
Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm] (...) auf Anfrage | on request | su richiesta

* Sonderabmessungen auf Anfrage | Special dimensions on request | Dimensioni speciali su richiesta

Schnittwertempfehlungen, cutting parameters, Parametri di taglio



z1R--N-ECO Kopier-Rundplatten | Round inserts | Monoplacchette sferiche

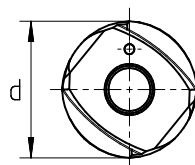
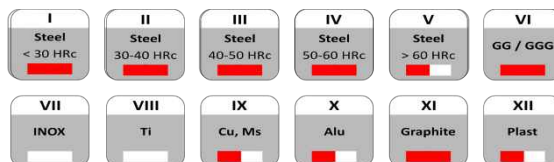


Sorten | Grades | Gradi

Beschichtung | Coating | Rivestimento

Type	d		F10	F10	F10	F10	
				TiAlN	H66+	DMD-G	
z1R-12-N-ECO	12	C O D E	54757	54762	(54766)	(54770)	
z1R-16-N-ECO	16		54758	54763	(54767)	(54771)	
z1R-20-N-ECO	20		54759	54764	(54768)	(54772)	
z1R-25-N-ECO	25		54760	54765	(54769)	(54773)	

Z1Rduo--H-000-- Kopier-Rundplatten | Round inserts | Monoplacchette sferiche



Type	d		F17	F17	F17	F17	
				TiAlN	H66+	DMD-G	
z1Rduo-12-H-000	12	C O D E	50309	50317	53653	(50321)	
z1Rduo-16-H-000	16		50310	50318	52902	(50322)	
z1Rduo-20-H-000	20		50311	50319	53610	(50323)	
z1Rduo-25-H-000	25		50312	50320	53611	(50324)	

Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

(...) auf Anfrage | on request | speciali su richiesta

* Sonderabmessungen auf Anfrage | Special dimensions on request | Dimensioni speciali su richiesta

Schnittwertempfehlungen, cutting parameters, Parametri di taglio

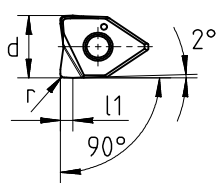


z1T-..-R..

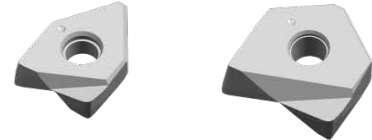
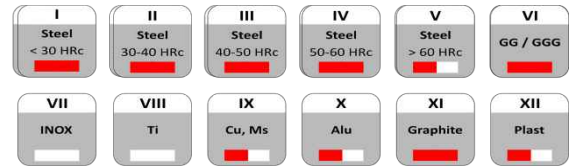
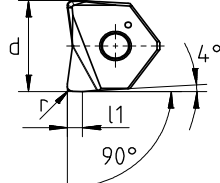
Torische Kopierplatten | Toric inserts | Monoplacchette toriche



z1T-06/08



z1T-10...32



Sorten | Grades | Gradi

Beschichtung | Coating | Rivestimento

Type	d*	r*	l1		F10	F10 TiAlN	F10 H66+	F10 DMD-G
z1T-06-R-ER0,4 *	6	0,4	1,4		(40482)	(40579)	(53612)	(40581)
z1T-06-R-ER0,5	6	0,5	1,5		40500	40582	53613	40584
z1T-06-R-ER1,0	6	1,0	2,0		40501	40585	53647	40587
z1T-08-R-ER0,4 *	8	0,4	1,4		(40502)	(40588)	(53614)	(40590)
z1T-08-R-ER0,5	8	0,5	1,5		40503	40594	53615	40596
z1T-08-R-ER1,0	8	1,0	2,0		40504	40598	52720	40601
z1T-08-R-ER1,5	8	1,5	2,5		45014	45806	53583	45805
z1T-08-R-ER2,0	8	2,0	3,0		45015	45819	53582	45818
z1T-10-R-ER0,5	10	0,5	1,5		40505	40602	52701	40605
z1T-10-R-ER0,8 *	10	0,8	1,8		(40506)	(40606)	(53616)	(40609)
z1T-10-R-ER1,0	10	1,0	2,0		40507	40611	52702	40613
z1T-10-R-ER1,5	10	1,5	2,5		40508	40614	53580	40616
z1T-10-R-ER2,0	10	2,0	3,0		45016	45811	53581	45810
z1T-12-R-ER0,5	12	0,5	2,5	C O D E	40515	40617	52703	40619
z1T-12-R-ER1,0	12	1,0	3,0		40516	40621	52718	40624
z1T-12-R-ER1,5	12	1,5	3,5		42378	42383	53632	42385
z1T-12-R-ER2,0	12	2,0	4,0		42379	42387	53655	42389
z1T-16-R-ER0,5	16	0,5	2,5		40517	40625	52708	40628
z1T-16-R-ER1,0	16	1,0	3,0		40518	40629	52705	40631
z1T-16-R-ER1,3	16	1,3	3,3		(40519)	(40632)	(53617)	(40634)
z1T-16-R-ER1,5	16	1,5	3,5		45017	46253	53618	46252
z1T-16-R-ER2,0	16	2,0	4,0		43309	46251	53648	43308
z1T-20-R-ER1,0	20	1,0	3,0		40520	40635	53657	40637
z1T-20-R-ER1,5	20	1,5	3,5		45018	45816	53579	45815
z1T-20-R-ER1,6	20	1,6	3,6		(40521)	(40638)	(53649)	(40640)
z1T-20-R-ER2,0	20	2,0	4,0		40522	40641	53619	40643
z1T-25-R-ER1,0	25	1,0	3,0		(40758)	(40761)	(53650)	(40759)
z1T-25-R-ER2,0	25	2,0	4,0		40523	40644	52721	(40646)
z1T-32-R-ER3,0 *	32	3,0	5,0		(45343)	(46440)	(53578)	(46438)

Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

(...) auf Anfrage | on request | speciali su richiesta

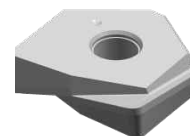
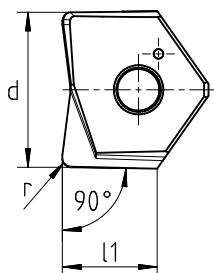
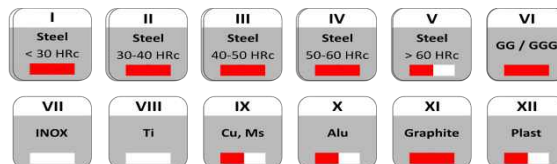
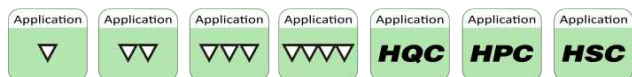
* Sonderabmessungen auf Anfrage | Special dimensions on request | Dimensioni speciali su richiesta

Schnittwertempfehlungen, cutting parameters, Parametri di taglio



56-57

z1TSP-...R.. Torische Kopierplatten | Toric inserts | Monoplacchette toriche



Sorten | Grades | Gradi

Beschichtung | Coating | Rivestimento

Type	d*	r*	l1		F17	F17 TiAlN	F17 H66+	F17 DMD-G	
z1TSP-08-R-ER0,5-00	8	0,5	5,0	C O D E	53225	(53667)	(53668)	53669	
z1TSP-08-R-ER1,0-00	8	1,0	5,0		53670	(55977)	(56882)	56883	
z1TSP-10-R-ER0,5-00	10	0,5	7,9		50138	(50325)	(53637)	50341	
z1TSP-10-R-ER1,0-00	10	1,0	7,9		50140	(50326)	(53576)	50342	
z1TSP-12-R-ER0,5-00	12	0,5	8,5		50145	(50327)	(53577)	50343	
z1TSP-12-R-ER1,0-00	12	1,0	8,5		50141	(50328)	(53651)	50344	
z1TSP-16-R-ER0,5-00	16	0,5	10,3		50146	(50329)	(53622)	50345	
z1TSP-16-R-ER1,0-00	16	1,0	10,3		50147	(50330)	(53623)	50346	
z1TSP-20-R-ER0,5-00	20	0,5	11,8		50148	(50331)	(53624)	50347	
z1TSP-20-R-ER1,0-00	20	1,0	11,8		50149	(50332)	(53625)	50348	

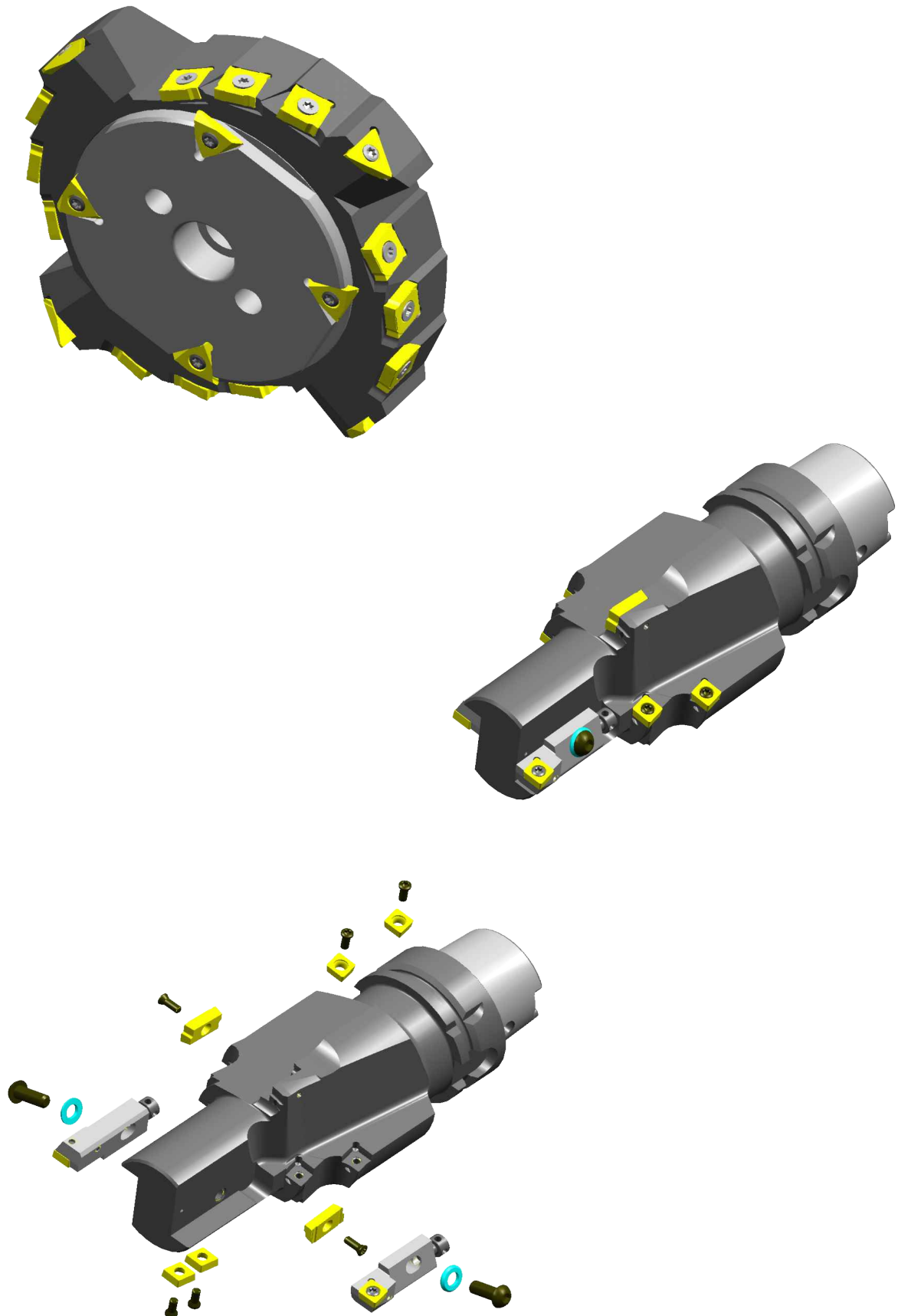
Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

(...) auf Anfrage | on request | speciali su richiesta

* Sonderabmessungen auf Anfrage | Special dimensions on request | Dimensioni speciali su richiesta

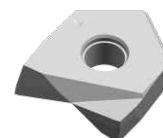
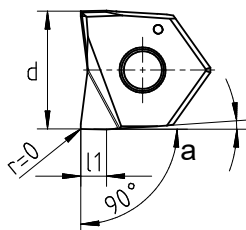
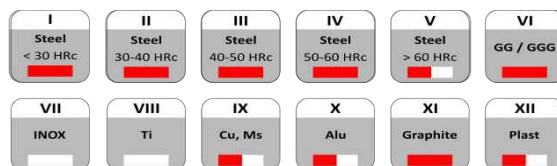
Schnittwertempfehlungen, cutting parameters, Parametri di taglio





z1T-...R-ER0,0

Kopierplatten | inserts | Inserti



Sorten | Grades | Gradi

Beschichtung | Coating | Rivestimento

Type	d	r *	l1	a		F10	F10 TiAlN	F10 H66+	F10 DMD-G	
z1T-06-R-ER0,0	6	0,0	1,4	2,0	C O D E	45010	(45801)	(53585)	(45446)	
z1T-08-R-ER0,0	8	0,0	1,4	2,0		45011	(45803)	(53584)	(45598)	
z1T-10-R-ER0,0	10	0,0	2,5	3,0		45012	(46249)	(53378)	(45581)	
z1T-12-R-ER0,0	12	0,0	2,5	3,0		45013	(45813)	(53377)	(45447)	

Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

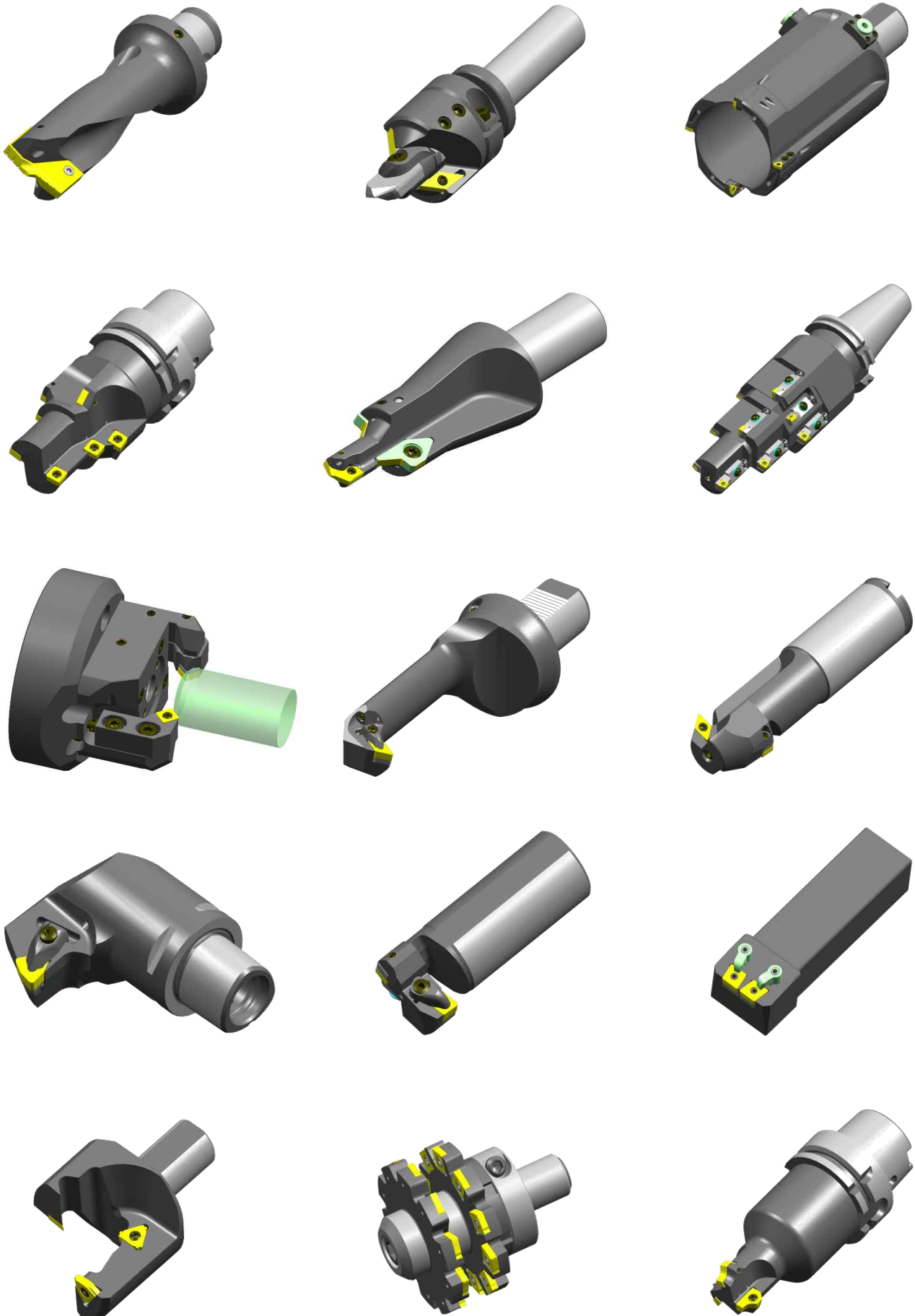
(...) auf Anfrage | on request | speciali su richiesta

* Sonderabmessungen auf Anfrage | Special dimensions on request | Dimensioni speciali su richiesta

Schnittwertempfehlungen, cutting parameters, Parametri di taglio

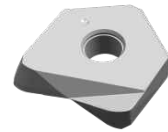
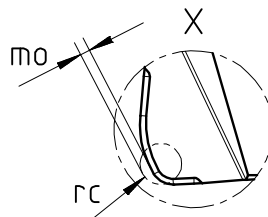
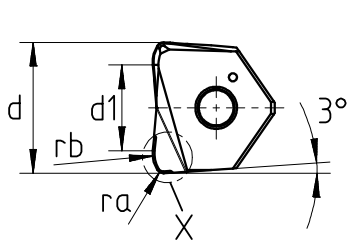
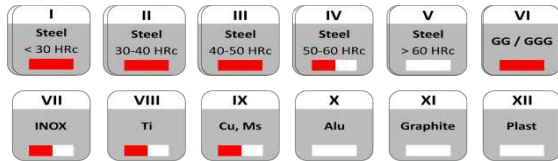
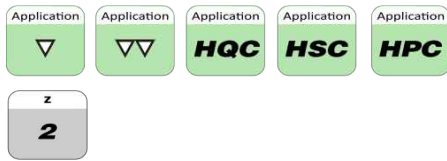


Sonder-Werkzeuge | Special-Tools | Utensili speciali



z1THF-...-PC

Torische Schruppplatten | Toric roughing inserts |
Inserti torici per sgrossatura



Sorten | Grades | Gradi

Beschichtung | Coating | Rivestimento

Type	d	d1	ra	rb	rc	mo		R41 TIALN	F10 H66+	
z1THF-10-PC	10	5,6	0,6	3,0	0,9	0,17	C O D E	40575	(53652)	
z1THF-12-PC	12	5,0	1,0	5,0	1,5	0,29		40576	(53626)	
z1THF-16-PC	16	8,8	1,0	5,0	1,5	0,29		40577	(53627)	
z1THF-20-PC	20	12,6	1,0	5,0	1,5	0,3		40578	(53628)	

Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

(...) auf Anfrage | on request | su richiesta

* Sonderabmessungen auf Anfrage | Special dimensions on request | Dimensioni speciali su richiesta

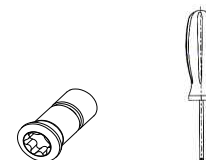
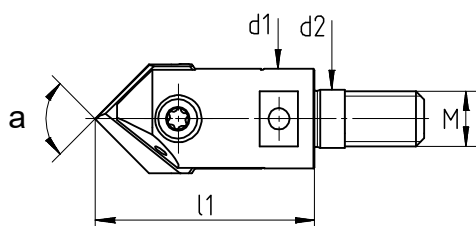
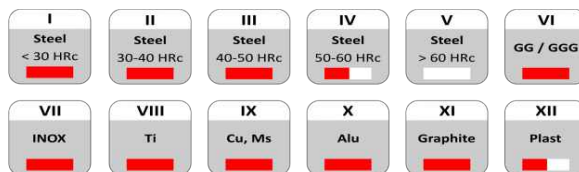
rc = zu programmierender Radius | programming radius | raggio da programmare

Schnittwertempfehlungen, cutting parameters, Parametri di taglio



CYFC-..

Fasfräser | Chamfering cutter | Frese per smussare
NC Anbohrer | NC drill | NC foratura



Code	Type	d	l1	d1	d2	M	Nm		a	s	
4048	CYFC-10-090-SC-M6	10	27	9,8	6,5	M6	8	8	90°	MS-10	T15
4051	CYFC-10-120-SC-M6	10	27	9,8	6,5	M6	8	8	120°	MS-10	T15
4052	CYFC-10-142-SC-M6	10	27	9,8	6,5	M6	8	8	142°	MS-10	T15
4049	CYFC-12-090-SC-M6	12	30	10,8	6,5	M6	8	8	90°	MS-12	T20
4055	CYFC-16-090-SC-M8	16	36	14,4	8,5	M8	15	13	90°	MS-16	T20
4056	CYFC-16-120-SC-M8	16	36	14,4	8,5	M8	15	13	120°	MS-16	T20
4057	CYFC-16-142-SC-M8	16	36	14,4	8,5	M8	15	13	142°	MS-16	T20
4054	CYFC-20-090-SC-M10	20	40	18,0	10,5	M10	15	15	90°	MS-20	T20
4053	CYFC-20-120-SC-M10	20	40	18,0	10,5	M10	15	15	120°	MS-20	T20
4082	CYFC-25-090-SC-M12	25	50	22,5	12,5	M12	50	19	90°	MS-25	T20
4068	CYFC-25-120-SC-M12	25	44	24,0	12,5	M12	50	21	120°	MS-25	T20

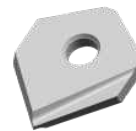
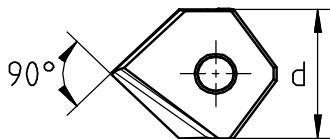
Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]



Innenkühlung auf Anfrage | Internal coolant on request | Lubrificazione interna su richiesta

FC-.. alle Versionen | all types | tutte le versioni

90°

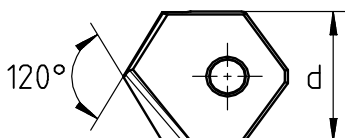


Sorten | Grades | Gradi
Beschichtung | Coating | Rivestimento

Type	d		TiAlN
FC-10-90	10	C O D E	2401
FC-12-90	12		2405
FC-16-90	16		2352
FC-20-90	20		2338
FC-25-90	25		2343

Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

120°

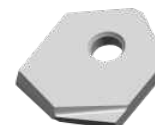
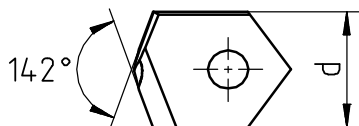


Sorten | Grades | Gradi
Beschichtung | Coating | Rivestimento

Type	d		TiAlN
FC-10-120	10	C O D E	2418
FC-16-120	16		2351
FC-20-120	20		2339
FC-25-120	25		2342

Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

142°



Sorten | Grades | Gradi
Beschichtung | Coating | Rivestimento

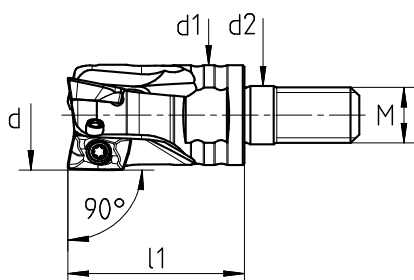
Type	d		TiAlN
FC-10-142	10	C O D E	2416
FC-16-142	16		2355

Abmessungen in mm | Dimensions in mm | Dimensioni in mm

CYA-.. Schaftfräser | End mill | Frese per spallamento



I Steel < 30 HRc	II Steel 30-40 HRc	III Steel 40-50 HRc	IV Steel 50-60 HRc	V Steel > 60 HRc	VI GG / GGG
VII INOX	VIII Ti	IX Cu, Ms	X Alu	XI Graphite	XII Plast

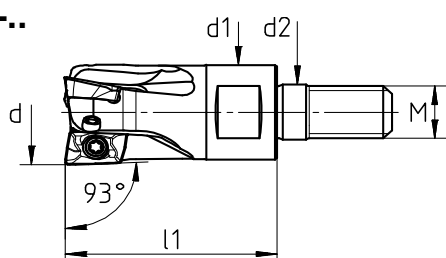


Einschraubversion | Modular type | Versione modulare

Code	Type	d	l1	d1	d2	M	Nm		z	s	
4308	CYA-11,5-1-SC-M6	11,5	30	11,0	6,5	M6	8	8	1	MS-2,5-002	T8
4309	CYA-15,5-2-SC-M8	15,5	30	14,5	8,5	M8	15	13	2	MS-2,5-002	T8
4317	CYA-16,0-2-SC-M8	16,0	30	14,5	8,5	M8	15	13	2	MS-2,5-002	T8
33105	CYA-16,0-2-SC-M10	16,0	30	14,5	10,5	M10	30	15	2	MS-2,5-002	T8
4315	CYA-19,5-2-SC-M10	19,5	36	18,0	10,5	M10	30	15	2	MS-2,5-001	T8
4313	CYA-19,5-3-SC-M10	19,5	36	18,0	10,5	M10	30	15	3	MS-2,5-001	T8
4314	CYA-20,0-3-SC-M10	20,0	30	18,0	10,5	M10	30	15	3	MS-2,5-001	T8
4301	CYA-24,5-3-SC-M12	24,5	44	22,6	12,5	M12	50	19	3	MS-2,5-001	T8
4302	CYA-24,5-4-SC-M12	24,5	44	22,6	12,5	M12	50	19	4	MS-2,5-001	T8
4300	CYA-25-3-SC-M12	25,0	35	22,6	12,5	M12	50	19	3	MS-2,5-001	T8
4298	CYA-25-4-SC-M12	25,0	35	22,6	12,5	M12	50	19	4	MS-2,5-001	T8
4299	CYA-31,5-3-SC-M16	31,5	52	29,4	17,0	M16	100	24	3	MS-2,5-001	T8
4306	CYA-31,5-5-SC-M16	31,5	52	29,4	17,0	M16	100	24	5	MS-2,5-001	T8
4305	CYA-32-5-SC-M16	32,0	40	28,6	17,0	M16	100	24	5	MS-2,5-001	T8
4332	CYA-40-6-SC-M16	40,0	40	28,6	17,0	M16	100	24	6	MS-2,5-001	T8

Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

BDA-..

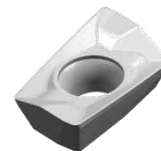
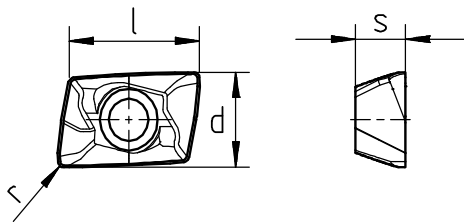


Code	Type	d	l1	d1	d2	M	Nm		z	s	
3287	BDA-15,5-2-SC-M8	15,5	30	14,5	8,5	M8	15	13	2	MS-2,5-002	T8
3294	BDA-19,5-3-SC-M10	19,5	36	18,0	10,5	M10	30	15	3	MS-2,5-001	T8
35279	BDA-25,0-4-SC-M12	25	44	22,6	12,5	M12	50	19	4	MS-2,5-001	T8

Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

AOMX-.. alle Versionen | all types | tutte le versioni

AOCX-..- Aluminium



Sorten | Grades | Gradi

Beschichtung | Coating | Rivestimento

Type	d	l	s	r		F35 -	F35 TiCN	F35 TiAlN	F35 TiAlN-ZQS	
AOMX-090304-TR	6,35	9,3	3,65	0,4	C O D E	3775	(33104)	3790	32627	
AOMX-090308-TR	6,35	9,3	3,65	0,8		3773	(3774)	3770	33089	
AOMX-090316-TR	6,35	9,0	3,65	1,6		3758	(3759)	3757	33090	
AOMX-090332-TR *	6,35	9,0	3,65	3,2		3756	(3763)	3764	33091	

Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

(...) auf Anfrage | on request | su richiesta

NEU / NEW - Aluminium Geometry

Type	d	l	s	r		F22 -				
AOCX-090308-AL	6,35	9,3	3,65	0,8	C O D E	51476				

Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

Schnittwertempfehlungen, cutting parameters, Parametri di taglio

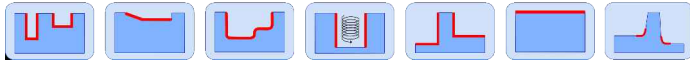


* Bei Verwendung von AOMX-090332-TR muss der Grundkörper nachgearbeitet werden.

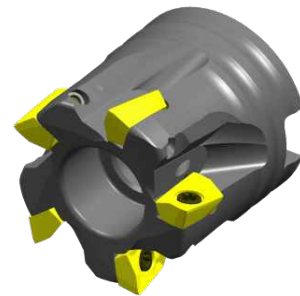
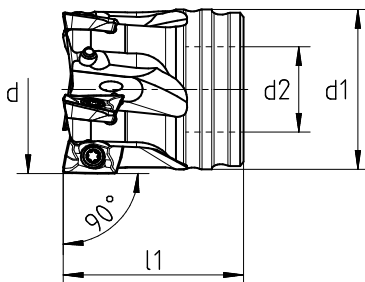
* When using AOMX-090332-TR please modify the body.

* Se viene usato il AOMX-090332-TR sarebbe da modificare il corpo fresa.

CYA-.. Eckfräser | End mill | Frese per spallamento



I Steel < 30 HRc	II Steel 30-40 HRc	III Steel 40-50 HRc	IV Steel 50-60 HRc	V Steel > 60 HRc	VI GG / GGG
VII INOX	VIII Ti	IX Cu, Ms	X Alu	XI Graphite	XII Plast



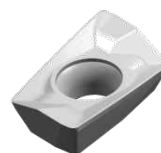
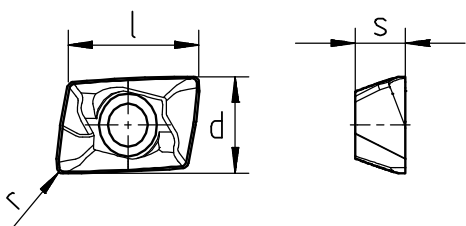
Aufsteckversion | Bore type | Versione a manicotto

Code	Type	d	l1	d1	d2		z	s	
32192	CYA-32-5-D16	32	32	30	16		5	MS-2,5-001	T8
4304	CYA-40-6-D22	40	40	38	22		6	MS-2,5-001	T8
4333	CYA-50-6-D22	50	40	45	22		6	MS-2,5-001	T8
4331	CYA-63-7-D22	63	40	55	22		7	MS-2,5-001	T8

Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

AOMX-.. alle Versionen | all types | tutti versioni

AOCX-..- Aluminium



Sorten | Grades | Gradi

Beschichtung | Coating | Rivestimento

Type	d	l	s	r		F35 -	F35 TiCN	F35 TiAlN	F35 TiAlN-ZQS	
AOMX-090304-TR	6,35	9,3	3,65	0,4	C O D E	3775	(33104)	3790	32627	
AOMX-090308-TR	6,35	9,3	3,65	0,8		3773	(3774)	3770	33089	
AOMX-090316-TR	6,35	9,0	3,65	1,6		3758	(3759)	3757	33090	
AOMX-090332-TR *	6,35	9,0	3,65	3,2		3756	(3763)	3764	33091	

Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

(...) auf Anfrage | on request | su richiesta

NEU / NEW - Aluminium Geometry

Type	d	l	s	r		F22 -	
AOCX-090308-AL	6,35	9,3	3,65	0,8	C O D E	51476	

Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

Schnittwertempfehlungen, cutting parameters, Parametri di taglio



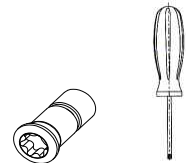
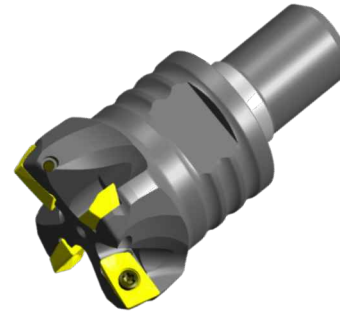
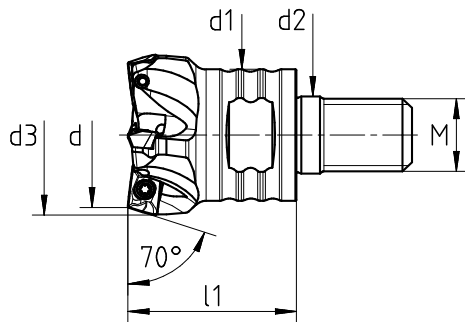
* Bei Verwendung von AOMX-090332-TR muss der Grundkörper nachgearbeitet werden.

* When using AOMX-090332-TR please modify the body.

* Se viene usato il AOMX-090332-TR sarebbe da modificare il corpo fresa.

CYAFH-..

Planfräser | Face mills | Frese per spianare



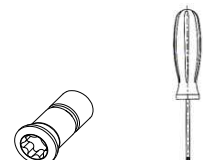
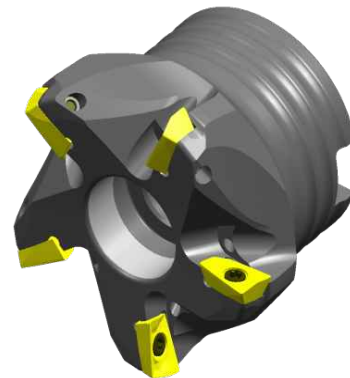
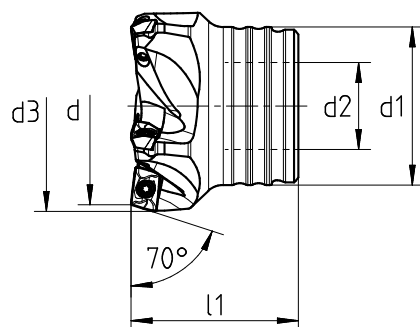
Einschraubversion | Modular type | Versione modulare

Code	Type	d	l1	d1	d2	d3	M	Nm		z	s	
41303	CYAFH-25-03-M12	25	35	22,5	12,5	28	M12	50	19	3	MS-2,5-001	T8
41304	CYAFH-32-04-M16	32	35	29,0	17,0	35	M16	100	24	4	MS-2,5-001	T8
41305	CYAFH-40-05-M16	40	40	29,0	17,0	43	M16	100	24	5	MS-2,5-001	T8

Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

CYAF-..

Planfräser | Face mills | Frese per spianare



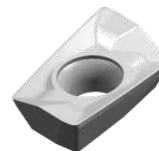
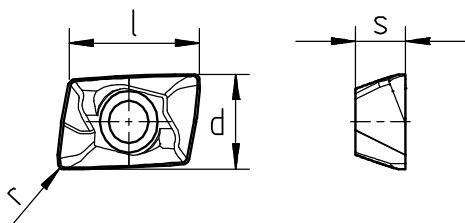
Aufsteckversion | Bore type | Versione a manicotto

Code	Type	d	l1	d1	d2	d3		z	s	
41306	CYAF-40-05-22	40	40	40	22	43		5	MS-2,5-001	T8
41307	CYAF-50-05-22	50	40	40	22	53		5	MS-2,5-001	T8
41308	CYAF-63-07-27	63	50	48	27	66		7	MS-2,5-001	T8
41946	CYAF-80-09-27	80	50	63	27	83		9	MS-2,5-001	T8

Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

AOMX-.. alle Versionen | all types | tutti versioni

AOCX-..- Aluminium



Sorten | Grades | Gradi

Beschichtung | Coating | Rivestimento

Type	d	l	s	r		F35 -	F35 TiCN	F35 TiAlN	F35 TiAlN-ZQS	
AOMX-090304-TR	6,35	9,3	3,65	0,4	C O D E	3775	(33104)	3790	32627	
AOMX-090308-TR	6,35	9,3	3,65	0,8		3773	(3774)	3770	33089	
AOMX-090316-TR	6,35	9,0	3,65	1,6		3758	(3759)	3757	33090	
AOMX-090332-TR *	6,35	9,0	3,65	3,2		3756	(3763)	3764	33091	

Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

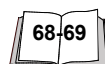
(...) auf Anfrage | on request | su richiesta

NEU / NEW - Aluminium Geometry

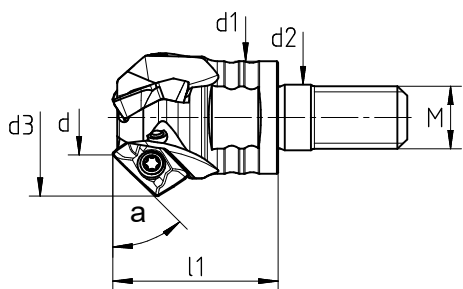
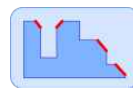
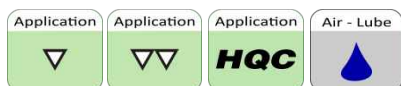
Type	d	l	s	r		F22 -	
AOCX-090308-AL	6,35	9,3	3,65	0,8	C O D E	51476	

Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

Schnittwertempfehlungen, cutting parameters, Parametri di taglio



CYC-.. Fasenfräser | Chamfering cutter | Frese per smussare



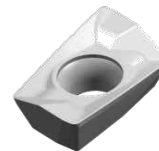
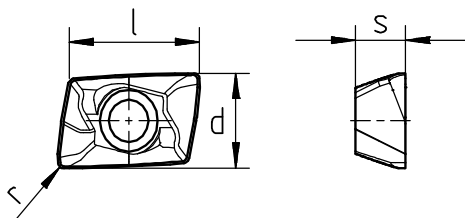
Einschraubversion | Modular type | Versione modulare

Code	Type	d	l1	d1	d2	d3	a	M	Nm		z	s	
41947	CYC-75-15-25-03-M10	15	25	18	10,5	20	75	M10	30	15	3	MS-2,5-001	T8
41948	CYC-60-13-25-03-M10	13	25	18	10,5	22	60	M10	30	15	3	MS-2,5-001	T8
41309	CYC-45-12-25-03-M10	12	25	18	10,5	25	45	M10	30	15	3	MS-2,5-001	T8
41949	CYC-30-12-25-03-M10	12	25	18	10,5	28	30	M10	30	15	3	MS-2,5-001	T8
41950	CYC-15-12-25-03-M10	12	25	18	10,5	30	15	M10	30	15	3	MS-2,5-001	T8

Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

AOMX-.. alle Versionen | all types | tutti versioni

AOCX-..- Aluminium



Sorten | Grades | Gradi

Beschichtung | Coating | Rivestimento

Type	d	l	s	r		F35 -	F35 TiCN	F35 TiAlN	F35 TiAlN-ZQS	
AOMX-090304-TR	6,35	9,3	3,65	0,4	C O D E	3775	(33104)	3790	32627	
AOMX-090308-TR	6,35	9,3	3,65	0,8		3773	(3774)	3770	33089	
AOMX-090316-TR	6,35	9,0	3,65	1,6		3758	(3759)	3757	33090	
AOMX-090332-TR *	6,35	9,0	3,65	3,2		3756	(3763)	3764	33091	

Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

(...) auf Anfrage | on request | su richiesta

NEU / NEW - Aluminium Geometry

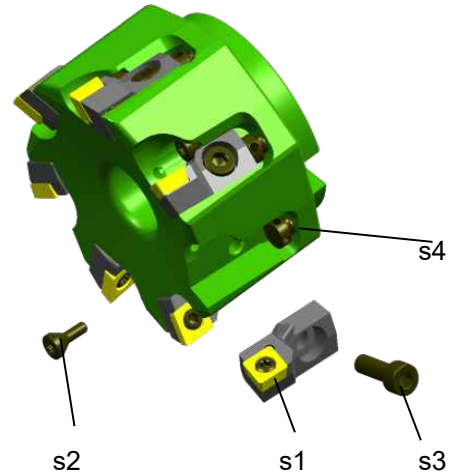
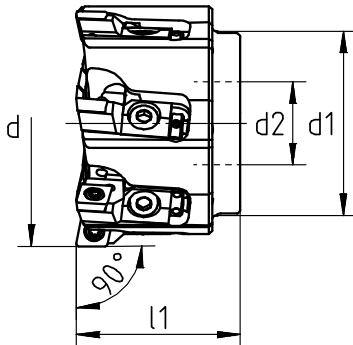
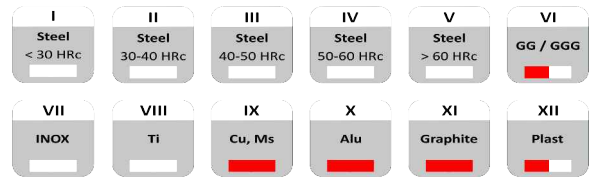
Type	d	l	s	r		F22 -	
AOCX-090308-AL	6,35	9,3	3,65	0,8	C O D E	51476	

Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

Schnittwertempfehlungen, cutting parameters, Parametri di taglio



MFC-... Planfräser | Face mills | Frese per spianare



Code	Type	d	l1	d1	d2	z	System	s1	s2	s3	s4
32986	MFC-50-3-D22	50	50	40	22	3	1	MS-3,5-001	MS-3,0-005	MS-5,0-001	MS-5,0-002
32987	MFC-63-5-D22	63	50	48	22	5	1	MS-3,5-001	MS-3,0-005	MS-5,0-001	MS-5,0-002
32443	MFC-80-7-D27	80	50	60	27	7	1	MS-3,5-001	MS-3,0-005	MS-5,0-001	MS-5,0-002
34078	MFC-100-9-D32	100	50	79	32	9	1	MS-3,5-001	MS-3,0-005	MS-5,0-001	MS-5,0-002
32989	MFC-125-11-D40	125	50	90	40	11	2	MS-3,5-001	MS-3,0-005	MS-5,0-001	MS-5,0-002
32990	MFC-160-13-D40	160	55	130	40	13	3	MS-3,5-001	MS-3,0-005	MS-5,0-001	MS-5,0-002

Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

System 1



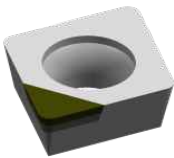
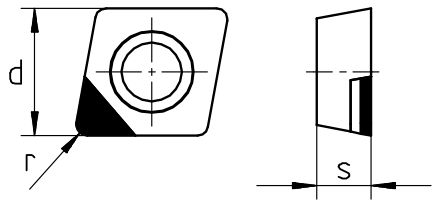
System 2



System 3



CPGW-.. alle Versionen | all types | tutti versioni



Sorten | Grades | Gradi

Type	d	s	r		PKD 4PDC-S	CVD 4CVD	
CPGW-09T304-PDR	9,52	3,97	0,4	C O D E	32983	32981	

Sorten | Grades | Gradi

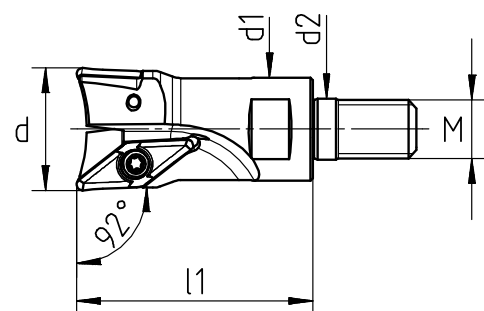
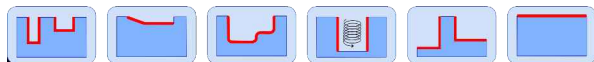
Type	d	s	r		CBN 15EW	CBN 10EW	
CPGW-09T304-PDRT	9,52	3,97	0,4	C O D E	34019	35166	

Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

Schnittwertempfehlungen, cutting parameters, Parametri di taglio



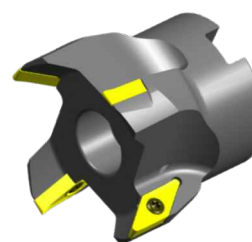
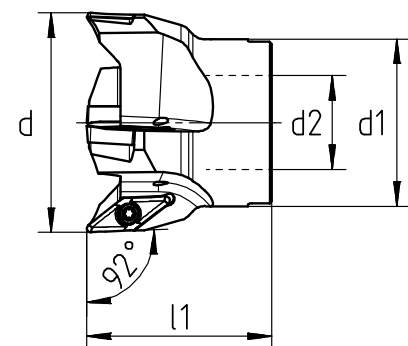
ALC-.. Hochleistungs-Schrupfräser | High feed end mill | Frese ad alto avanzamento



Einschraubversion | Modular type | Versione modulare

Code	Type	d	l1	d1	d2	M	Nm		z	s	
3684	ALC-25-2-M12	25	50	21	12,5	M12	50	17	2	MS-3,5-001	T15
3682	ALC-32-2-M16	32	50	29	17,0	M16	100	22	2	MS-3,5-001	T15
3683	ALC-35-3-M16	35	50	29	17,0	M16	100	22	3	MS-3,5-001	T15
3690	ALC-40-3-M16	40	50	29	17,0	M16	100	22	3	MS-3,5-001	T15
3691	ALC-42-3-M16	42	50	29	17,0	M16	100	22	3	MS-3,5-001	T15

Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]



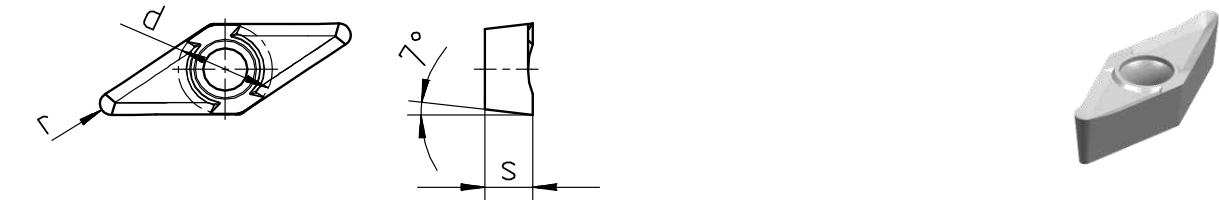
Aufsteckversion | Bore type | Versione a manicotto

Code	Type	d	l1	d1	d2		z	s	
3689	ALC-50-3-D22	50	50	40	22		3	MS-3,5-001	T15
3687	ALC-52-3-D22	52	50	40	22		3	MS-3,5-001	T15
3688	ALC-63-4-D27	63	55	48	27		4	MS-3,5-001	T15
3675	ALC-66-4-D27	66	55	48	27		4	MS-3,5-001	T15
3676	ALC-80-5-D27	80	55	60	27		5	MS-3,5-001	T15
3685	ALC-100-5-D32	100	60	70	32		5	MS-3,5-001	T15
3686	ALC-125-6-D40	125	65	90	40		6	MS-3,5-001	T15

Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

VCGX-..

alle Versionen | all types | tutti versioni



Sorten | Grades | Gradi

Type	d	s	r		C30	C30D	
VCGX-160412F	9,52	4,76	1,2	C O D E	6727	(34939)	

Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

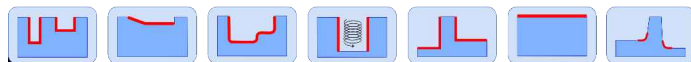
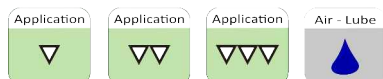
(...) auf Anfrage | on request | su richiesta

Schnittwertempfehlungen, cutting parameters, Parametri di taglio

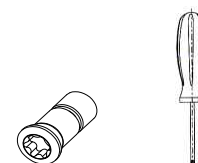
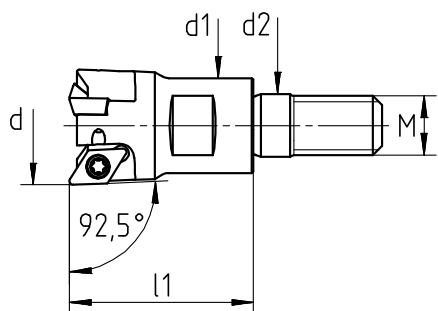


ALR1-.. -92,5°

Schruppfräser | Roughing end mill | Frese per sgrossare



I Steel < 30 HRc	II Steel 30-40 HRc	III Steel 40-50 HRc	IV Steel 50-60 HRc	V Steel > 60 HRc	VI GG / GGG
VII INOX	VIII Ti	IX Cu, Ms	X Alu	XI Graphite	XII Plast

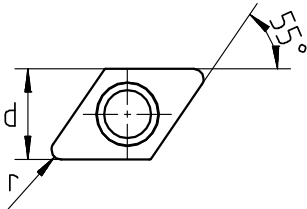


Einschraubversion | Modular type | Versione modulare

Code	Type	d	l1	d1	d2	M	Nm		z	s	
3707	ALR1-10-2-M6-92,5	10	20	9,8	6,5	M6	8	8	2	MS-2,2-001	T7
3703	ALR1-12-2-M6-92,5	12	20	9,8	6,5	M6	8	8	2	MS-2,2-001	T7
3712	ALR1-14-2-M6-92,5	14	25	12,8	6,5	M6	8	10	2	MS-2,2-001	T7
3710	ALR1-16-3-M8-92,5	16	25	12,8	8,5	M8	15	10	3	MS-2,2-001	T7
3693	ALR1-20-3-M10-92,5	20	32	18,0	10,5	M10	30	15	3	MS-2,2-001	T7

Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

ALR1-.. alle Versionen | all types | tutti versioni



IALR1-... für Aluminium | for aluminum | per alluminio



ISTR1-... für Stahl, positiv | for steel, positive | per acciaio, positivo



ISTN1-... für Stahl, negativ | for steel, negative | per acciaio, negativo

Sorten | Grades | Gradi

Beschichtung | Coating | Rivestimento

Type	d	r		F10	F10	
				-	TiAIN	
IALR1-4,6-0,5	4,6	0,5	C O D E	8948	-	
IALR1-4,6-1,0	4,6	1,0		8954	-	
ISTR1-4,6-0,5	4,6	0,5		-	9320	
ISTR1-4,6-1,0	4,6	1,0		-	9321	
ISTN1-4,6-0,5	4,6	0,5		-	9316	
ISTN1-4,6-1,0	4,6	1,0		-	9314	

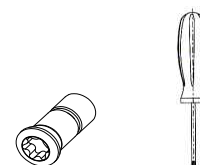
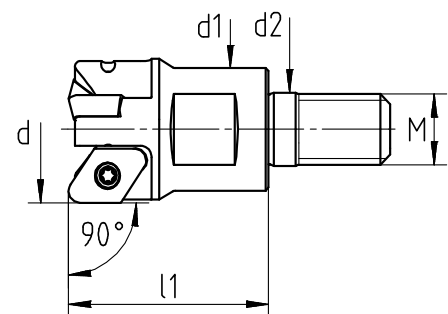
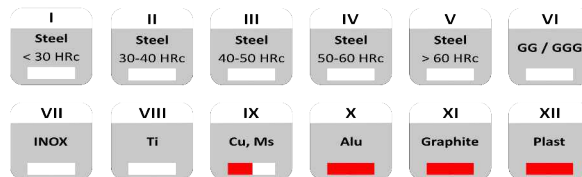
Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

Schnittwertempfehlungen, cutting parameters, Parametri di taglio



ALR2-...90°

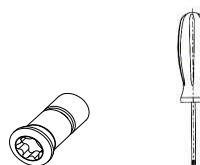
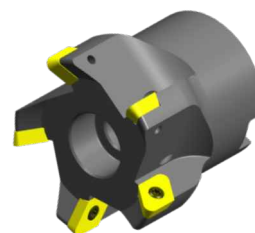
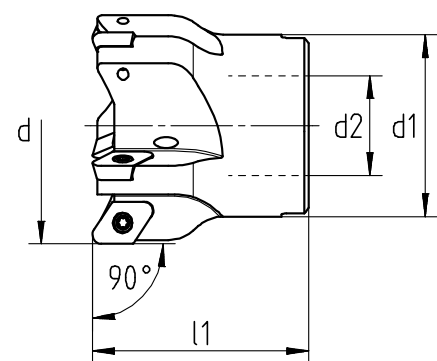
Schruppfräser | Roughing end mill | Frese per sgrossare



Einschraubversion | Modular type | Versione modulare

Code	Type	d	l1	d1	d2	M	Nm		z	s	
3697	ALR2-20-2-M10-90	20	32	18	10,5	M10	30	15	2	MS-3,0-002	T9
3701	ALR2-25-2-M12-90	25	36	21	12,5	M12	50	17	2	MS-3,0-002	T9
3811	ALR2-32-3-M16-90	32	40	29	17,0	M16	100	22	3	MS-3,0-002	T9
3808	ALR2-40-4-M16-90	40	40	29	17,0	M16	100	22	4	MS-3,0-002	T9
3816	ALR2-42-4-M16-90 *	42	40	29	17,0	M16	100	22	4	MS-3,0-002	T9

Abmessungen in mm | Dimensions in mm | Dimensioni in mm



Aufsteckversion | Bore type | Versione manicotto

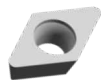
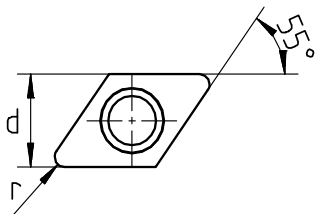
Code	Type	d	l1	d1	d2		z	s	
3801	ALR2-52-5-D22-90	52	50	40	22,0		5	MS-3,0-002	T9
3806	ALR2-66-6-D27-90	66	50	40	27,0		6	MS-3,0-002	T9

Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

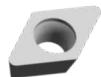
* Sonderabmessungen auf Anfrage | Special dimensions on request | Dimensioni speciali su richiesta

ALR2-..

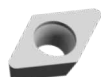
alle Versionen | all types | tutti versioni



IALR2-... für Aluminium | for aluminum | per alluminio



ISTR2-... für Stahl, positiv | for steel, positive | per acciaio, positivo



ISTN2-... für Stahl, negativ | for steel, negative | per acciaio, negativo

Sorten | Grades | Gradi

Beschichtung | Coating | Rivestimento

Type	d	r		F10 -	F10 TiAlN	
IALR2-9,2-2,0	9,2	2,0	C O D E	8737	-	
IALR2-9,2-2,5	9,2	2,5		8842	-	
ISTR2-9,2-2,0	9,2	2,0		-	9319	
ISTR2-9,2-2,5	9,2	2,5		-	9317	
ISTN2-9,2-2,0	9,2	2,0		-	9312	
ISTN2-9,2-2,5	9,2	2,5		-	9313	

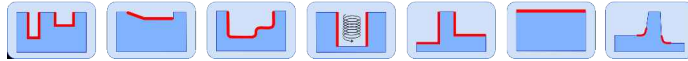
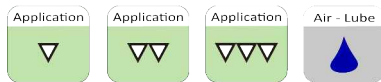
Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

Schnittwertempfehlungen, cutting parameters, Parametri di taglio

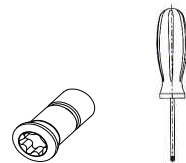
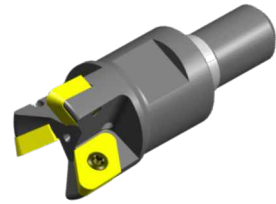
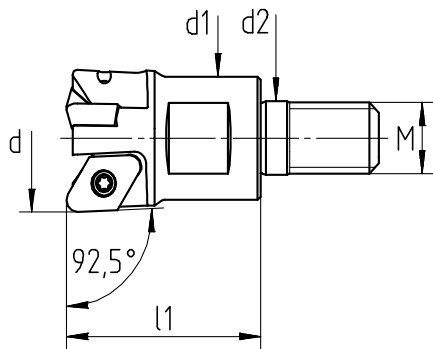


ALR2--92,5°

Schruppfräser | Roughing end mill | Frese per sgrossare



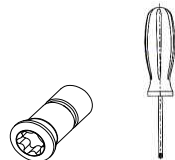
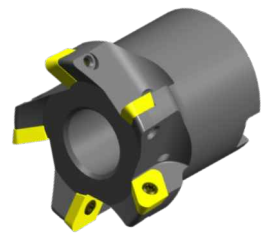
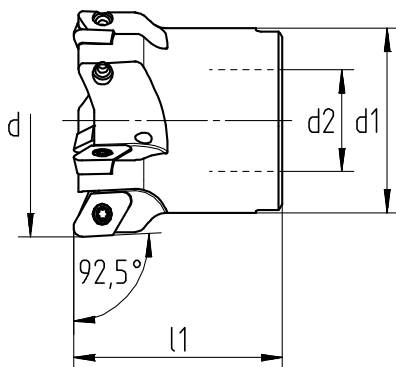
I Steel < 30 HRc	II Steel 30-40 HRc	III Steel 40-50 HRc	IV Steel 50-60 HRc	V Steel > 60 HRc	VI GG / GGG
VII INOX	VIII Ti	IX Cu, Ms	X Alu	XI Graphite	XII Plast



Einschraubversion | Modular type | Versione modulare

Code	Type	d	l1	d1	d2	M	Nm		z	s	
3696	ALR2-20-2-M10-92,5	20	32	18	10,5	M10	30	15	2	MS-3,0-002	T9
3694	ALR2-25-2-M12-92,5	25	36	21	12,5	M12	50	17	2	MS-3,0-002	T9
3810	ALR2-32-3-M16-92,5	32	40	29	17,0	M16	100	22	3	MS-3,0-002	T9
3807	ALR2-40-4-M16-92,5	40	40	29	17,0	M16	100	22	4	MS-3,0-002	T9

Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]



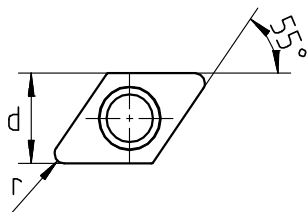
Aufsteckversion | Bore type | Versione a manicotto

Code	Type	d	l1	d1	d2		z	s	
3800	ALR2-50-5-D22-92,5	50	50	40	22		5	MS-3,0-002	T9
3797	ALR2-63-6-D27-92,5	63	50	50	27		6	MS-3,0-002	T9
3804	ALR2-80-6-D27-92,5	80	50	60	27		6	MS-3,0-002	T9
3705	ALR2-100-7-D32-92,5	100	52	78	32		7	MS-3,0-002	T9
3704	ALR2-125-8-D40-92,5	125	65	88	40		8	MS-3,0-002	T9

Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

ALR2-..

alle Versionen | all types | tutti versioni



IALR2-... für Aluminium | for aluminum | per alluminio



ISTR2-... für Stahl, positiv | for steel, positive | per acciaio, positivo



ISTN2-... für Stahl, negativ | for steel, negative | per acciaio, negativo

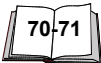
Sorten | Grades | Gradi

Beschichtung | Coating | Rivestimento

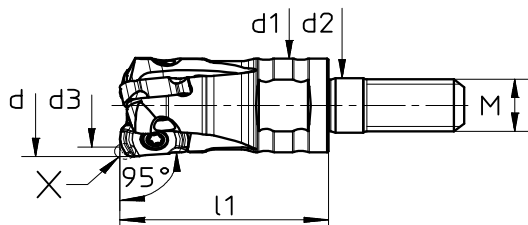
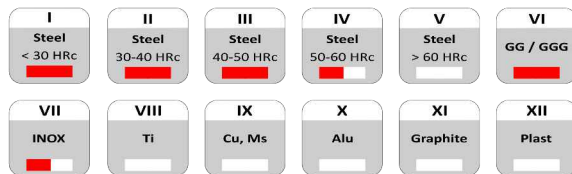
Type	d	r		F10 -	F10 TiAlN	
IALR2-9,2-2,0	9,2	2,0	C O D E	8737	-	
IALR2-9,2-2,5	9,2	2,5		8842	-	
ISTR2-9,2-2,0	9,2	2,0		-	9319	
ISTR2-9,2-2,5	9,2	2,5		-	9317	
ISTN2-9,2-2,0	9,2	2,0		-	9312	
ISTN2-9,2-2,5	9,2	2,5		-	9313	

Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

Schnittwertempfehlungen, cutting parameters, Parametri di taglio

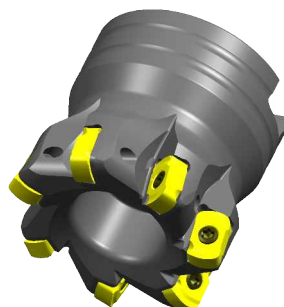
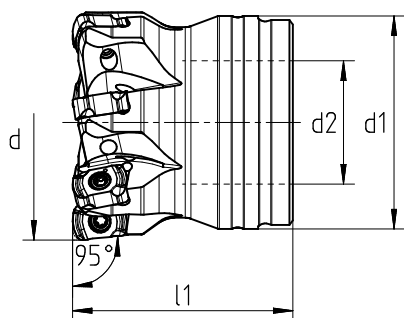


z1HLN06-.. Hochleistungs-Schrupfräser | High feed end mill | Frese per elevate prestazioni



Einschraubversion | Modular type | Versione modulare

Code	Type	d	l1	d1	d2	M	Nm		z	s1	s1
56650	z1HLN06-16-30-02-M08	16	30	14,5	8,5	M08	15	13	2	MS-2,5-001	T8
56651	z1HLN06-20-30-03-M10	20	30	18,0	10,5	M10	30	15	3	MS-2,5-001	T8
56159	z1HLN06-25-35-05-M12	25	35	22,5	17,0	M12	50	19	5	MS-2,5-001	T8
56652	z1HLN06-32-40-06-M16	32	40	29,0	17,0	M16	100	24	6	MS-2,5-001	T8
57559	z1HLN06-35-40-05-M16	35	40	29,0	17,0	M16	100	24	5	MS-2,5-001	T8
56653	z1HLN06-35-40-07-M16	35	40	29,0	17,0	M16	100	24	7	MS-2,5-001	T8
56654	z1HLN06-40-40-07-M16	40	40	29,0	17,0	M16	100	24	7	MS-2,5-001	T8
57560	z1HLN06-42-40-05-M16	42	40	29,0	17,0	M16	100	24	5	MS-2,5-001	T8
56655	z1HLN06-42-40-07-M16	42	40	29,0	17,0	M16	100	24	7	MS-2,5-001	T8



Aufsteckversion | Bore type | Versione a manicotto

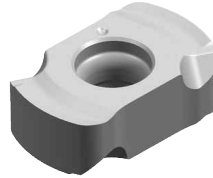
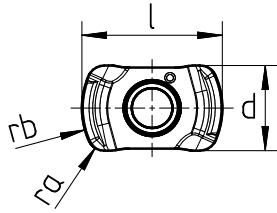
Code	Type	d	l1	d1	d2		z	s1	s1
61661	z1HLN06-32-07-D16 *	32	32	30,0	16,0		7	MS-2,5-001	T8
61662	z1HLN06-35-07-D16	35	32	30,0	16,0		7	MS-2,5-001	T8
61663	z1HLN06-40-07-D22 *	40	40	38,0	22,0		7	MS-2,5-001	T8
61664	z1HLN06-42-07-D22	42	40	38,0	22,0		7	MS-2,5-001	T8
61665	z1HLN06-50-08-D22 *	50	40	40,0	22,0		8	MS-2,5-001	T8
61666	z1HLN06-52-09-D22	52	40	40,0	22,0		9	MS-2,5-001	T8
61667	z1HLN06-63-10-D27 *	63	50	48,0	27,0		10	MS-2,5-001	T8
61668	z1HLN06-66-10-D27	66	50	50,0	27,0		10	MS-2,5-001	T8
61785	z1HLN06-80-12-D27 *	80	50	65,0	27,0		12	MS-2,5-001	T8

Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

* Abmessungen auf Anfrage | dimensions on request | Dimensioni su richiesta

ZLNB-0603-.. alle Versionen | all types | tutti versioni

ZLNB-0603-..



Sorten | Grades | Gradi

Beschichtung | Coating | Rivestimento

Type	d	l	ra	rb	rc		RS31 TiAlXN	RS32 TiAlXN	
zLNB-0603-M01	6,2	10	1,2	6	1,84	C O D E	55411	57061	

Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

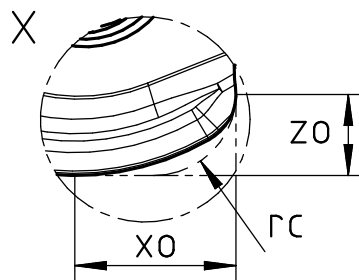
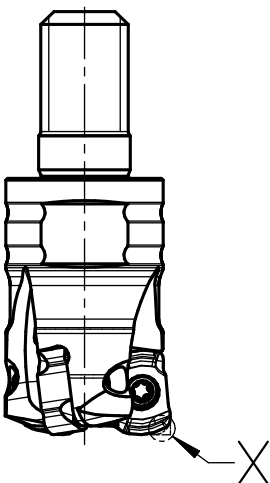
Schnittwertempfehlungen, cutting parameters, Parametri di taglio



Informationen zur Werkzeugvoreinstellung | Presetting informations | Informazioni per presetting

rc = zu programmierender Radius | programming radius | raggio di programmazione

mo = zLNB-06.. ~ 0,28mm (Restmaterial | Remaining material | Materiale residuo)

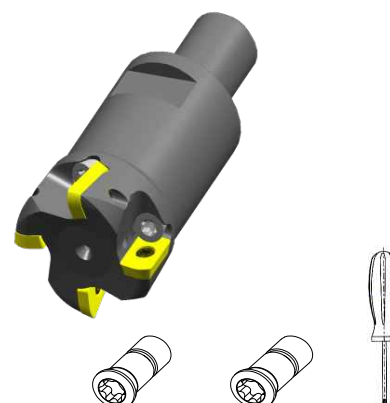
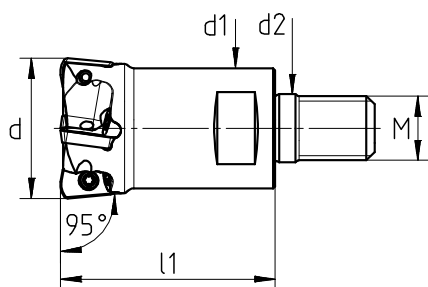


	X0	Z0
zLNB06..	3,6	0,7

SR1-.. Hochleistungs-Schrupfräser | High feed end mill | Frese per elevate prestazioni



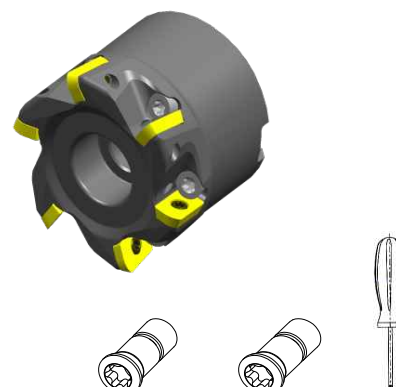
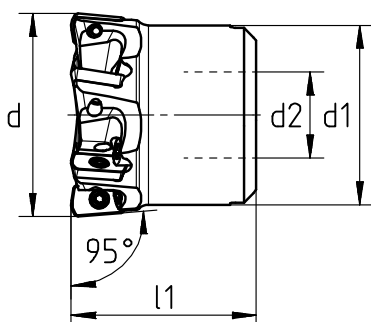
I Steel < 30 HRc	II Steel 30-40 HRc	III Steel 40-50 HRc	IV Steel 50-60 HRc	V Steel > 60 HRc	VI GG / GGG
VII INOX	VIII Ti	IX Cu, Ms	X Alu	XI Graphite	XII Plast



Einschraubversion | Modular type | Versione modulare

Code	Type	d	l1	d1	d2	M	Nm		z	s1	s2	s1 / s2
6651	SR1-20-2-M10	20	36	19,0	10,5	M10	30	15	2	MS-3,0-004	MS-4,0-001	T9+T20
6648	SR1-25-3-M12	25	44	22,5	12,5	M12	50	19	3	MS-3,0-004	MS-4,0-001	T9+T20
6634	SR1-32-4-M16	32	52	27,0	17,0	M16	100	24	4	MS-3,0-004	MS-4,0-001	T9+T20
6640	SR1-35-3-M16	35	52	30,0	17,0	M16	100	24	3	MS-3,0-004	MS-4,0-001	T9+T20
6641	SR1-35-4-M16	35	52	30,0	17,0	M16	100	24	4	MS-3,0-004	MS-4,0-001	T9+T20
6667	SR1-42-5-M16	42	40	32,0	17,0	M16	100	28	5	MS-3,0-004	MS-4,0-001	T9+T20

Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]



Aufsteckversion | Bore type | Versione a manicotto

Code	Type	d	l1	d1	d2		z	s1	s2	s1 / s2
6666	SR1-42-5-D22	42	40,0	37	22		5	MS-3,0-004	MS-4,0-001	T9+T20
6664	SR1-50-4-D22	50	45,5	41	22		4	MS-3,0-004	MS-4,0-001	T9+T20
6670	SR1-52-6-D22	52	45,0	46	22		6	MS-3,0-004	MS-4,0-001	T9+T20
6654	SR1-66-7-D27	66	45,0	60	27		7	MS-3,0-004	MS-4,0-001	T9+T20

Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

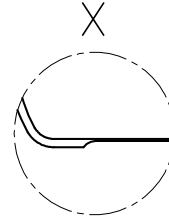
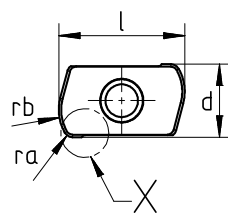
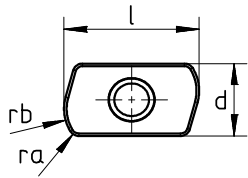
ISR-1-.. alle Versionen | all types | tutti versioni

ISR-1-5..

ISR-1-5-RSC-00..

ISR-1-5-A..

ISR-1-5-MA..



Sorten | Grades | Gradi

Beschichtung | Coating | Rivestimento

Type	d	l	ra	rb	rc		F10 -	F10 TiAlN	R41 -	R41 TiAlN	H16 H66+	RS34 TiAlXN	
ISR-1-5	8	14	1	5	1,6	C O D E	8787	9009	9236	9235	52883		
ISR-1-5-A	8	14	1	5	1,6		(9224)	9225	(9239)	9254	-		
ISR-1-5-MA	8	14	1	5	1,6		-	-	(9233)	9231			
ISR-1-5-RSC-00	8	14	1	5	1,6							61694	

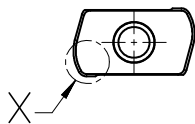
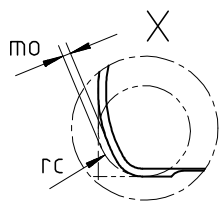
Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

(...) auf Anfrage | on request | su richiesta

M ... gepresste Ausführung | pressed insert | inserto stampato

A ... mit seitlicher Freistellung | undernecked version | rastremato

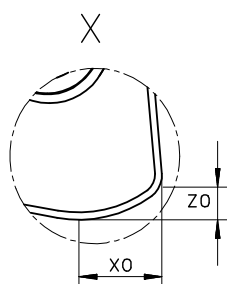
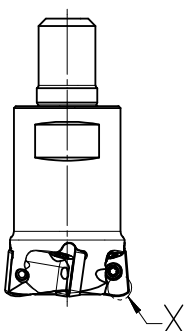
Schnittwertempfehlungen, cutting parameters, Parametri di taglio



rc = zu programmierender Radius | programming radius | raggio di programmazione

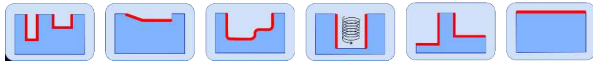
mo = ISR-1-5-(A) ~ 0,28mm (Restmaterial | Remaining material | Materiale residuo)

Informationen zur Werkzeugvoreinstellung | Presetting informations | Informazioni per presetting

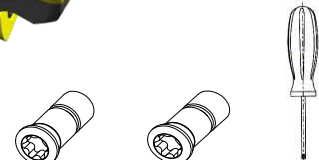
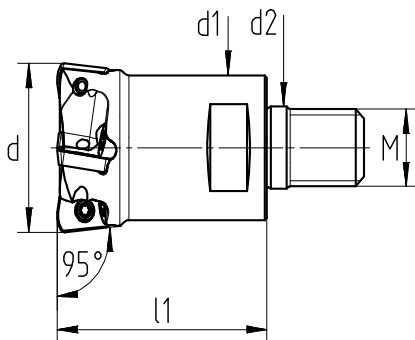


	xo	zo
ISR-1-5	3,3	1,7

SR2-.. Hochleistungs-Schrupfräser | High feed end mill | Frese per elevate prestazioni



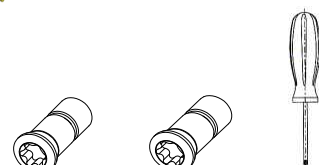
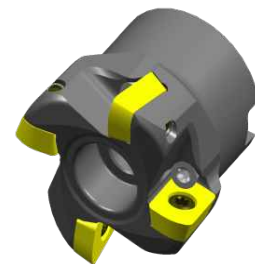
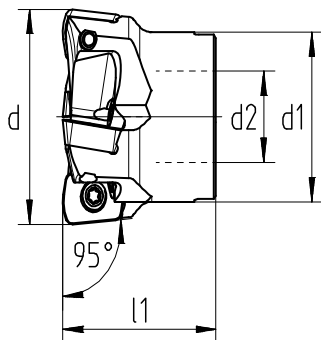
I Steel < 30 HRc	II Steel 30-40 HRc	III Steel 40-50 HRc	IV Steel 50-60 HRc	V Steel > 60 HRc	VI GG / GGG
VII INOX	VIII Ti	IX Cu, Ms	X Alu	XI Graphite	XII Plast



Einschraubversion | Modular type | Versione modulare

Code	Type	d	l1	d1	d2	M16	Nm		z	s1	s2	s1 / s2
6636	SR2-32-2-M16	32	40,5	27	17	M16	100	24	2	MS-4,5-001	MS-4,0-001	T20
6638	SR2-42-3-M16	42	40,5	32	17	M16	100	28	3	MS-4,5-001	MS-4,0-001	T20

Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]



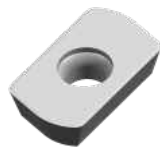
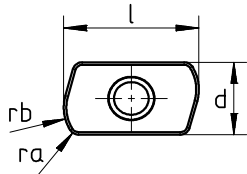
Aufsteckversion | Bore type | Versione a manicotto

Code	Type	d	l1	d1	d2		z	s1	s2	s1 / s2
32566	SR2-50-4-D22	50	45,5	41	22		4	MS4,5-001	MS-4,0-001	T20
6671	SR2-52-3-D22	52	45,5	41	22		3	MS-4,5-001	MS-4,0-001	T20
6672	SR2-52-4-D22	52	45,0	41	22		4	MS-4,5-001	MS-4,0-001	T20
6653	SR2-66-5-D27	66	45,0	55	27		5	MS-4,5-001	MS-4,0-001	T20
6660	SR2-80-7-D27	80	50,0	70	27		7	MS-4,5-001	MS-4,0-001	T20
6644	SR2-100-7-D32	100	50,0	90	32		7	MS-4,5-001	MS-4,0-001	T20
6642	SR2-125-9-D40	125	63,0	115	40		9	MS-4,5-001	MS-4,0-001	T20

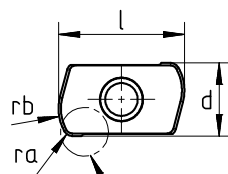
Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

ISR-2... alle Versionen | all types | tutti versioni

ISR-2...



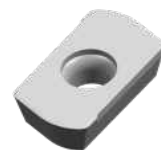
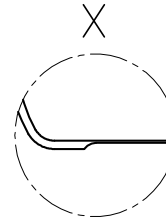
ISR-2...-A..



Sorten | Grades | Gradi

Beschichtung | Coating | Rivestimento

ISR-2...-MA



Type	d	l	ra	rb	rc		F10 -	F10 TiAlN	R41 -	R41 TiAlN	
ISR-2-5	12,5	19,5	1	5	2,0	C O D E	9211	9212	9214	9201	
ISR-2-5-A	12,5	19,5	1	5	2,0		(9182)	9210	(9197)	9209	
ISR-2-10	12,5	18,5	2	10	2,6		9187	9188	9181	9179	
ISR-2-10-A	12,5	18,5	2	10	2,6		(9247)	9190	(9246)	9189	
ISR-2-10-MA	12,5	18,5	2	10	2,6		-	-	-	33513	

Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

(...) auf Anfrage | on request | su richiesta

M ... gepresste Ausführung | pressed insert | inserto stampato

A ... mit seitlicher Freistellung | undernecked version | rastremato

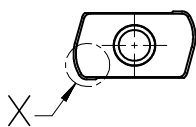
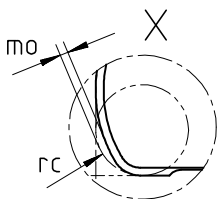
Schnittwertempfehlungen, cutting parameters, Parametri di taglio



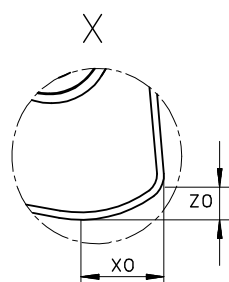
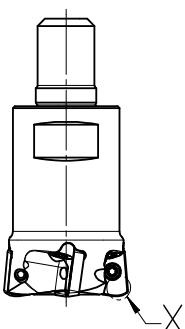
rc = zu programmierender Radius | programming radius | raggio da programmare

mo = ISR-2-5(A) ~ 0,43mm (Restmaterial | Remaining material | Materiale residuo)

mo = ISR-2-10(A) ~ 0,34mm

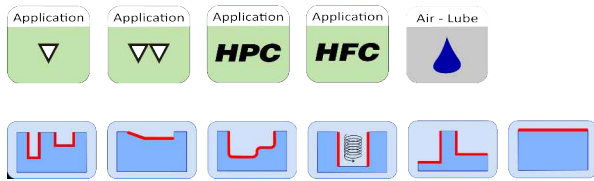


Informationen zur Werkzeugvoreinstellung | Presetting informations | Informazioni per presetting

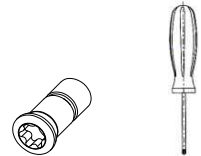
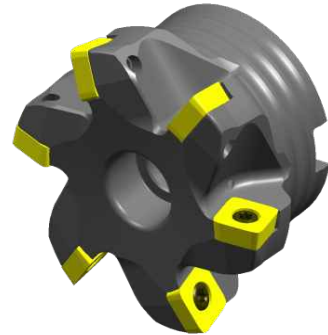
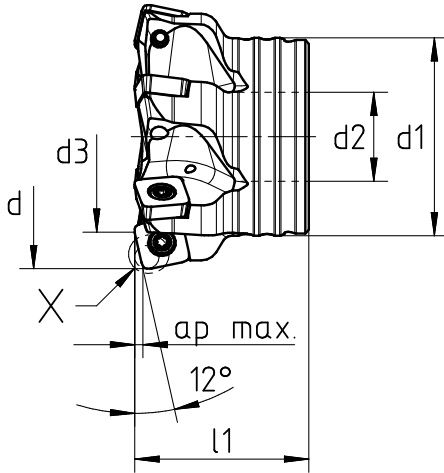


	xo	zo
ISR-2-5	3,9	2,2
ISR-2-10	5,5	2,8

ASR14-.. Hochleistungs-Schrupfräser | High feed end mill | Frese per elevate prestazioni



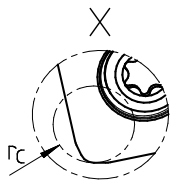
I Steel < 30 HRc	II Steel 30-40 HRc	III Steel 40-50 HRc	IV Steel 50-60 HRc	V Steel > 60 HRc	VI GG / GGG
VII INOX	VIII Ti	IX Cu, Ms	X Alu	XI Graphite	XII Plast



Aufsteckversion | Bore type | Versione a manicotto

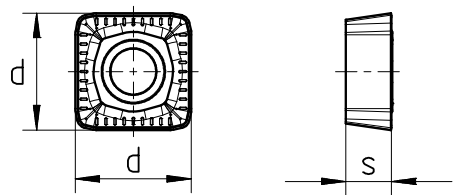
Code	Type	d	l1	d1	d2	d3	rc	z	s	
42409	ASR14-66-5-D27	66	50	48	27	44	3,5	5	MS-4,5-001	T20
42419	ASR14-80-5-D27	80	50	60	27	58	3,5	5	MS-4,5-001	T20
42420	ASR14-80-6-D27	80	50	60	27	58	3,5	6	MS-4,5-001	T20
42406	ASR14-100-7-D32	100	52	70	32	78	3,5	7	MS-4,5-001	T20
42410	ASR14-125-8-D40	125	63	90	40	103	3,5	8	MS-4,5-001	T20

Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]



rc = zu programmierender Radius | programming radius | raggio da programmare

AISR-14-.. alle Versionen | all types | tutti versioni



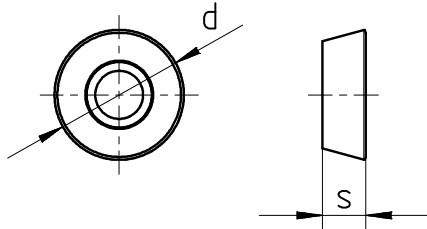
Sorten Grades Gradi								
Beschichtung Coating Rivestimento								
Type	d	s			R41	R41 TiAlN	R25F TiAlN	
AISR-140516-MCR01	14	5,5				43087	46558	
				C				
				O				
				D				
				E				

Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

Schnittwertempfehlungen, cutting parameters, Parametri di taglio



RDMW-.. alle Versionen | all types | tutti versioni



Sorten | Grades | Gradi

Beschichtung | Coating | Rivestimento

Type	d	s			F12 TiALN	R35 TiALN	
RDMW 1003M0-T	10	3,18		C O D E	42860	42859	
RDMW 12T3M0-T	12	3,97			42861	42862	
RDMW 1604M0-T	16	4,76			42864	42863	

Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

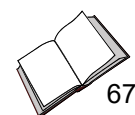
RDGT-..



Type	d	s			RS33 TiALXN	
RDGT 1003M0-CR00	10	3,18		C O D E	57188	
RDGT12T3MO-CR00	12	3,97			57189	

Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

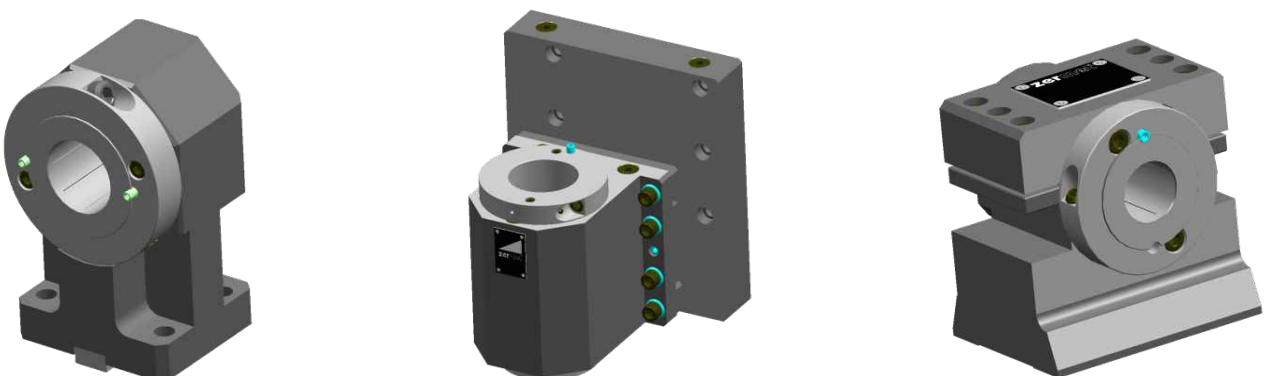
Schnittwertempfehlungen, cutting parameters, Parametri di taglio



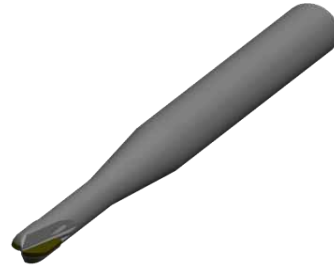
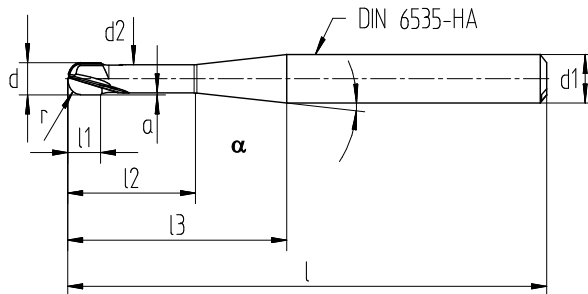
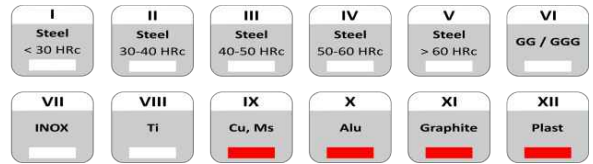
Sonder-Werkzeughalter | Special tool holder | Portautensili speciali



**Bohrstangenhalter mit hydraulischer Klemmung HydroStar
Tool holder for boring bars with hydraulic clamping HydroStar
Portautensile per barenatura con bloccaggio idraulico HydroStar**



z1CVD-R.. CVD-Kugelschaftfräser | CVD Ball-Endmill | Frese sferiche in CVD



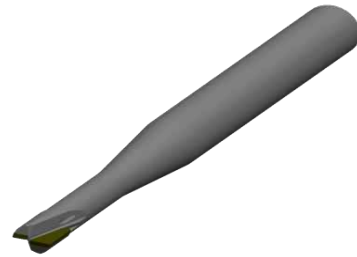
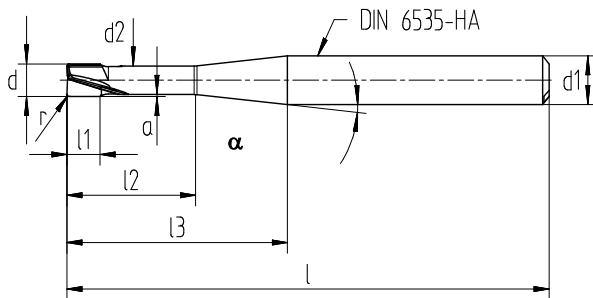
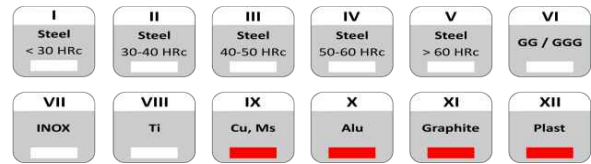
Code	Type	d*	l	d1	l2*	d2	l1	α	r*	a	l3
45877	z1CVD-R-0100-06-075-003	1 **	75	6	3	0,94	2,1	5°	0,5	0,03	31,9
45878	z1CVD-R-0100-06-075-015	1**	75	6	15	0,94	2,1	8°	0,5	0,03	33
46394	z1CVD-R-0100-06-075-020	1**	75	6	20	0,94	2,1	10°	0,5	0,03	34
45054	z1CVD-R-0150-06-075-005	1,5	75	6	5	1,45	2,15	5°	0,75	0,025	31
45053	z1CVD-R-0150-06-075-015	1,5	75	6	15	1,45	2,15	7°	0,75	0,025	33,5
45898	z1CVD-R-0150-06-075-020	1,5	75	6	20	1,45	2,15	8°	0,75	0,025	36,2
44243	z1CVD-R-0200-06-075-006	2	75	6	6	1,8	3,1	5°	1	0,1	30
45052	z1CVD-R-0200-06-075-020	2	75	6	20	1,8	3,1	8°	1	0,1	34,9
45879	z1CVD-R-0200-06-075-025	2	75	6	25	1,8	3,1	10°	1	0,1	36,9
45880	z1CVD-R-0200-06-075-035	2	75	6	35	1,8	3,1	45°	1	0,1	37,1
45881	z1CVD-R-0300-06-075-009	3	75	6	9	2,5	4,1	5°	1,5	0,25	29
45882	z1CVD-R-0300-06-075-015	3	75	6	15	2,5	4,1	5°	1,5	0,25	35
45883	z1CVD-R-0300-06-075-035	3	75	6	35	2,5	4,1	45°	1,5	0,25	36,7
44244	z1CVD-R-0400-06-075-012	4	75	6	12	3,5	5,15	5°	2	0,25	26,3
45884	z1CVD-R-0400-06-075-020	4	75	6	20	3,5	5,15	5°	2	0,25	34,3
45885	z1CVD-R-0400-06-075-030	4	75	6	30	3,5	5,15	10°	2	0,25	37,1
45886	z1CVD-R-0500-06-090-015	5	90	6	15	4,4	6,15	5°	2,5	0,3	24,1
45887	z1CVD-R-0500-06-090-050	5	90	6	50	4,4	6,15	15°	2,5	0,3	53
45888	z1CVD-R-0600-06-105-018	6	105	6	18	5,4	6,15	5°	3	0,3	21,4
45894	z1CVD-R-0600-06-105-065	6	105	6	65	5,4	6,15	15°	3	0,3	66,1
45895	z1CVD-R-0800-08-105-024	8	105	8	24	7,2	8,15	5°	4	0,4	28,6
45896	z1CVD-R-0800-08-105-040	8	105	8	40	7,2	8,15	5°	4	0,4	44,6
45897	z1CVD-R-0800-08-105-065	8	105	8	65	7,2	8,15	10°	4	0,4	67,3

Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

*Sonderabmessungen auf Anfrage | Special dimensions on request | Dimensioni speciali su richiesta

** d=1mm hat z=1 | d=1mm has one cutting edge

z1CVD-T.. Torische CVD Schaftfräser | Toric CVD endmill | Frese toriche in CVD



Code	Type	d*	r*	l	d1	l2*	d2	l1	α	a	l3
45046	z1CVD-T-0100-ER010-06-075-003	1 **	0,1	75	6	3	0,94	2,1	5°	0,03	31,9
45047	z1CVD-T-0100-ER010-06-075-015	1 **	0,1	75	6	15	0,94	2,1	8°	0,03	33
46406	z1CVD-T-0100-ER010-06-075-020	1 **	0,1	75	6	20	0,94	2,1	10°	0,03	34,3
45050	z1CVD-T-0150-ER015-06-075-005	1,5	0,15	75	6	5	1,45	2,15	5°	0,025	31
46404	z1CVD-T-0150-ER015-06-075-015	1,5	0,15	75	6	15	1,45	2,15	6°	0,025	36,6
45051	z1CVD-T-0150-ER015-06-075-020	1,5	0,15	75	6	20	1,45	2,15	8°	0,025	36,2
44245	z1CVD-T-0200-ER015-06-075-006	2	0,15	75	6	6	1,8	3,1	5°	0,1	30
45048	z1CVD-T-0200-ER015-06-075-020	2	0,15	75	6	20	1,8	3,1	8°	0,1	34,9
45899	z1CVD-T-0300-ER030-06-075-009	3	0,3	75	6	9	2,5	4,1	5°	0,25	29
45900	z1CVD-T-0300-ER030-06-075-020	3	0,3	75	6	20	2,5	4,1	7°	0,25	34,3
45901	z1CVD-T-0300-ER030-06-075-035	3	0,3	75	6	35	2,5	4,1	45°	0,25	36,7
44246	z1CVD-T-0400-ER030-06-075-012	4	0,3	75	6	12	3,5	5,15	5°	0,25	26,3
45049	z1CVD-T-0400-ER030-06-075-040	4	0,3	75	6	40	3,5	5,15	45°	0,25	41,2
45902	z1CVD-T-0500-ER050-06-090-015	5	0,5	90	6	15	4,4	6,15	5°	0,3	24,1
45903	z1CVD-T-0500-ER050-06-090-050	5	0,5	90	6	50	4,4	6,15	15°	0,3	53
45904	z1CVD-T-0600-ER030-06-105-018	6	0,3	105	6	18	5,4	6,15	5°	0,3	21,4
45905	z1CVD-T-0600-ER030-06-105-035	6	0,3	105	6	35	5,4	6,15	45°	0,3	38,4
46189	z1CVD-T-0600-ER050-06-105-018	6	0,5	105	6	18	5,4	6,15	5°	0,3	21,4
46405	z1CVD-T-0600-ER050-06-105-035	6	0,5	105	6	35	5,4	6,15	5°	0,3	38,4
45906	z1CVD-T-0800-ER050-08-105-024	8	0,5	105	8	24	7,2	8,15	5°	0,4	28,6
45907	z1CVD-T-0800-ER100-08-105-024	8	1,0	105	8	24	7,2	8,15	5°	0,4	28,6
45908	z1CVD-T-0800-ER100-08-105-065	8	1,0	105	8	65	7,2	8,15	10°	0,4	67,3

Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

*Sonderabmessungen auf Anfrage | Special dimensions on request | Dimensioni speciali su richiesta

** d=1mm hat z=1 | d=1mm has one cutting edge



Drehmomentschlüssel Torque key Chiave dinametrica		
Code	Type	Anzugsmoment (Ncm) Maximum torque on screw Momento di serraggio
4076	D-0,6/1,5	60-150
4074	D-1,5/3,0	150-300
4012	D-3,0/5,4	300-540

Bits Bits Inserti		
Code	Type	Größe Size Italiano
1228	DE-T7	T7
1227	DE-T8	T8
1215	DE-T9	T9
1224	DE-T10	T10
1223	DE-T15	T15
1222	DE-T20	T20
36279	DE-T30	T30



Drehmomentschlüssel, torque key, Chiave dinamometrica			
Code	Type	Anzugsmoment (Nm) Tightening torque Momento di serraggio	A
4040	D-70-NM-60	8 - 60	9 x 12
4026	D-70-NM-200	40 - 200	14 x 18



Einsteckmaulschlüssel, plug in wrench, Inserti			
Code	Type	SW 	A
1001	DE-SW08-9x12	8	9 x 12
773	DE-SW13-9x12	13	9 x 12
780	DE-SW15-9x12	15	9 x 12
778	DE-SW24-14x18	24	14 x 18
31657	DE-SW28-14x18	28	14 x 18

Abmessungen [mm] | Dimensions [mm] | Dimensioni [mm]

Anzugsmoment für Schrauben | Maximum torque on screw | Momenti di serraggio per viti



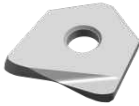
Code	Type	Größe Size misura	Anzugsmoment (Ncm) Maximum torque on screw Momento di serraggio	
40763	zS-06	T7	90	
40765	zS-08	T7	90	
40766	zS-10	T8	150	
40767	zS-12	T10	180	
40769	zS-16	T20	280	
40773	zS-20	T20	400	
40774	zS-25	T20	400	
40775	zS-32	T30	450	
8597	MS-10	T15	180	
8672	MS-12	T20	280	
8660	MS-16	T20	400	
8665	MS-20	T20	400	
8663	MS-25	T20	400	
8603	MS-32	T30	450	
8658	MS-2,2-001	T7	90	
8657	MS-2,5-001	T8	150	
8664	MS-2,5-002	T8	150	
8606	MS-3,0-001	T8	200	
8607	MS-3,0-002	T9	200	
8662	MS-3,0-004	T9	200	
8604	MS-4,0-001	T20	150	
8611	MS-4,5-001	T20	500	

Schneidstoff Sorten | Grades | Gradi di MDI

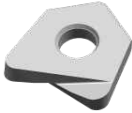
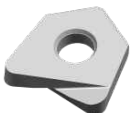
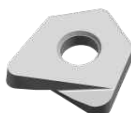
zermat Grades	ISO Grades
RS30	P20-M30
RS31	P25-M35
RS32	P30-M30
RS33	P35-M35
RS34	P20-M30F
R35	P20-P30
R41	P25-P30
R42	P40-P50
R46	P30-P40
F10	K05F
F12	K20-30UF
F17	K05-K10F

zermat Grades	ISO Grades
F22	K30F
H16	K10-K20UF
C30	Cermet micro grain
PKD 130	PCD micro grain
PKD-4PDC-S	PCD tough grade
CVD	CVD synthetic diamant
CBN 100	CBN for hard steel
CBN15S	CBN for hard steel, micro grain
CBN10S	CBN for cast iron

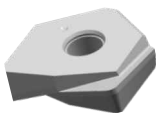
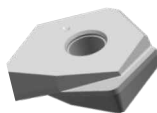
Schnittwertempfehlungen, cutting parameters, Parametri di taglio

Material			Z1THF-.. R41-TiAlN 				Z1THF-.. F10-H66+ 			
Material	Material Code	[N/mm ²] HB / HRC	vc [m/min]	fz [mm]	ap [mm]	ae [mm]	vc [m/min]	fz [mm]	ap [mm]	ae [mm]
St37-2	1.0037		240-300	0,4 - 1,2	0,02 x d1	≤ 0,6xd1				
St70-2	1.0070	≤ 850N/mm ²	220-280	0,4 - 1,2	0,02 x d1	≤ 0,6xd1				
GS-25CrMo4	1.7218									
16MnCr5	1.7131	≤ 1100 N/mm ²	200-260	0,4 - 1,0	0,02 x d1	≤ 0,6xd1				
Ck45	1.1191									
100Cr6	1.3505									
40CrMnMoS8-6	1.2312									
42CrMo4V	1.7225	≤ 1400 N/mm ²	180-260	0,3 - 0,8	0,02 x d1	≤ 0,6xd1				
X155CrVMo12-1	1.2379									
GG 25	0.6020	250 HB	240-320	0,4 - 1,2	0,04 x d1	≤ 0,6xd1				
GGG 70	0.7070		180-240	0,3 - 0,8	0,02 x d1	≤ 0,6xd1				
GGV		200 HB	160-200	0,3 - 0,8	0,03 x d1	≤ 0,6xd1				
GTS 65	0.8165	650 N/mm ²	140-180	0,3 - 0,8	0,02 x d1	≤ 0,6xd1				
Cu										
CuZn...	2.1096									
40CrMnMoS8-6	1.2312	HRC 50-54					140-160	0,4 - 0,6	0,015xd1	≤ 0,4xd1
X38CrMoV5-1	1.2343	HRC 52-56					120-150	0,3 - 0,6	0,015xd1	≤ 0,4xd1
X155CrVMo12-1	1.2379	HRC 60-62					110-150	0,3 - 0,5	0,015xd1	≤ 0,3xd1
Graphit										

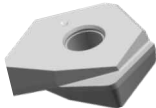
Schnittwertempfehlungen, cutting parameters, Parametri di taglio

Z1T-.. F10-TiAlN 				Z1T-.. F10-H66+ 				Z1T-.. F10-DMD-G 			
vc	fz	ap	ae	vc	fz	ap	ae	vc	fz	ap	ae
[m/min]	[mm]	[mm]	[mm]	[m/min]	[mm]	[mm]	[mm]	[m/min]	[mm]	[mm]	[mm]
220-300	0,1-0,4	0,03xd1	0,02-0,8xd1								
220-300	0,1-0,4	0,03xd1	0,02-0,8xd1								
240-280	0,1-0,4	0,025x d1	0,015-0,6xd1								
140-220	0,1-0,3	0,02xd1	0,015-0,6xd1								
220-280	0,3-0,6	0,05xd1	0,015-0,6xd1								
160-240	0,3-0,5	0,04xd1	0,015-0,6xd1								
160-260	0,3-0,5	0,04xd1	0,015-0,6xd1								
140-220	0,2-0,4	0,03xd1	0,015-0,6xd1								
220-280	0,3-0,6	0,05-0,2xd1	0,02-0,8xd1					200-350	0,2-0,5	0,01-0,05xd1	0,01-0,06
200-280	0,3-0,6	0,05-0,2xd1	0,02-0,8xd1								
160-220	0,1-0,3	0,015xd1	0,01-0,05xd1	160-220	0,1-0,3	0,02xd1	0,01-0,05xd1				
140-190	0,1-0,25	0,015xd1	0,01-0,03xd1	150-240	0,1-0,25	0,015xd1	0,01-0,03xd1				
120-170	0,08-0,2	0,01xd1	0,01-0,02xd1	140-220	0,08-0,2	0,01xd1	0,01-0,02xd1				
								450-800	0,4-0,8	0,02-0,5xd1	0,02-0,8xd1

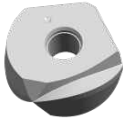
Schnittwertempfehlungen, cutting parameters, Parametri di taglio

Material			z1TSP-.. F10-TiAlN 				z1TSP-.. F10-H66+ 			
Material	Material Code	[N/mm ²] HB / HRC	vc [m/min]	fz [mm]	ap [mm]	ae [mm]	vc [m/min]	fz [mm]	ap [mm]	ae [mm]
St37-2	1.0037		240-300	0,4 - 1,2	0,02 x d1	≤ 0,6xd1				
St70-2	1.0070	≤ 850N/mm ²	220-280	0,4 - 1,2	0,02 x d1	≤ 0,6xd1				
GS-25CrMo4	1.7218									
16MnCr5	1.7131	≤ 1100 N/mm ²	200-260	0,4 - 1,0	0,02 x d1	≤ 0,6xd1				
Ck45	1.1191									
100Cr6	1.3505									
40CrMnMoS8-6	1.2312									
42CrMo4V	1.7225	≤ 1400 N/mm ²	180-260	0,3 - 0,8	0,02 x d1	≤ 0,6xd1				
X155CrVMo12-1	1.2379									
GG 25	0.6020	250 HB	240-320	0,4 - 1,2	0,04 x d1	≤ 0,6xd1				
GGG 70	0.7070		180-240	0,3 - 0,8	0,02 x d1	≤ 0,6xd1				
GGV		200 HB	160-200	0,3 - 0,8	0,03 x d1	≤ 0,6xd1				
GTS 65	0.8165	650 N/mm ²	140-180	0,3 - 0,8	0,02 x d1	≤ 0,6xd1				
Cu										
CuZn...	2.1096									
Aluminium										
40CrMnMoS8-6	1.2312	HRC 50-54					140-160	0,4 - 0,6	0,015xd1	≤ 0,4xd1
X38CrMoV5-1	1.2343	HRC 52-56					120-150	0,3 - 0,6	0,015xd1	≤ 0,4xd1
X155CrVMo12-1	1.2379	HRC 60-62					110-150	0,3 - 0,5	0,015xd1	≤ 0,3xd1
Graphit										

Schnittwertempfehlungen, cutting parameters, Parametri di taglio

z1TSP-.. F10-DMD-G 											
vc	fz	ap	ae	vc	fz	ap	ae	vc	fz	ap	ae
[m/min]	[mm]	[mm]	[mm]	[m/min]	[mm]	[mm]	[mm]	[m/min]	[mm]	[mm]	[mm]
280-500	0,2-0,6	0,02-0,5xd1	0,02-0,8xd1								
280-500	0,2-0,6	0,02-0,5xd1	0,02-0,8xd1								
350-800	0,15-0,4	0,02-0,5xd1	0,02-0,8xd1								
450-800	0,4-0,8	0,02-1xd1	0,02-0,8xd1								

Schnittwertempfehlungen, cutting parameters, Parametri di taglio

Material			z1R-.. z1R-..-ECO-.. z1Rduo-.. F10-TiAlN F17-TiAlN				z1R-.. z1R-..-ECO-.. z1Rduo-.. F10-H66+ F17-H66+			
			 				 			
Material	Material Code	[N/mm ²] HB / HRC	vc [m/min]	fz [mm]	ap [mm]	ae [mm]	vc [m/min]	fz [mm]	ap [mm]	ae [mm]
St37-2	1.0037		240-300	0,8-1,6	0,02 x d1	≤ 0,4 x d1				
St70-2	1.0070	≤ 850N/mm ²	220-280	0,8-1,6	0,02 x d1	≤ 0,4 x d1				
GS-25CrMo4	1.7218									
16MnCr5	1.7131									
Ck45	1.1191	≤ 1100 N/mm ²	200-260	0,6-1,4	0,02 x d1	≤ 0,4 x d1				
100Cr6	1.3505									
40CrMnMoS8-6	1.2312									
42CrMo4V	1.7225	≤ 1400 N/mm ²	180-260	0,5-1,2	0,02 x d1	≤ 0,4 x d1				
X155CrVMo12-1	1.2379									
GG 25	0.6020	250 HB	240-320	0,5 - 1,0	0,04 x d1	≤ 0,4 x d1				
GGG 70	0.7070		220-280	0,5 - 1,0	0,02 x d1	≤ 0,4 x d1				
GGV		200 HB	200-260	0,5 - 0,7	0,03 x d1	≤ 0,4 x d1				
GTS 65	0.8165	650 N/mm ²	200-240	0,5 - 0,7	0,02 x d1	≤ 0,4 x d1				
Cu										
CuZn...	2.1096									
Aluminium	Al									
40CrMnMoS8-6	1.2312	HRC 50-54					140-160	0,1-0,4	0,015xd1	≤ 0,03 x d1
X38CrMoV5-1	1.2343	HRC 52-56					120-150	0,1-0,3	0,015xd1	≤ 0,02 x d1
X155CrVMo12-1	1.2379	HRC 60-62					110-150	0,05-0,2	0,015xd1	≤ 0,015 x d1
Graphit										

Schnittwertempfehlungen, cutting parameters, Parametri di taglio

z1R-.. z1R-.-ECO-.. z1Rduo-.. F10-DMD-G				CPGW09T304-PDR PKD+CVD				CPGW09T304-PDR CBN-10EW/CBN-15EW			
vc	fz	ap	ae	vc	fz	ap	ae	vc	fz	ap	ae
[m/min]	[mm]	[mm]	[mm]	[m/min]	[mm]	[mm]	[mm]	[m/min]	[mm]	[mm]	[mm]
								>600	0,05-0,3	0,05-2	<0,8xd1
								<=500	0,05-0,2	0,05-1,5	<0,6xd1
220-280	0,1-0,4	0,01-0,25xd1	0,02-0,8xd1	400-800	0,1-0,25	0,05-2,5	<1,0xd1				
200-280	0,1-0,4	0,01-0,25xd1	0,02-0,8xd1	400-800	0,1-0,3	0,05-2,5	<1,0xd1				
				>600	0,1-0,3	0,05-3	<1,0xd1				
450-800	0,4-0,8	0,01-0,3xd1	0,02-0,4xd1	>500	0,2-0,5	0,05-3	<1,0xd1				

Schnittwertempfehlungen, cutting parameters, Parametri di taglio

Material			zLNB-0603-M01 RS31-TiAlXN				zLNB-0603-M01 RS32-TiAlXN			
							 			
Material	Material Code	[N/mm ²] HB / HRC	vc [m/min]	fz [mm]	ap [mm]	ae [mm]	vc [m/min]	fz [mm]	ap [mm]	ae [mm]
St37-2	1.0037		240-300	0,6-1,0	0,2-0,7	≤ 0,8xd1	160-220	0,5-0,8	0,2-0,7	≤ 0,8xd1
St70-2	1.0070	≤ 850N/mm ²	220-280	0,6-1,0	0,2-0,7	≤ 0,8xd1	150-210	0,5-0,8	0,2-0,7	≤ 0,8xd1
GS-25CrMo4	1.7218									
16MnCr5	1.7131									
Ck45	1.1191									
100Cr6	1.3505									
40CrMnMoS8-6	1.2312									
42CrMo4V	1.7225	≤ 1400 N/mm ²	140-260	0,6-1,2	0,2-0,7	≤ 0,7xd1	120-180	0,4-0,6	0,4-0,6	≤ 0,4xd1
X155CrVMo12-1	1.2379									
GG 25	0.6020	250 HB	240-320	0,8-1,8	0,2-1,0	≤ 0,8xd1	200-280	0,8-1,8	0,2-1,0	≤ 0,8xd1
GGG 70	0.7070		180-240	0,8-1,5	0,2-0,7	≤ 0,8xd1	160-200	0,8-1,5	0,2-0,7	≤ 0,8xd1
GGV		200 HB	160-200	0,8-1,5	0,2-0,7	≤ 0,8xd1	140-180	0,8-1,5	0,2-0,7	≤ 0,8xd1
GTS 65	0.8165	650 N/mm ²	140-180	0,6-1,5	0,2-0,7	≤ 0,6xd1	120-160	0,6-1,5	0,2-0,7	≤ 0,6xd1
Cu										
CuZn...	2.1096									
X33CrS16	1.2085	≤1100N/mm ²					100-180	0,4-0,6	0,3-0,5	0,4-1xd1
X36CrMo16	1.2316	≤1100N/mm ²					100-180	0,4-0,6	0,2-0,5	0,4-1xd1
X8CrNiS18-9	1.4305	≤750N/mm ²					110-190	0,4-0,6	0,3-0,5	0,4-1xd1
X38CrMo16	1.2316	≤1050N/mm ²					90-160	0,4-0,6	0,3-0,5	0,4-1xd1

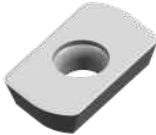
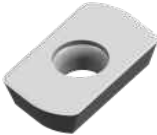


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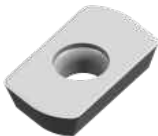
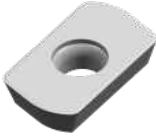
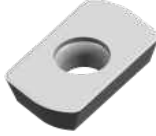
Tel: 0049 (0) 7821 92 378 30, Fax: 0049 (0) 7821 92 378 31, info@zermet.de, www.zermet.de



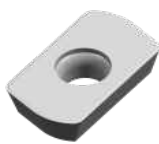
Schnittwertempfehlungen, cutting parameters, Parametri di taglio

Material			ISR-1-5-.. R41-TiAlN				ISR-1-5-.. F10-TiAlN			
										
Material	Material Code	[N/mm ²] HB / HRC	vc [m/min]	fz [mm]	ap [mm]	ae [mm]	vc [m/min]	fz [mm]	ap [mm]	ae [mm]
St37-2	1.0037		240-300	1,0-1,8	0,2-0,7	≤ 0,8xd1				
St70-2	1.0070	≤ 850N/mm ²	220-280	1,0-1,8	0,2-0,7	≤ 0,8xd1				
GS-25CrMo4	1.7218									
16MnCr5	1.7131									
Ck45	1.1191	≤ 1100 N/mm ²	180-220	0,8-1,6	0,2-0,7	≤ 0,8xd1				
100Cr6	1.3505									
40CrMnMoS8-6	1.2312									
42CrMo4V	1.7225	≤ 1400 N/mm ²	140-260	0,6-1,5	0,2-0,7	≤ 0,7xd1				
X155CrVMo12-1	1.2379									
GG 25	0.6020	250 HB	240-320	0,8-1,8	0,2-1,0	≤ 0,8xd1	200-250	0,6-1,5	0,2-0,7	≤ 0,8xd1
GGG 70	0.7070		180-240	0,8-1,5	0,2-0,7	≤ 0,8xd1	180-230	0,6-1,5	0,2-0,7	≤ 0,8xd1
GGV		200 HB	160-200	0,8-1,5	0,2-0,7	≤ 0,8xd1	140-160	0,5-1,5	0,2-0,7	≤ 0,8xd1
GTS 65	0.8165	650 N/mm ²	140-180	0,6-1,5	0,2-0,7	≤ 0,6xd1	120-140	0,5-1,5	0,2-0,7	≤ 0,8xd1
Cu										
CuZn...	2.1096									
40CrMnMoS8-6	1.2312	HRC 50-54		0,4-0,8			140-160	0,4-0,6	0,015xd1	≤ 0,4xd1
X38CrMoV5-1	1.2343	HRC 52-56					120-150	0,4-0,6	0,015xd1	≤ 0,4xd1
X155CrVMo12-1	1.2379	HRC 60-62					110-150	0,4-0,6	0,015xd1	≤ 0,3xd1
X33CrS16	1.2085	≤1100N/mm ²					100-180	0,4-0,6	0,015xd1	≤ 0,4xd1
X36CrMo16	1.2316	≤1100N/mm ²					100-180	0,4-0,6	0,015xd1	≤ 0,4xd1
X8CrNiS18-9	1.4305	≤750N/mm ²					110-190	0,4-0,6	0,015xd1	≤ 0,4xd1
X38CrMo16	1.2316	≤1050N/mm ²					90-160	0,4-0,6	0,015xd1	≤ 0,4xd1

Schnittwertempfehlungen, cutting parameters, Parametri di taglio

ISR-1-5-M- R41-TiAlN 				ISR-1-5- H16-H66+ 				ISR-1-5-RSC-00.. RS34-TiAlXN  			
vc	fz	ap	ae	vc	fz	ap	ae	vc	fz	ap	ae
[m/min]	[mm]	[mm]	[mm]	[m/min]	[mm]	[mm]	[mm]	[m/min]	[mm]	[mm]	[mm]
160-200	0,1-0,4	0,2-0,7	0,02-0,8xd1								
160-200	0,1-0,4	0,2-0,7	0,02-0,8xd1								
140-180	0,1-0,4	0,2-0,7	0,015-0,6xd1								
120-160	0,1-0,3	0,2-0,7	0,015-0,6xd1								
200-240	0,3-0,6	0,2-1,0	0,015-0,6xd1								
140-220	0,3-0,5	0,2-0,7	0,015-0,6xd1								
120-200	0,3-0,5	0,2-0,7	0,015-0,6xd1								
110-180	0,2-0,4	0,2-0,7	0,015-0,6xd1								
				160-220	0,4-0,6	0,1-0,25	0,1-1,0xd1				
				150-200	0,4-0,5	0,1-0,2	0,1-0,8xd1				
				140-180	0,35-0,4	0,1-0,15	0,1-0,7xd1				
								100-140	0,4-0,6	0,3-0,5	≤ 0,4xd1
								100-130	0,4-0,6	0,3-0,5	≤ 0,4xd1
								110-150	0,4-0,6	0,3-0,5	≤ 0,4xd1
								90-120	0,4-0,6	0,3-0,5	≤ 0,4xd1

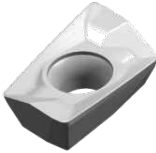
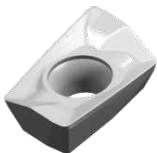
Schnittwertempfehlungen, cutting parameters, Parametri di taglio

Material			ISR-2-5(10)- R41-TiAlN				ISR-2-5(10)- F10-TiAlN			
										
Material	Material Code	[N/mm ²] HB / HRC	vc [m/min]	fz [mm]	ap [mm]	ae [mm]	vc [m/min]	fz [mm]	ap [mm]	ae [mm]
St37-2	1.0037		240-300	1,5-2,0	0,6-2,0	≤ 0,8xd1				
St70-2	1.0070	≤ 850N/mm ²	220-280	1,5-2,0	0,6-2,0	≤ 0,8xd1				
GS-25CrMo4	1.7218									
16MnCr5	1.7131									
Ck45	1.1191	≤ 1100 N/mm ²	180-220	1,3-1,8	0,6-1,8	≤ 0,8xd1				
100Cr6	1.3505									
40CrMnMoS8-6	1.2312									
42CrMo4V	1.7225	≤ 1400 N/mm ²	140-260	1,0-1,6	0,4-1,6	≤ 0,7xd1				
X155CrVMo12-1	1.2379									
GG 25	0.6020	250 HB	240-320	1,5-2,0	0,6-2,0	≤ 0,8xd1	200-250	0,6-2,0	0,6-1,8	≤ 0,8xd1
GGG 70	0.7070		180-240	1,5-1,8	0,6-1,8	≤ 0,8xd1	180-230	0,6-1,8	0,6-1,8	≤ 0,8xd1
GGV		200 HB	160-200	1,5-2,0	0,6-1,8	≤ 0,8xd1	140-160	0,6-1,8	0,6-1,5	≤ 0,7xd1
GTS 65	0.8165	650 N/mm ²	140-180	1,3-1,6	0,6-1,8	≤ 0,7xd1	120-140	0,6-1,8	0,6-1,5	≤ 0,6xd1
Cu										
CuZn...	2.1096									
Aluminium										
X33CrS16	1.2085	≤1100N/mm ²								
X36CrMo16	1.2316	≤1100N/mm ²								
X8CrNiS18-9	1.4305	≤750N/mm ²								
X38CrMo16	1.2316	≤1050N/mm ²								
Graphit										

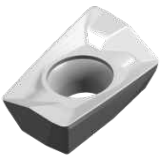
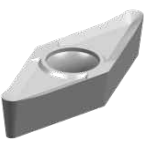
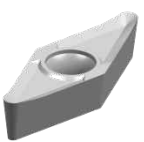
Schnittwertempfehlungen, cutting parameters, Parametri di taglio

RDGT-10/12/..../MO-CR00 RS33-TiAlXN				RDMW-10/12/16/..../MO-T F12-TiAlN				RDMW-10/12/16/..../MO-T R35-TiAlN			
											
											
vc	fz	ap	ae	vc	fz	ap	ae	vc	fz	ap	ae
[m/min]	[mm]	[mm]	[mm]	[m/min]	[mm]	[mm]	[mm]	[m/min]	[mm]	[mm]	[mm]
								160-250	0,3-0,6	0,2-4,0	≤ 0,8xd1
								140-220	0,25-0,5	0,2-3,5	≤ 0,8xd1
								110-150	0,2-0,4	0,2-3,0	≤ 0,8xd1
								100-130	0,15-0,3	0,2-2,5	≤ 0,8xd1
				180-220	0,2-0,5	0,1-4,0	≤ 0,8xd1				
				150-180	0,2-0,4	0,1-3,5	≤ 0,8xd1				
				130-150	0,2-0,4	0,1-3,0	≤ 0,8xd1				
				120-140	0,2-0,3	0,1-3,0	≤ 0,7xd1				
250-400	0,15-0,6	0,10-4,0	≤ 0,8xd1								
100-180	0,15-0,4	0,10-3,0	≤ 0,4xd1								
100-180	0,15-0,4	0,10-3,0	≤ 0,4xd1								
110-190	0,15-0,4	0,10-3,0	≤ 0,4xd1								
90-160	0,15-0,4	0,10-3,0	≤ 0,4xd1								

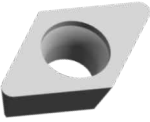
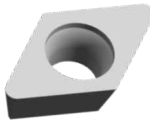
Schnittwertempfehlungen, cutting parameters, Parametri di taglio

Material			AOMX 0903..TR- F35-TiAlN				AOMX 0903..TR- F35-TiAlN-ZQS			
										
Material	Material Code	[N/mm ²] HB / HRC	vc [m/min]	fz [mm]	ap [mm]	ae [mm]	vc [m/min]	fz [mm]	ap [mm]	ae [mm]
St37-2	1.0037		140-250	0,15-0,4	0,2-4	≤ 1,0xd1				
St70-2	1.0070	≤ 850N/mm ²	140-230	0,15-0,4	0,2-4	≤ 1,0xd1				
GS-25CrMo4	1.7218									
16MnCr5	1.7131	≤ 1100 N/mm ²	120-200	0,12-0,3	0,2-3,0	≤ 1,0xd1				
Ck45	1.1191									
100Cr6	1.3505									
40CrMnMoS8-6	1.2312									
42CrMo4V	1.7225	≤ 1400 N/mm ²	90-140	0,1-0,25	0,2-2,5	≤ 1,0xd1	120-160	0,2-0,4	0,3-2,5	0,2-1,0xd1
X155CrVMo12-1	1.2379									
X20CR13	1.4021						140-180	0,3-0,5	0,4-0,8	0,2-0,6xd1
GG 25	0.6020	250 HB	160-280	0,15-0,5	0,2-5,0	≤ 1,0xd1				
GGG 70	0.7070		160-250	0,15-0,3	0,2-3,0	≤ 1,0xd1				
GGV		200 HB	140-220	0,15-0,3	0,2-2,5	≤ 1,0xd1				
GTS 65	0.8165	650 N/mm ²	120-200	0,1-0,25	0,2-2,0	≤ 1,0xd1				
Cu							160-260	0,15-0,3	0,2-3,0	≤ 1,0xd1
CuZn...	2.1096						180-300	0,2-0,4	0,2-4,0	≤ 1,0xd1
Aluminium										
40CrMnMoS8-6	1.2312	HRC 50-54								
X38CrMoV5-1	1.2343	HRC 52-56								
X155CrVMo12-1	1.2379	HRC 60-62								
Graphit										

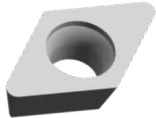
Schnittwertempfehlungen, cutting parameters, Parametri di taglio

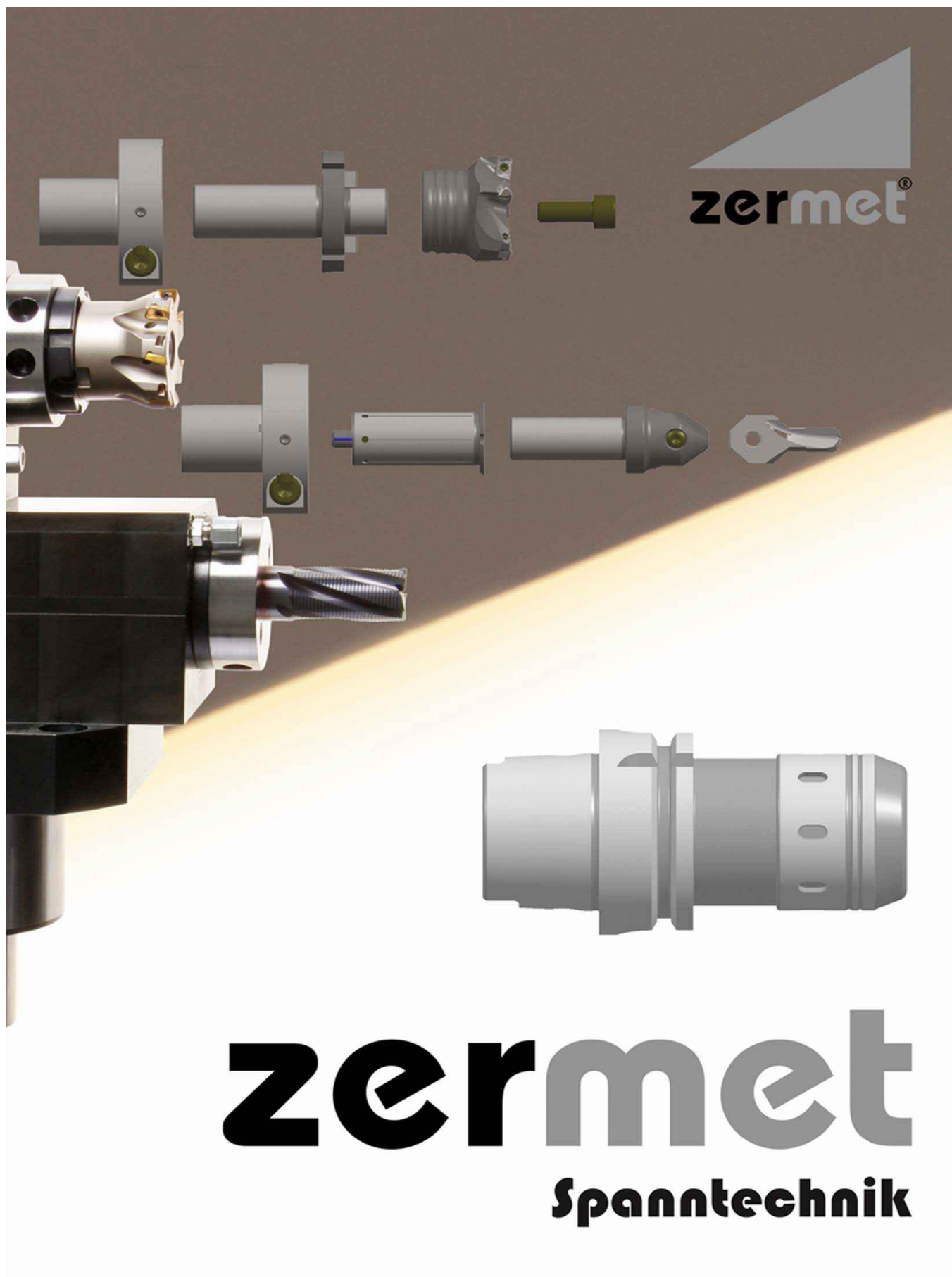
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vc	fz	ap	ae	vc	fz	ap	ae	vc	fz	ap	ae
[m/min]	[mm]	[mm]	[mm]	[m/min]	[mm]	[mm]	[mm]	[m/min]	[mm]	[mm]	[mm]
								200-400	0,1 - 0,2	0,1 - 0,15	≤ 1,0xd1
								220-300	0,1-0,4	0,03xd1	≤ 1,0xd11
								240-280	0,1-0,4	0,025x d1	≤ 1,0xd1
								140-220	0,1-0,3	0,02xd1	≤ 1,0xd1
								220-280	0,3-0,6	0,05xd1	≤ 1,0xd1
								160-240	0,3-0,5	0,04xd1	≤ 1,0xd1
								160-260	0,3-0,5	0,04xd1	≤ 1,0xd1
								140-220	0,2-0,4	0,03xd1	≤ 1,0xd1
								220-280	0,3-0,6	0,05-0,2xd1	≤ 1,0xd1
								200-280	0,3-0,6	0,05-0,2xd1	≤ 1,0xd1
250-450	0,2-0,4	0,2-6,0	≤ 1,0xd1	≤ 1000	0,1 - 0,3	0,05 -3,0	≤ 1,0 x d1	≤ 800	0,1-0,3	0,05-3,0	≤ 1,0 x d1

Schnittwertempfehlungen, cutting parameters, Parametri di taglio

Material			ISTN 1/2... F10 TiAlN 				ISTR 1/2... F10 TiAlN 			
Material	Material Code	[N/mm ²] HB / HRC	vc [m/min]	fz [mm]	ap [mm]	ae [mm]	vc [m/min]	fz [mm]	ap [mm]	ae [mm]
St37-2	1.0037		140-250	0,15-0,4	0,1-1 x r	≤ 1,0xd1	140-250	0,15-0,4	0,1-1 x r	≤ 1,0xd1
St70-2	1.0070	≤ 850N/mm ²	140-230	0,15-0,4	0,1-1 x r	≤ 1,0xd1	140-230	0,15-0,4	0,1-1 x r	≤ 1,0xd1
GS-25CrMo4	1.7218									
16MnCr5	1.7131	≤ 1100 N/mm ²	120-200	0,12-0,3	0,1-1 x r	≤ 1,0xd1	120-200	0,12-0,3	0,1-1 x r	≤ 1,0xd1
Ck45	1.1191									
100Cr6	1.3505									
40CrMnMoS8-6	1.2312									
42CrMo4V	1.7225	≤ 1400 N/mm ²	90-140	0,1-0,25	0,1-1 x r	≤ 1,0xd1	120-160	0,2-0,4	0,1-1 x r	0,2-1,0xd1
X155CrVMo12-1	1.2379									
X20CR13	1.4021						140-180	0,3-0,5	0,1-1 x r	0,2-0,6xd1
GG 25	0.6020	250 HB	160-280	0,15-0,5	0,1-1 x r	≤ 1,0xd1	160-280	0,15-0,5	0,1-1 x r	≤ 1,0xd1
GGG 70	0.7070		160-250	0,15-0,3		≤ 1,0xd1	160-250	0,15-0,3	0,1-1 x r	≤ 1,0xd1
GGV		200 HB	140-220	0,15-0,3	0,1-1 x r	≤ 1,0xd1	140-220	0,15-0,3	0,1-1 x r	≤ 1,0xd1
GTS 65	0.8165	650 N/mm ²	120-200	0,1-0,25	0,1-1 x r	≤ 1,0xd1	120-200	0,1-0,25	0,1-1 x r	≤ 1,0xd1
Cu							160-260	0,15-0,3	0,1-2 x r	≤ 1,0xd1
CuZn...	2.1096						180-300	0,2-0,4	0,1-2 x r	≤ 1,0xd1
Aluminium	Al									
40CrMnMoS8-6	1.2312	HRC 50-54	140-160	0,15-0,5	0,1-1 x r	0,1-1,0xd1				
X38CrMoV5-1	1.2343	HRC 52-56	100-140	0,15-0,3	0,1-1 x r	0,1-0,8xd1				
X155CrVMo12-1	1.2379	HRC 60-62	80-120	0,15-0,3	0,1-1 x r	0,1-0,7xd1				
Graphit										

Schnittwertempfehlungen, cutting parameters, Parametri di taglio

IALR 1/2... F10				AISR-140516-MCR01 R25F-TiAlN				AISR-140516-MCR01 R41-TiAlN			
											
vc	fz	ap	ae	vc	fz	ap	ae	vc	fz	ap	ae
[m/min]	[mm]	[mm]	[mm]	[m/min]	[mm]	[mm]	[mm]	[m/min]	[mm]	[mm]	[mm]
160-200	0,1-0,4	0,1-1 x r	0,02-0,8xd1	180-240	0,8-2,0	1,0-2,0	1,0-2,0	160-200	0,8-2,0	1,0-2,0	0,2-0,7xd1
160-200	0,1-0,4	0,1-1 x r	0,02-0,8xd1	180-240	0,8-2,0	1,0-2,0	1,0-2,0	160-200	0,8-2,0	1,0-2,0	0,2-0,7xd1
140-180	0,1-0,4	0,1-1 x r	0,015-0,6xd1	160-200	0,8-2,0	1,0-1,8	1,0-1,8	140-180	0,8-2,0	1,0-1,8	0,2-0,7xd1
120-160	0,1-0,3	0,1-1 x r	0,015-0,6xd1	140-180	0,8-1,6	1,0-1,4	1,0-1,6	120-160	0,8-1,6	1,0-1,6	0,2-0,7xd1
200-240	0,3-0,6	0,1-1 x r	0,015-0,6xd1	220-260	0,8-2,0	1,0-2,0	1,0-2,0	200-240	0,8-2,0	1,0-2,0	0,2-0,7xd1
140-220	0,3-0,5	0,1-1 x r	0,015-0,6xd1	180-240	0,8-2,0	1,0-2,0	1,0-2,0	140-220	0,8-2,0	1,0-2,0	0,2-0,7xd1
120-200	0,3-0,5	0,1-1 x r	0,015-0,6xd1	160-220	0,8-1,6	1,0-1,8	1,0-1,8	120-200	0,8-1,8	1,0-1,8	0,2-0,7xd1
110-180	0,2-0,4	0,1-1 x r	0,015-0,6xd1	130-150	0,8-1,4	1,0-1,4	1,0-1,6	110-180	0,8-1,6	1,0-1,6	0,2-0,7xd1
160-240	0,15-0,3	0,1-2 x r	≤ 1,0xd1								
180-250	0,2-0,4	0,1-2 x r	≤ 1,0xd1								
250-800	0,15-0,4	0,1-2 x r	≤ 1,0xd1								



The advertisement features a collection of industrial clamping components, including various chucks, hydraulic cylinders, and clamping pins, arranged in a horizontal line. A large, detailed image of a hydraulic chuck is shown on the left, with a bright yellow light beam emanating from it. The Zermet logo is visible in the top right corner of the image area. The background is a dark, textured surface.

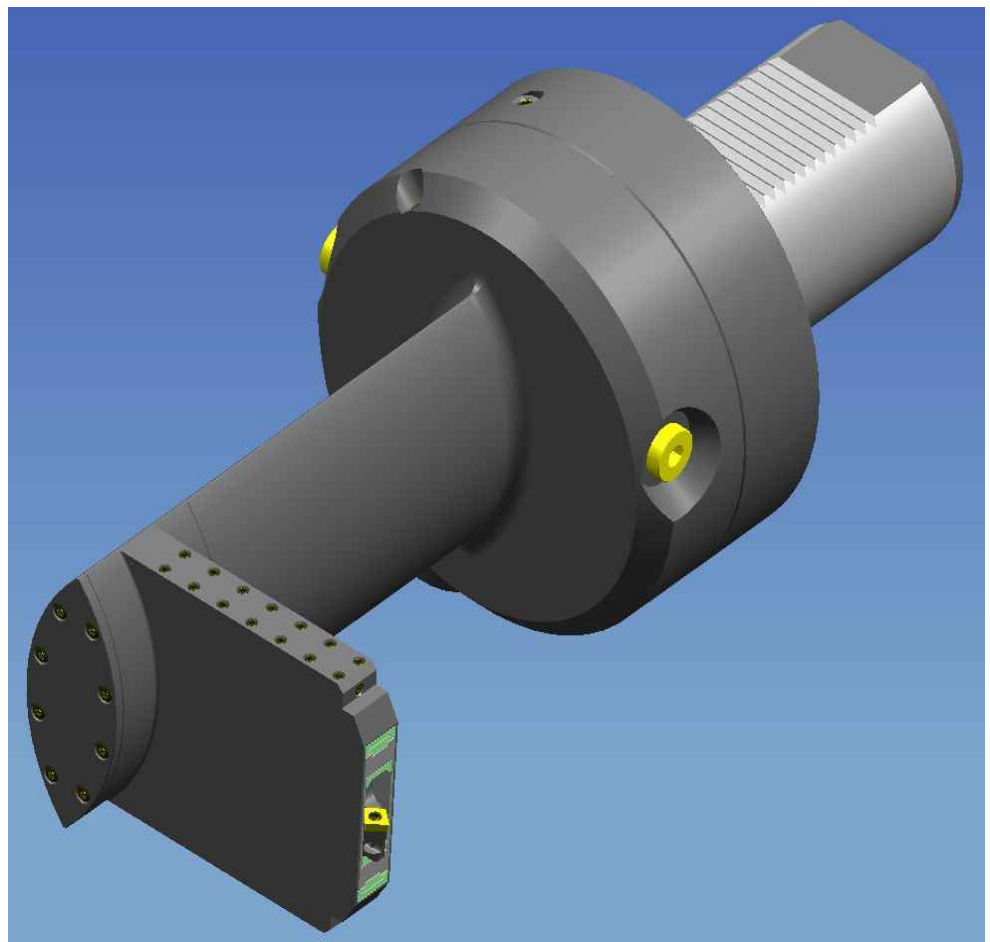
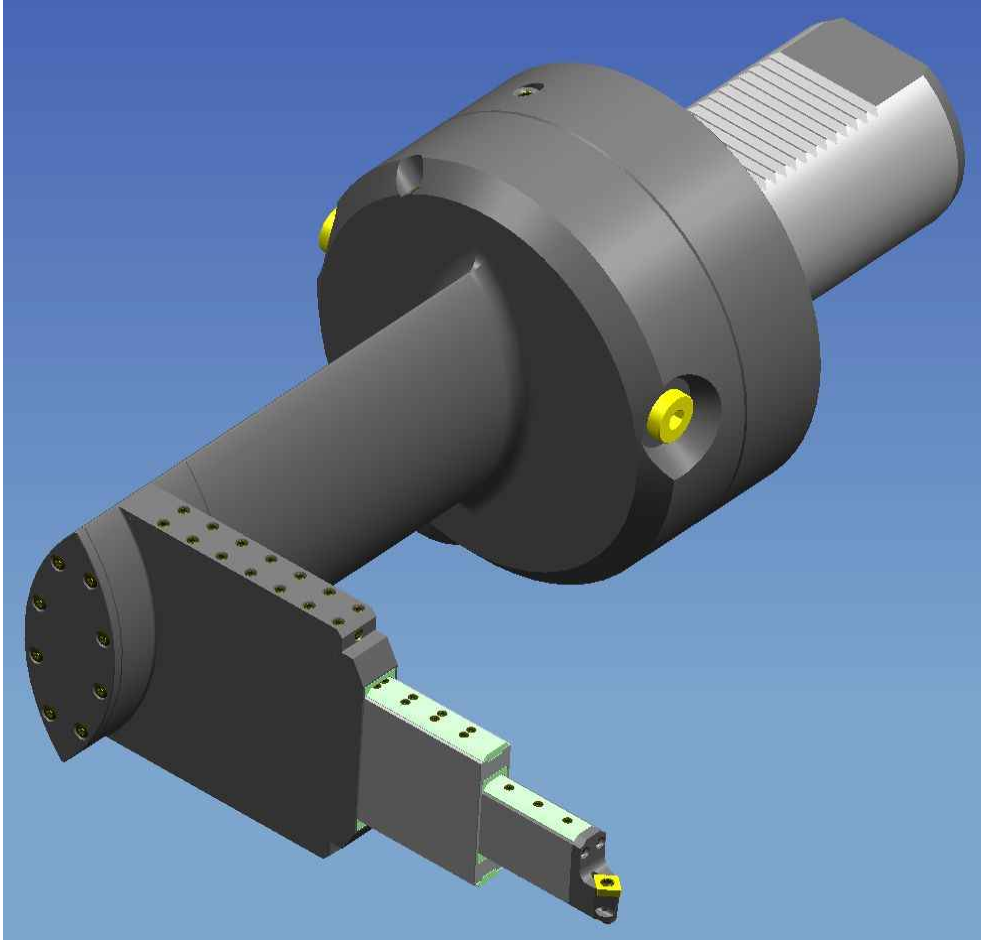
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