zermet®

Z1

zermet copy tools

zermet

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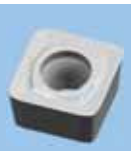
AISR 	33
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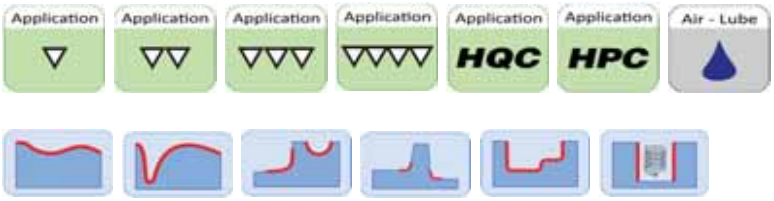
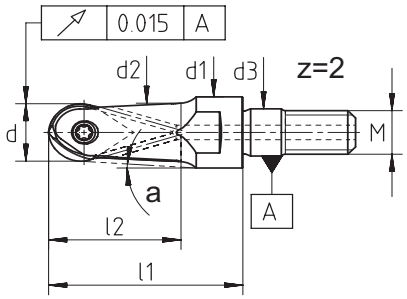
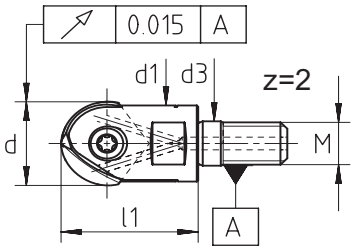
z1HB-…-M.. Einschraub-Kopierfräser | Modular Copy Mill | Fresa modulare per monoplacchet

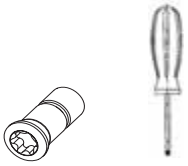


z1HB-06-…
z1HB-08-…



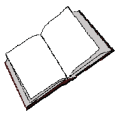
z1HB-…





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	6	8	zS-06	T7
40211	**z1HB-08-25-M6**	8	25	9,8	17,0	8,1	6,5	3,4	6	8	zS-08	T7
40212	**z1HB-10-20-M6**	10	20	9,8	12,5	9,0	6,5	-	6	8	zS-10	T8
40213	**z1HB-12-22-M6**	12	22	10,8	-	-	6,5	-	6	8	zS-12	T10
40214	**z1HB-16-25-M8**	16	25	14,4	-	-	8,5	-	8	15	zS-16	T20
40215	**z1HB-20-30-M10**	20	30	18,0	-	-	10,5	-	10	30	zS-20	T20
40216	**z1HB-25-40-M12**	25	40	22,5	-	-	12,5	-	12	50	zS-25	T20
40217	**z1HB-32-50-M16**	32	50	28,6	-	-	17,0	-	16	100	zS-32	T30

Abmessungen in mm | Dimensions in mm | Dimensioni in mm



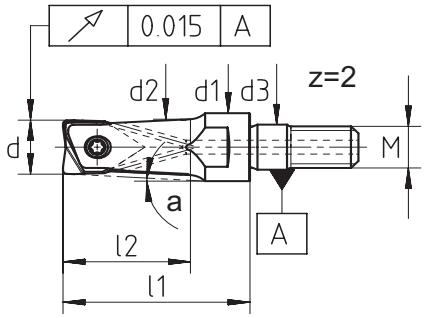
12

z1R-06-H-N050 z1R-08-H-N050	z1R-..-H-N050

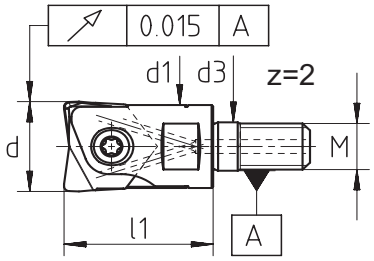
z1HT-…-M..

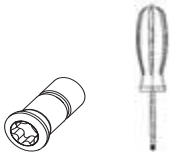
Einschraub-Kopierfräser | Modular Copy Mill | Fresa modulare per monoplacche

z1HT-06-…
z1HT-08-…



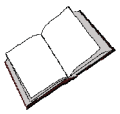
z1HT-…



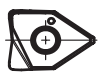
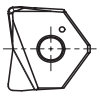


Code	Type	d	l1	d1	l2	d2	d3	a	M	Nm	s	
40376	**z1HT-06-25-M6**	6	25	9,8	16,5	6,6	6,5	5,9	6	8	zS-06	T7
40377	**z1HT-08-25-M6**	8	25	9,8	17,0	8,1	6,5	2,8	6	8	zS-08	T7
40378	**z1HT-10-20-M6**	10	20	9,8	12,5	9,0	6,5	-	6	8	zS-10	T8
40379	**z1HT-12-22-M6**	12	22	10,8	-	-	6,5	-	6	8	zS-12	T10
40380	**z1HT-16-25-M8**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

Abmessungen in mm | Dimensions in mm | Dimensioni in mm

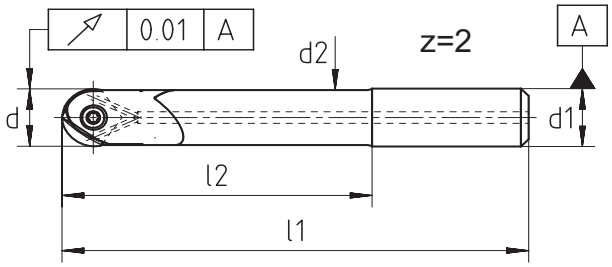


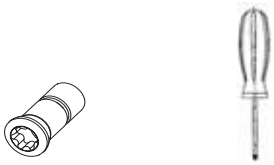
13 … 14

z1T-06-ER z1T-08-ER	z1T-..-ER	z1THF-..-PC
		

z1SB-...

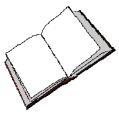
Kopierfräser mit VHM-Schaft | Copy end mill with solid carbide shank | Fresa per monoplacchette sferiche con gambo in MDI





Code	Type	d	l1	d1	l2	d2		
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
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
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
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
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
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 in mm | Dimensions in mm | Dimensioni in mm

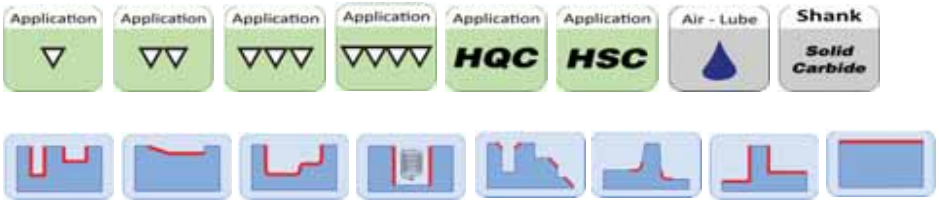


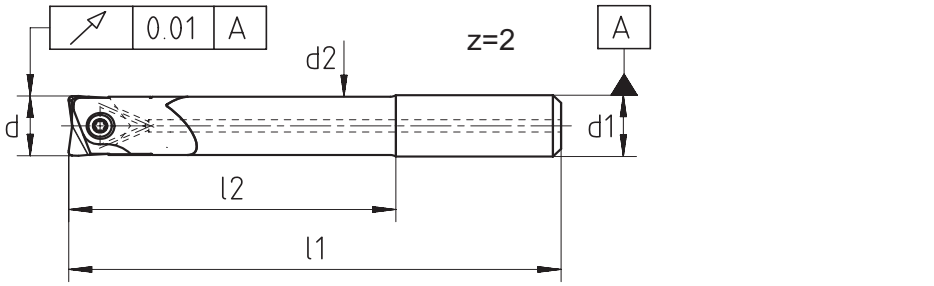
12

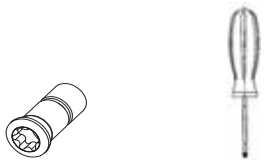
z1R-06-H-N050 z1R-08-H-N050	z1R-..-H-N050

z1ST-...

Kopierfräser mit VHM-Schaft | Copy end mill with solid carbide shank | Fresa per monoplacchette toriche con gambo in MDI



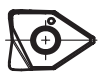
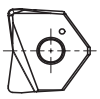




Code	Type	d	l1	d1	l2	d2	s	
40403	**z1ST-06-080-08-040**	6	80	8	40	5,6	zS-06	T7
40404	**z1ST-06-100-08-060**	6	100	8	60	5,6	zS-06	T7
40405	**z1ST-08-085-10-040**	8	85	10	40	7,2	zS-08	T7
40406	**z1ST-08-105-10-060**	8	105	10	60	7,2	zS-08	T7
40407	**z1ST-10-100-10-060**	10	100	10	60	9,0	zS-10	T8
40408	**z1ST-10-140-10-100**	10	140	10	100	9,0	zS-10	T8
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
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
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 in mm | Dimensions in mm | Dimensioni in mm

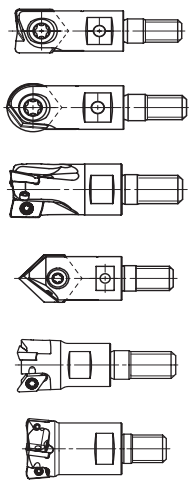
13 ... 14

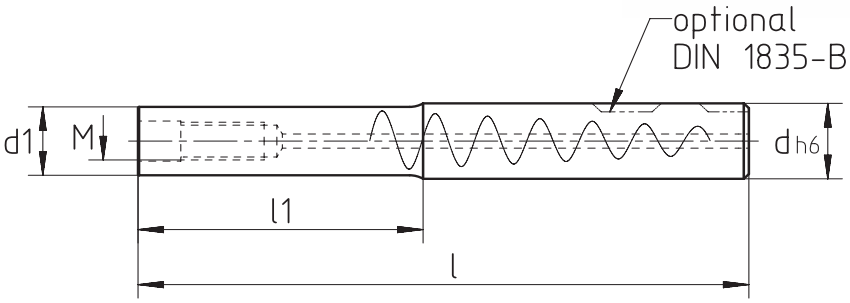
z1T-06-ER z1T-08-ER	z1T-..-ER	z1THF-..-PC
		

CY-…-ST

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

Application HQC | Application HPC | Application HFC | Shank Solid Carbide | Air - Lube





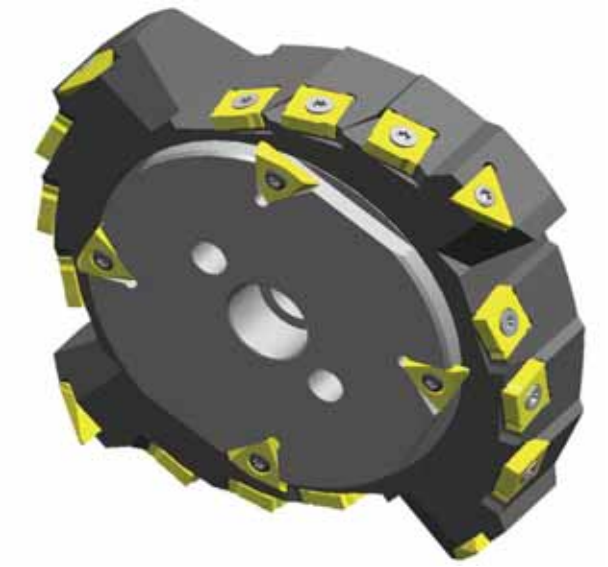
schwingungsgedämpft | anti-vibration | effetto ammortizzante

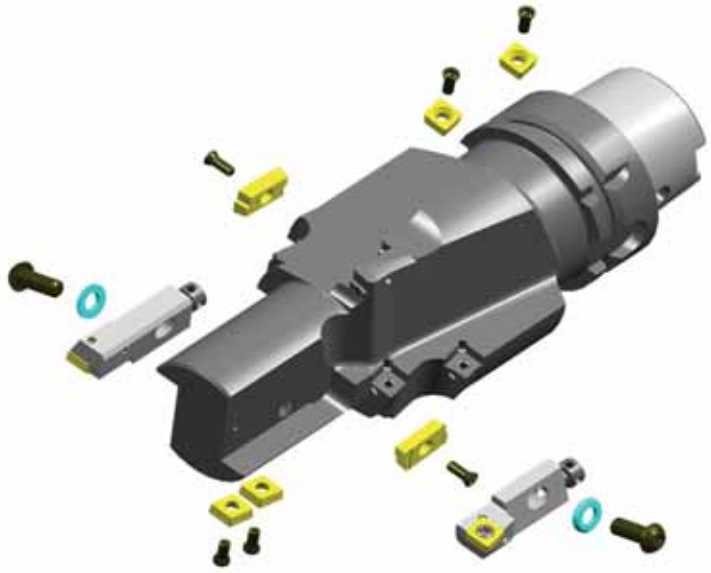
Code	Type	d	l	d1	l1	M
35046	**CY-12-070-12-5-ST-M6**	12	70	11,0	5	M6
5143	**CY-12-070-12-20-ST-M6**	12	70	11,0	20	M6
35047	**CY-12-120-12-55-ST-M6**	12	120	11,0	55	M6
5150	**CY-12-120-12-70-ST-M6**	12	120	11,0	70	M6
5133	**CY-16-070-16-6-ST-M8**	16	70	14,5	6	M8
5139	**CY-16-120-16-53-ST-M8**	16	120	14,5	53	M8
5157	**CY-20-064-20-6-ST-M10**	20	64	18,0	6	M10
5153	**CY-20-089-20-24-ST-M10**	20	89	18,0	24	M10
5160	**CY-20-130-20-70-ST-M10**	20	130	18,0	70	M10
5100	**CY-20-180-20-125-ST-M10**	20	180	18,0	125	M10
5091	**CY-25-081-25-15-ST-M12**	25	81	22,6	15	M12
5098	**CY-25-111-25-45-ST-M12**	25	111	22,6	45	M12
5125	**CY-25-180-25-110-ST-M12**	25	180	22,6	110	M12
5121	**CY-25-220-25-155-ST-M12**	25	220	22,6	155	M12
5111	**CY-32-103-32-14-ST-M16**	32	103	29,4	14	M16
5112	**CY-32-160-32-90-ST-M16**	32	160	28,6	90	M16
5120	**CY-32-200-32-108-ST-M16**	32	200	29,4	108	M16
30693	**CY-32-250-32-159-ST-M16**	32	250	29,4	159	M16
33879	**CY-32-300-32-60-ST-M16**	32	300	30,0	60	M16
4312	**CY-32-300-32-207-ST-M16**	32	300	30,0	207	M16

Abmessungen in mm | Dimensions in mm | Dimensioni in mm

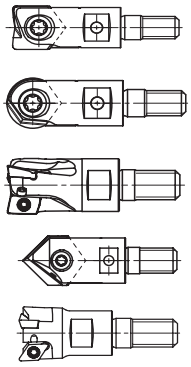
Lieferumfang ohne Kopierfräser | Delivery without copy end mill | Consegna senza corpo fresa

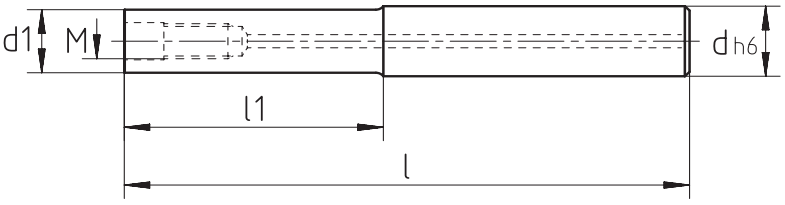
Sonder-Werkzeuge | Special-Tools | Utensili speciali





CY-…-HM Zylindrische Vollhartmetallaufnahme | Cylindrical solid carbide extension | Prolunga





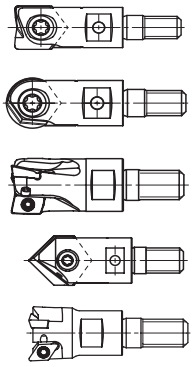
Code	Type	d	l	d1	l1	M
5146	**CY-10-80-10-31-HM-M6**	10	80	9,8	31	M6
5145	**CY-10-80-10-D-HM-M6**	10	80	10,0	-	M6
5035	**CY-10-150-10-24-HM-M6**	10	150	9,8	24	M6
33036	**CY-10-150-10-100-HM-M6**	10	150	9,8	100	M6
34957	**CY-12-65-12-20-HM-M7**	12	65	11,4	20	M7
5134	**CY-12-80-12-31-HM-M6**	12	80	10,8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

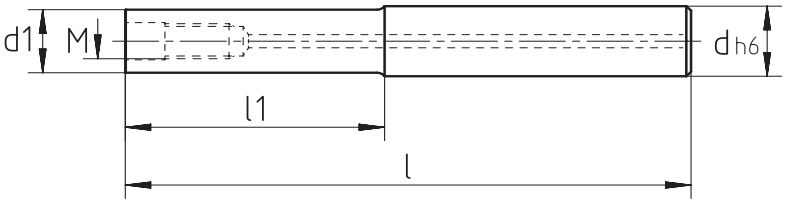
Abmessungen in mm | Dimensions in mm | Dimensioni in mm

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

CY-…-HM Zylindrische Vollhartmetallaufnahme | Cylindrical solid carbide extension | Prolunga

Application HQC | Application HPC | Application HFC | Application HSC | Shank Solid Carbide | Air - Lube



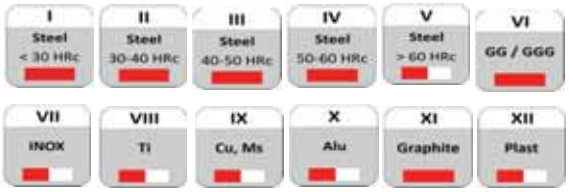


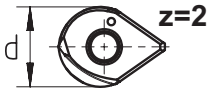
Code	Type	d	l	d1	l1	M
33038	**CY-16-120-16-55-HM-M8**	16	120	14,4	55	M8
34968	**CY-16-130-16-80-HM-M10**	16	130	15,4	80	M10
34969	**CY-16-150-16-100-HM-M10**	16	150	15,4	100	M10
34970	**CY-16-150-16-100-HM-M10**	16	150	15,4	100	M10
34972	**CY-16-170-16-120-HM-M10**	16	170	15,4	120	M10
33205	**CY-16-200-16-24-HM-M8**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

Abmessungen in mm | Dimensions in mm | Dimensioni in mm

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

z1R-…-H-N050 Kopier-Rundplatten | Round inserts | Monoplacchette sferiche

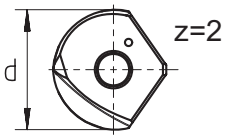




Sorten | Grades | Gradi

Beschichtung | Coating | Rivestimento

Type	d		F10	F10 TiAlN	F10 H60+	F10 DMD-G
z1R-06-H-N050	6	CODE	40224	40548	40549	40550
z1R-08-H-N050	8		40551	40552	40553	40554



Sorten | Grades | Gradi

Beschichtung | Coating | Rivestimento

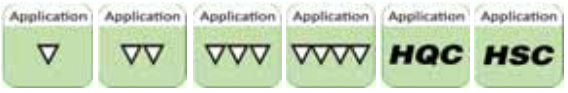
Type	d		F10	F10 TiAlN	F10 H60+	F10 DMD-G
z1R-10-H-N050	10	CODE	40226	40556	40557	40558
z1R-12-H-N050	12		40227	40560	40561	40562
z1R-16-H-N050	16		40228	40563	40564	40565
z1R-20-H-N050	20		40229	40566	40567	40568
z1R-25-H-N050	25		40230	40569	40570	40571
z1R-32-H-N050	32		40231	40572	40574	40573

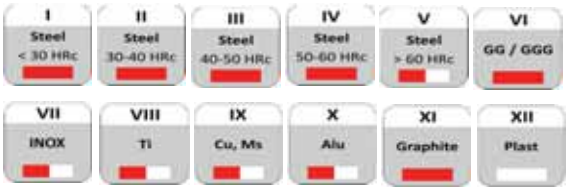
Abmessungen in mm | Dimensions in mm | Dimensioni in mm (...) auf Anfrage | on request | su richiesta

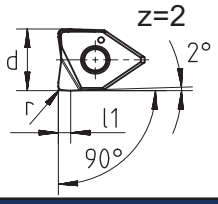
Sonderabmessungen auf Anfrage I Special dimensions on request I Dimensioni speciali su richiesta

Schnittwertempfehlungen, cutting parameters, Paramentri di taglio 38 … 39

z1T-... Torische Kopierplatten | Toric inserts | Monoplacchette toriche

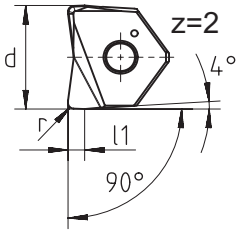


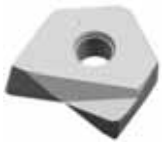




Beschichtung | Coating | Rivestimento

Type	d	r	l1		F10	F10 TiAlN	F10 H60+	F10 DMD-G
z1T-06-R-ER0,4	6	0,4	1,4	CODE	(40482)	(40579)	(40580)	(40581)
z1T-06-R-ER0,5	6	0,5	1,5		40500	40582	40583	40584
z1T-06-R-ER1,0	6	1,0	2,0		40501	40585	40586	40587
z1T-08-R-ER0,4	8	0,4	1,4		(40502)	(40588)	(40589)	(40590)
z1T-08-R-ER0,5	8	0,5	1,5		40503	40594	40595	40596
z1T-08-R-ER1,0	8	1,0	2,0		40504	40598	40600	40601





Type	d	r	l1		F10	F10 TiAlN	F10 H60+	F10 DMD-G
z1T-10-R-ER0,5	10	0,5	1,5	CODE	40505	40602	40604	40605
z1T-10-R-ER0,8	10	0,8	1,8		(40506)	(40606)	(40607)	(40609)
z1T-10-R-ER1,0	10	1,0	2,0		40507	40611	40612	40613
z1T-10-R-ER1,5	10	1,5	2,5		40508	40614	40615	40616
z1T-12-R-ER0,5	12	0,5	2,5		40515	40617	40618	40619
z1T-12-R-ER1,0	12	1,0	3,0		40516	40621	40622	40624
z1T-12-R-ER1,5	12	1,5	3,5		42378	42383	42384	42385
z1T-12-R-ER2,0	12	2,0	4,0		42379	42387	42388	42389
z1T-16-R-ER0,5	16	0,5	2,5		40517	40625	40627	40628
z1T-16-R-ER1,0	16	1,0	3,0		40518	40629	40630	40631
z1T-16-R-ER1,3	16	1,3	3,3		40519	40632	40633	40634
z1T-20-R-ER1,0	20	1,0	3,0		40520	40635	40636	40637
z1T-20-R-ER1,6	20	1,6	3,6		40521	40638	40639	40640
z1T-20-R-ER2,0	20	2,0	4,0		40522	40641	40642	40643
z1T-25-R-ER1,0	25	1,0	4,0		(40758)	(40761)	(40760)	(40759)
z1T-25-R-ER2,0	25	2,0	4,6		40523	40644	40645	40646
z1T-32-R-ER3,0	32	3,0	5.0		(40524)	(40647)	(40648)	(40649)

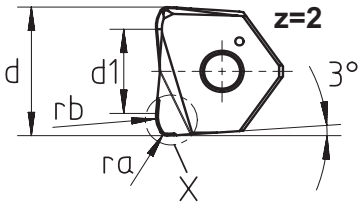
Abmessungen in mm | Dimensions in mm | Dimensioni in mm (...) auf Anfrage | on request | su richiesta

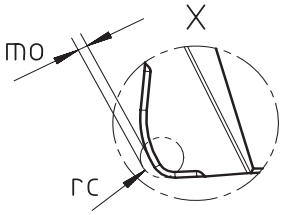
Sonderabmessungen auf Anfrage I Special dimensions on request I Dimensioni speciali su richiesta

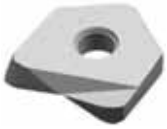
Schnittwertempfehlungen, cutting parameters, Paramentri di taglio 37

z1THF-…-PC

Torische Schruppplatten | Toric roughing inserts | Monoplacchette toriche pe







Sorten | Grades | Gradi

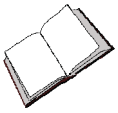
Beschichtung | Coating | Rivestimento

Type	d	d1	ra	rb	rc	mo		R41 TIALN	F10 H60+
z1THF-10-PC	10	5,6	0,6	3,0	0.9	0,17	Code	40575	42070
z1THF-12-PC	12	5,0	1,0	5,0	1,5	0.29		40576	42071
z1THF-16-PC	16	8,8	1,0	5,0	1,5	0.29		40577	42072
z1THF-20-PC	20	12,6	1,0	5,0	1,5	3.0		40578	42073

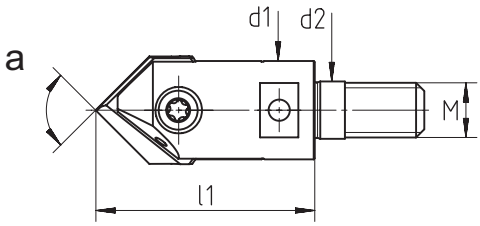
Abmessungen in mm | Dimensions in mm | Dimensioni in mm

(…) auf Anfrage | on request | su richiesta

Sonderabmessungen auf Anfrage I Special dimensions on request I Dimensioni speciali su richiesta

Schnittwertempfehlungen, cutting parameters, Paramentri di taglio  **36**

CYFC Fasfräser | Chamfering cutter | Frese per smussare



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 in mm | Dimensions in mm | Dimensioni in mm

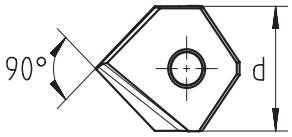
Innenkühlung auf Anfrage, Beispiel: 32401/CYFC-10-090-SC-M6-IK

Internal coolant on request, example: 32401/CYFC-10-090-SC-M6-IK

Lubrificazione interna su richiesta, per esempio: 32401/CYFC-10-090-SC-M6-IK

FC-… alle Versionen | all types | tutti versioni

90°



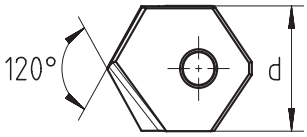
Sorten | Grades | Gradi

Beschichtung | Coating | Rivestimento

Type	d		TiAlN
FC-10-90	10	CODE	2401
FC-12-90	12		2405
FC-16-90	16		2352
FC-20-90	20		2338
FC-25-90	25		2343

Abmessungen in mm | Dimensions in mm | Dimensioni in mm

120°



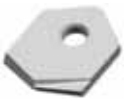
Sorten | Grades | Gradi

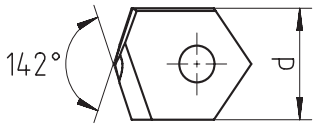
Beschichtung | Coating | Rivestimento

Type	d		TiAlN
FC-10-120	10	CODE	2418
FC-16-120	16		2351
FC-20-120	20		2339
FC-25-120	25		2342

Abmessungen in mm | Dimensions in mm | Dimensioni in mm

142°





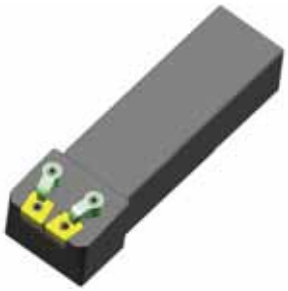
Sorten | Grades | Gradi

Beschichtung | Coating | Rivestimento

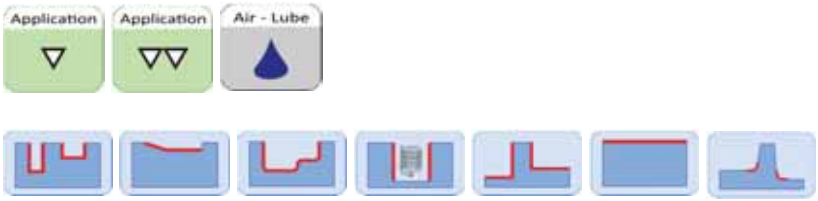
Type	d		TiAlN
FC-10-142	10	CODE	2416
FC-16-142	16		2355

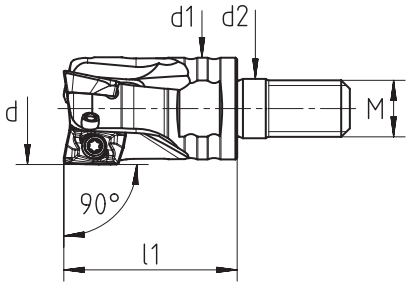
Abmessungen in mm | Dimensions in mm | Dimensioni in mm

Sonder-Werkzeuge | Special-Tools | Utensili speciali



CYA Schaftfräser | End mill | Frese per spallamento



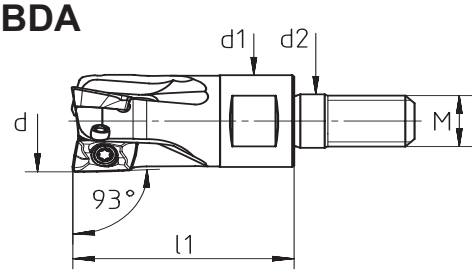


Einschraubversion | Modular type | Versione modulare

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-16-2-SC-M8**	16,0	30	14,5	8,5	M8	15	13	2	MS-2,5-002	T8
33105	**CYA-16-2-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-20-3-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 in mm | Dimensions in mm | Dimensioni in mm

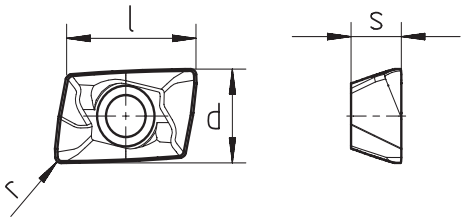
BDA



Code	Type	d	l1	d1	d2	M		z	s	
3287	**BDA-15,5-2-SC-M8**	15,5	30	14,5	8,5	M8	13	2	MS-2,5-002	T8
3294	**BDA-19,5-3-SC-M10**	19,5	36	18,0	11,5	M10	15	3	MS-2,5-001	T8
	BDA-25,0-4-SC-M12	25	44	22,6	12,5	M12	19	4	MS-2,5-001	T8

Abmessungen in mm | Dimensions in mm | Dimensioni in mm

AOMX alle Versionen | all types | tutti versioni



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	CODE	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 in mm | Dimensions in mm | Dimensioni in mm

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

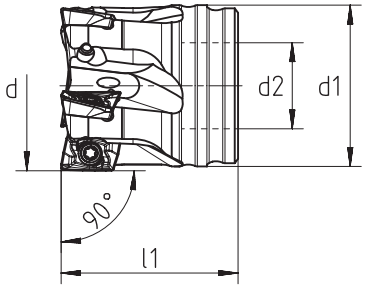
Schnittwertempfehlungen, cutting parameters, Paramentri di taglio **44**

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

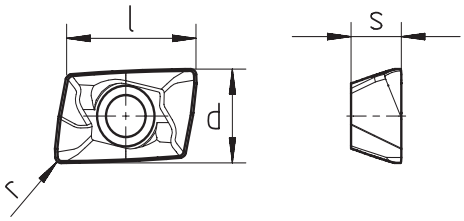


Aufsteckversion | Bore type | Versione a manicotto

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 in mm | Dimensions in mm | Dimensioni in mm

AOMX alle Versionen | all types | tutti versioni



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	CODE	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 in mm | Dimensions in mm | Dimensioni in mm

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

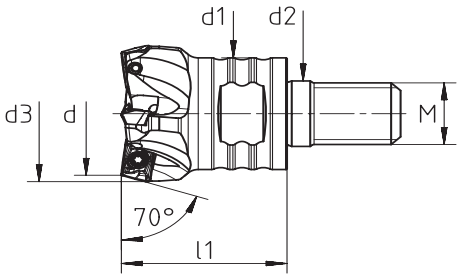
Schnittwertempfehlungen, cutting parameters, Paramentri di taglio **44**

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

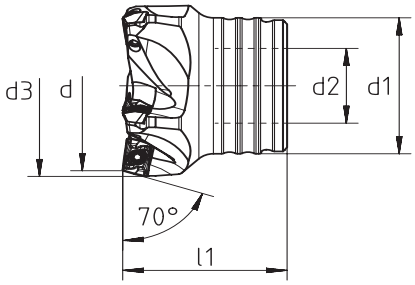


Einschraubversion | Modular type | Versione modulare

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 in mm | Dimensions in mm | Dimensioni in mm

CYAF Planfräser | Face mills | Frese per spianare

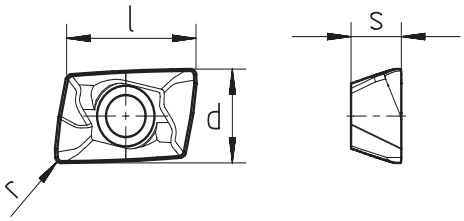


Aufsteckversion | Bore type | Versione a manicotto

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 in mm | Dimensions in mm | Dimensioni in mm

AOMX alle Versionen | all types | tutti versioni



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	CODE	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 in mm | Dimensions in mm | Dimensioni in mm

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

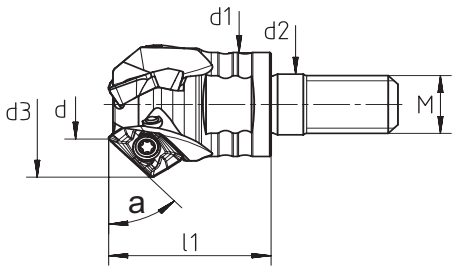
Schnittwertempfehlungen, cutting parameters, Paramentri di taglio **44**

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.

CYC Fasenfräser | Chamfering cutter | Frese per smussare

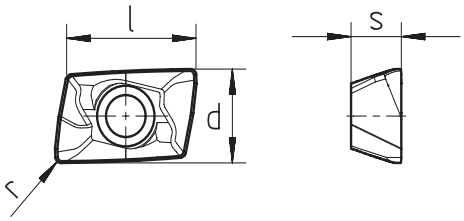


Einschraubversion | Modular type | Versione modulare

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 in mm | Dimensions in mm | Dimensioni in mm

AOMX alle Versionen | all types | tutti versioni



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	CODE	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 in mm | Dimensions in mm | Dimensioni in mm

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

Schnittwertempfehlungen, cutting parameters, Paramentri di taglio **44**

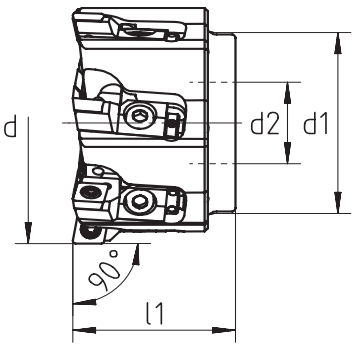
Bei Verwendung von AOMX-090332-TR muss der Grundkörper nachgearbeitet werden.

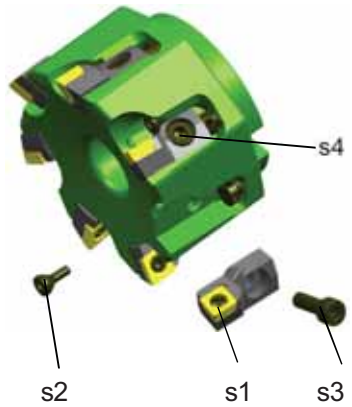
When using AOMX-090332-TR please modify the body.

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

MFC Planfräser | Face mills | Frese per spianare

für Aluminium | for aluminum | per alluminio





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
32988	**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

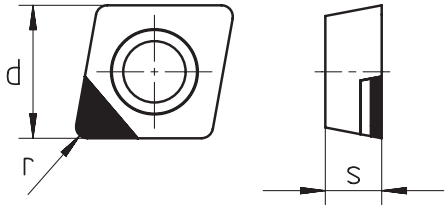
Abmessungen in mm | Dimensions in mm | Dimensioni in mm

System 1

System 2

System 3

CPGW alle Versionen | all types | tutti versioni



Sorten | Grades | Gradi

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

Abmessungen in mm | Dimensions in mm | Dimensioni in mm

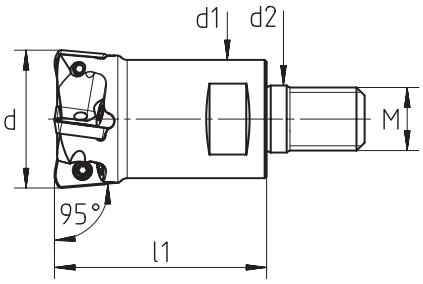
Sorten | Grades | Gradi

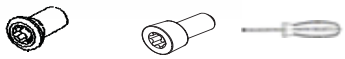
Type	d	s	r	CODE	CBN 15EW	CBN 10EW
CPGW-09T304-PDRT	9,52	3,97	0,4		34019	35166

Abmessungen in mm | Dimensions in mm | Dimensioni in mm

Schnittwertempfehlungen, cutting parameters, Paramentri di taglio **39**

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

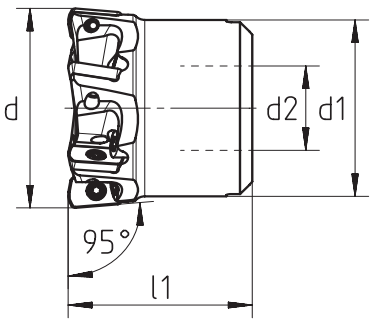


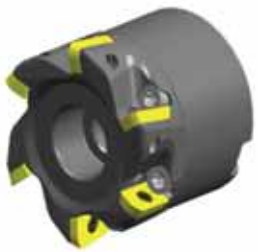


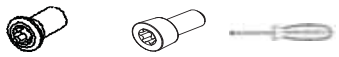
Einschraubversion | Modular type | Versione modulare

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
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
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
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 in mm | Dimensions in mm | Dimensioni in mm





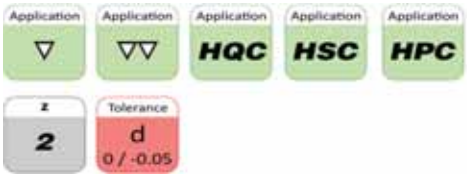


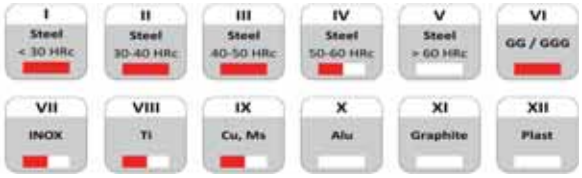
Aufsteckversion | Bore type | Versione a manicotto

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

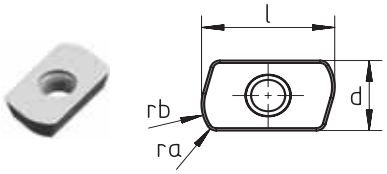
Abmessungen in mm | Dimensions in mm | Dimensioni in mm

ISR-1 alle Versionen | all types | tutti versioni

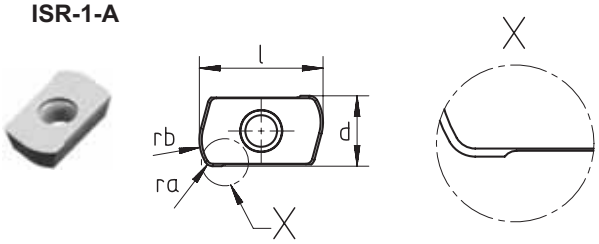




ISR-1



ISR-1-A



Sorten | Grades | Gradi

Beschichtung | Coating | Rivestimento

Type	d	l	ra	rb	rc		F10 -	R41 -	R42 -	F10 TiAlN	R41 TiAlN	R42 TiAlN	H16 H60+
ISR-1-5	8	14	1	5	1,6	CODE	8787	9236	-	9009	9235	-	32836
ISR-1-5-M	8	14	1	5	1,6		-	-	9252	-	-	9250	-
ISR-1-5-A	8	14	1	5	1,6		(9224)	(9239)	-	9225	9254	-	-
ISR-1-5-MA	8	14	1	5	1,6		-	(9233)	-	-	9231	-	-

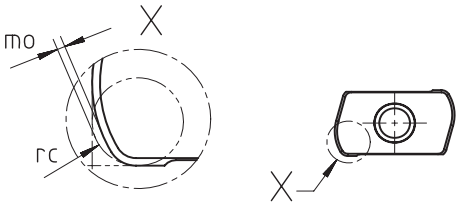
Abmessungen in mm | Dimensions in mm | Dimensioni in mm (...) auf Anfrage | on request | su richiesta

M … gepresste Ausführung | pressed insert | inserto stampato

A … mit seitlicher Freistellung | undernecked version | rastremato

Schnittwertempfehlungen, cutting parameters, Paramentri di taglio **40 … 41**

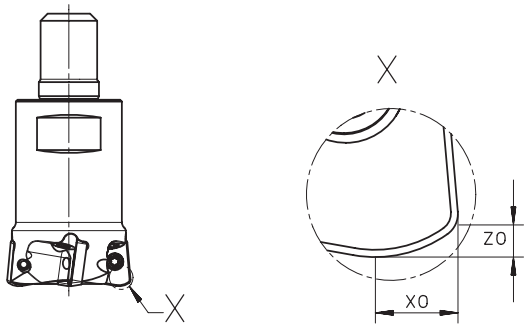
Restmaterial | Remaining material | Materiale residuo



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

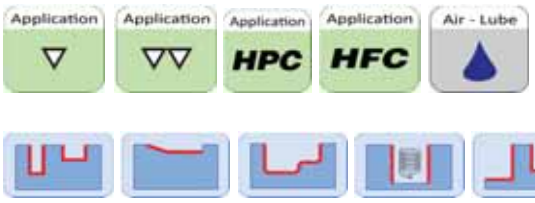
mo = ISR-1-5-(A) ~ 0,28mm

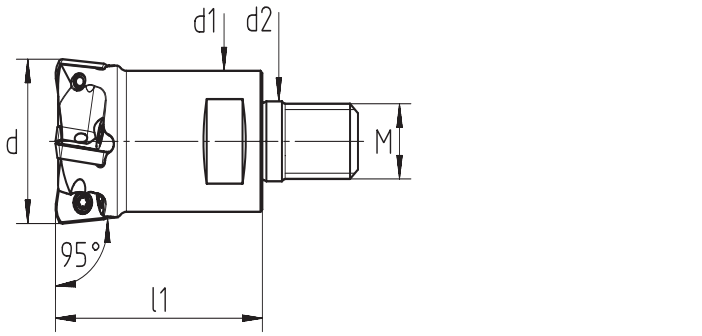
Informationen zur Werkzeugvoreinstellung | Presetting informations | Informazioni per presetting



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

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

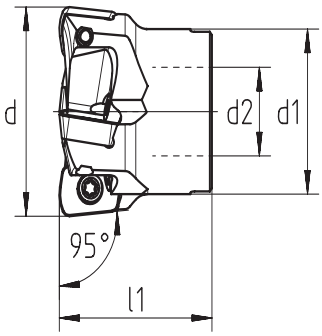


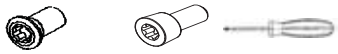


Einschraubversion | Modular type | Versione modulare

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 in mm | Dimensions in mm | Dimensioni in mm



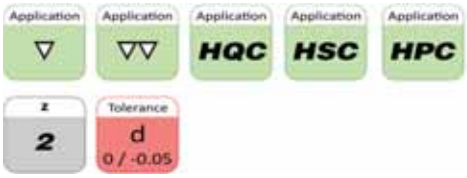


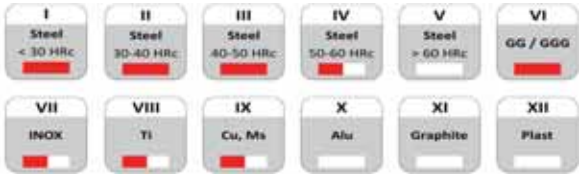
Aufsteckversion | Bore type | Versione a manicotto

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

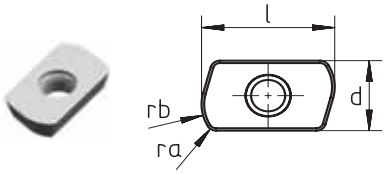
Abmessungen in mm | Dimensions in mm | Dimensioni in mm

ISR-2 alle Versionen | all types | tutti versioni

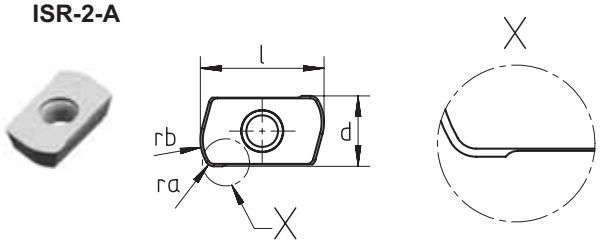




ISR-2



ISR-2-A



Sorten | Grades | Gradi

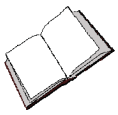
Beschichtung | Coating | Rivestimento

Type	d	l	ra	rb	rc		F10 -	R41 -	R42 -	F10 TiAlN	R41 TiAlN	R42 TiAlN	H16 TiAlN-ZQS
ISR-2-5	12,5	19,5	1	5	2,0	CODE	9211	9214	-	9212	9201	-	-
ISR-2-10	12,5	18,5	2	10	2,6		9187	9181	-	9188	9179	-	-
ISR-2-5-A	12,5	19,5	1	5	2,0		(9182)	(9197)	-	9210	9209	-	-
ISR-2-10-A	12,5	18,5	2	10	2,6		(9247)	(9246)	-	9190	9189	-	-
ISR-2-10-MA	12,5	18,5	2	10	2,6		-	-	-	-	33513	-	-

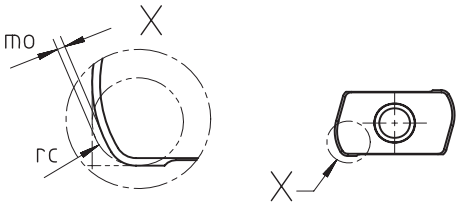
Abmessungen in mm | Dimensions in mm | Dimensioni in mm (...) auf Anfrage | on request | su richiesta

M … gepresste Ausführung | pressed insert | inserto stampato

A … mit seitlicher Freistellung | undernecked version | rastremato

Schnittwertempfehlungen, cutting parameters, Paramentri di taglio  **40 … 41**

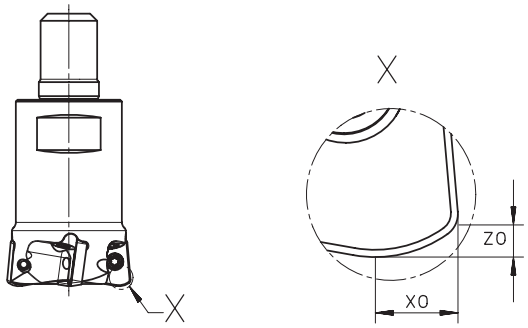
Restmaterial | Remaining material | Materiale residuo



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

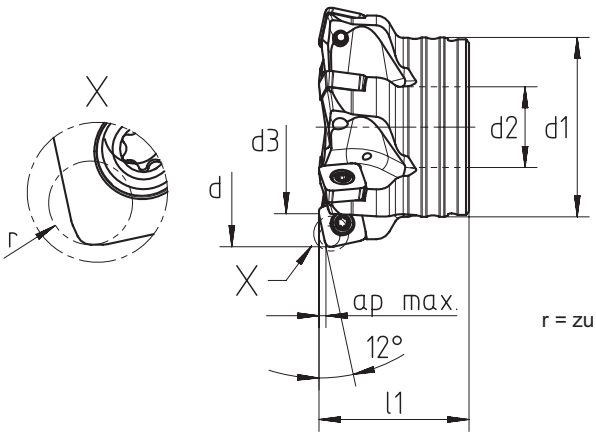
mo = ISR-2-5(10)(A) ~ 0,28mm

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-Schruppfräser | High feed end mill | Frese per elevate prestazioni



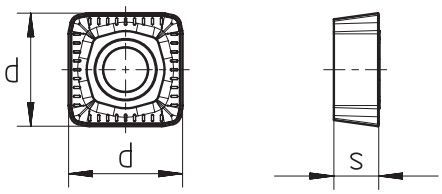
r = zu programmierender Radius | programming radius | raggio da programmare

Aufsteckversion | Bore type | Versione a manicotto

Code	Type	d	l1	d1	d2	d3	ap	r	z	s	
42409	**ASR14-66-5-D27**	66	50	48	27	44	2	1,6	5	MS-4,5-001	T20
42419	**ASR14-80-5-D27**	80	50	60	27	58	2	3,5	5	MS-4,5-001	T20
42420	**ASR14-80-6-D27**	80	50	60	27	58	2	3,5	6	MS-4,5-001	T20
42406	**ASR14-100-7-D32**	100	52	70	32	78	2	1,6	7	MS-4,5-001	T20
42410	**ASR14-125-8-D40**	125	63	90	40	103	2	1,6	8	MS-4,5-001	T20

Abmessungen in mm | Dimensions in mm | Dimensioni in mm

AISR alle Versionen | all types | tutti versioni



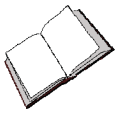
Sorten | Grades | Gradi

Beschichtung | Coating | Rivestimento

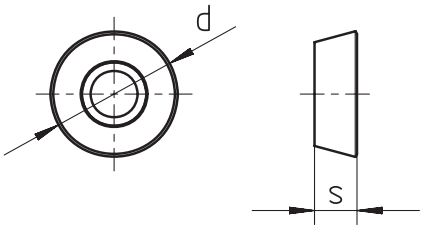
Type	d	s		R41 TiAlN	R41
AISR-140516-MCR01	14	5,5	CODE	43087	

Abmessungen in mm | Dimensions in mm | Dimensioni in mm

Schnittwertempfehlungen für Werkzeugstahl:
cutting parameters for die and mold steel:
Schneidplatte/insert: AISR-1405-16-MCR01-R41 TiAlN
vc=120….160m/min, ap=1,0…2,0mm, fz=1,5…2,0mm

Schnittwertempfehlungen, cutting parameters, Paramentri di taglio  **43**

RDMW alle Versionen | all types | tutti versioni

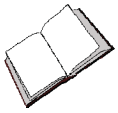


Sorten | Grades | Gradi

Beschichtung | Coating | Rivestimento

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

Abmessungen in mm | Dimensions in mm | Dimensioni in mm

Schnittwertempfehlungen, cutting parameters, Paramentri di taglio  **43**

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**	T8	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

zermet Grades	ISO Grades
R35	P20-P30
R41	P25-P30
R42	P40-P50
R46	P30-P40
F10	K05F
F12	K20-30UF
H16	K10-K20UF
C30	Cermet micro grain

zermet Grades	ISO Grades
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, Paramentri di taglio

Material			z1THF R41-TiAlN				z1THF F10-H60+			
Material	**Material Code**	**[N/mm²] 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	≤ 0,6xd1				
St70-2	1.0070	≤ 850N/mm²	220-280	0,8-1,6	0,02 x d1	≤ 0,6xd1				
GS-25CrMo4	1.7218									
16MnCr5	1.7131									
Ck45	1.1191	≤ 1100 N/mm²	200-260	0,6-1,4	0,02 x d1	≤ 0,6xd1				
100Cr6	1.3505									
40CrNnMoS8-6	1.2312									
42CrMo4V	1.7225	≤ 1400 N/mm²	180-260	0,5-1,2	0,02 x d1	≤ 0,6xd1				
X155CrVMo12-1	1.2379									
GG 25	0.6020	250 HB	240-320	0,5 - 1,0	0,04 x d1	≤ 0,6xd1				
GGG 70	0.7070		180-240	0,5 - 1,0	0,02 x d1	≤ 0,6xd1				
GGV		200 HB	160-200	0,5 - 0,7	0,03 x d1	≤ 0,6xd1				
GTS 65	0.8165	650 N/mm²	140-180	0,5 - 0,7	0,02 x d1	≤ 0,6xd1				
Cu										
CuZn…	2.1096									
40CrNnMoS8-6	1.2312	HRC 50-54					140-160	0,4-0,6	0,015xd1	≤ 0,4xd1
X38CrMoV5-1	1.2343	HRC 52-56					120-150	0,4-0,6	0,015xd1	≤ 0,4xd1
X155CrVMo12-1	1.2379	HRC 60-62					110-150	0,4-0,6	0,015xd1	≤ 0,3xd1
Graphit										

Schnittwertempfehlungen, cutting parameters, Paramentri di taglio

z1T F10-TiAlN				z1T F10-H60+				z1T F10-DMD-G			
vc [m/min]	**fz** [mm]	**ap** [mm]	**ae** [mm]	**vc** [m/min]	**fz** [mm]	**ap** [mm]	**ae** [mm]	**vc** [m/min]	**fz** [mm]	**ap** [mm]	**ae** [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				
140-210	0,1-0,25	0,015xd1	0,01-0,03xd1	150-200	0,1-0,25	0,015xd1	0,01-0,03xd1				
140-190	0,08-0,2	0,01xd1	0,01-0,02xd1	140-180	0,08-0,2	0,01xd1	0,01-0,02xd1				
								450-800	0,4-0,8	0,02-0,5xd1	0,02-0,8xd1

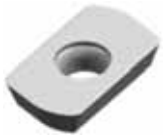
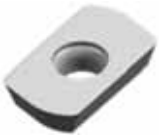
Schnittwertempfehlungen, cutting parameters, Paramentri di taglio

Material			z1R R41-TiAlN 				z1R F10-H60+ 			
Material	**Material Code**	**[N/mm²] 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	≤ 0,6xd1				
St70-2 GS-25CrMo4	1.0070 1.7218	≤ 850N/mm²	220-280	0,8-1,6	0,02 x d1	≤ 0,6xd1				
16MnCr5 Ck45 100Cr6 40CrNnMoS8-6	1.7131 1.1191 1.3505 1.2312	≤ 1100 N/mm²	200-260	0,6-1,4	0,02 x d1	≤ 0,6xd1				
42CrMo4V X155CrVMo12-1	1.7225 1.2379	≤ 1400 N/mm²	180-260	0,5-1,2	0,02 x d1	≤ 0,6xd1				
GG 25	0.6020	250 HB	240-320	0,5 - 1,0	0,04 x d1	≤ 0,6xd1				
GGG 70	0.7070		180-240	0,5 - 1,0	0,02 x d1	≤ 0,6xd1				
GGV		200 HB	160-200	0,5 - 0,7	0,03 x d1	≤ 0,6xd1				
GTS 65	0.8165	650 N/mm²	140-180	0,5 - 0,7	0,02 x d1	≤ 0,6xd1				
Cu										
CuZn…	2.1096									
Aluminium										
40CrNnMoS8-6	1.2312	HRC 50-54					140-160	0,4-0,6	0,015xd1	≤ 0,3xd1
X38CrMoV5-1	1.2343	HRC 52-56					120-150	0,4-0,6	0,015xd1	≤ 0,2xd1
X155CrVMo12-1	1.2379	HRC 60-62					110-150	0,4-0,6	0,015xd1	≤ 0,015xd1
Graphit										

Schnittwertempfehlungen, cutting parameters, Paramentri di taglio

z1R F10-DMD-G 				CPGW09T304-PDR PKD+CVD 				CPGW09T304-PDR CBN-10EW/CBN-15EW 			
vc [m/min]	**fz** [mm]	**ap** [mm]	**ae** [mm]	**vc** [m/min]	**fz** [mm]	**ap** [mm]	**ae** [mm]	**vc** [m/min]	**fz** [mm]	**ap** [mm]	**ae** [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, Paramentri di taglio

Material			ISR-1-5 R41-TiAlN 				ISR-1-5 F10-TiAlN 			
Material	**Material Code**	**[N/mm²] 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/mm²	220-280	1,0-1,8	0,2-0,7	≤ 0,8xd1				
GS-25CrMo4	1.7218									
16MnCr5	1.7131									
Ck45	1.1191	≤ 1100 N/mm²	180-220	0,8-1,6	0,2-0,7	≤ 0,8xd1				
100Cr6	1.3505									
40CrNnMoS8-6	1.2312									
42CrMo4V	1.7225	≤ 1400 N/mm²	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/mm²	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									
40CrNnMoS8-6	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
Graphit										

Schnittwertempfehlungen, cutting parameters, Paramentri di taglio

ISR-1-5-M R42-TiAlN 				ISR-1-5 H16-H60+ 							
vc [m/min]	fz [mm]	ap [mm]	ae [mm]	vc [m/min]	fz [mm]	ap [mm]	ae [mm]	vc [m/min]	fz [mm]	ap [mm]	ae [mm]
160-200	0,1-0,4	0,03xd1	0,02-0,8xd1								
160-200	0,1-0,4	0,03xd1	0,02-0,8xd1								
140-180	0,1-0,4	0,025x d1	0,015-0,6xd1								
120-160	0,1-0,3	0,02xd1	0,015-0,6xd1								
200-240	0,3-0,6	0,05xd1	0,015-0,6xd1								
140-220	0,3-0,5	0,04xd1	0,015-0,6xd1								
120-200	0,3-0,5	0,04xd1	0,015-0,6xd1								
110-180	0,2-0,4	0,03xd1	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				

Schnittwertempfehlungen, cutting parameters, Paramentri di taglio

Material			ISR-2-5(10) R41-TiAlN				ISR-2-5(10) F10-TiAlN			
Material	**Material Code**	**[N/mm²] 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/mm²	220-280	1,5-2,0	0,6-2,0	≤ 0,8xd1				
GS-25CrMo4	1.7218									
16MnCr5	1.7131									
Ck45	1.1191	≤ 1100 N/mm²	180-220	1,3-1,8	0,6-1,8	≤ 0,8xd1				
100Cr6	1.3505									
40CrNnMoS8-6	1.2312									
42CrMo4V	1.7225	≤ 1400 N/mm²	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/mm²	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									
40CrNnMoS8-6	1.2312	HRC 50-54								
X38CrMoV5-1	1.2343	HRC 52-56								
X155CrVMo12-1	1.2379	HRC 60-62								
Graphit										

Schnittwertempfehlungen, cutting parameters, Paramentri di taglio

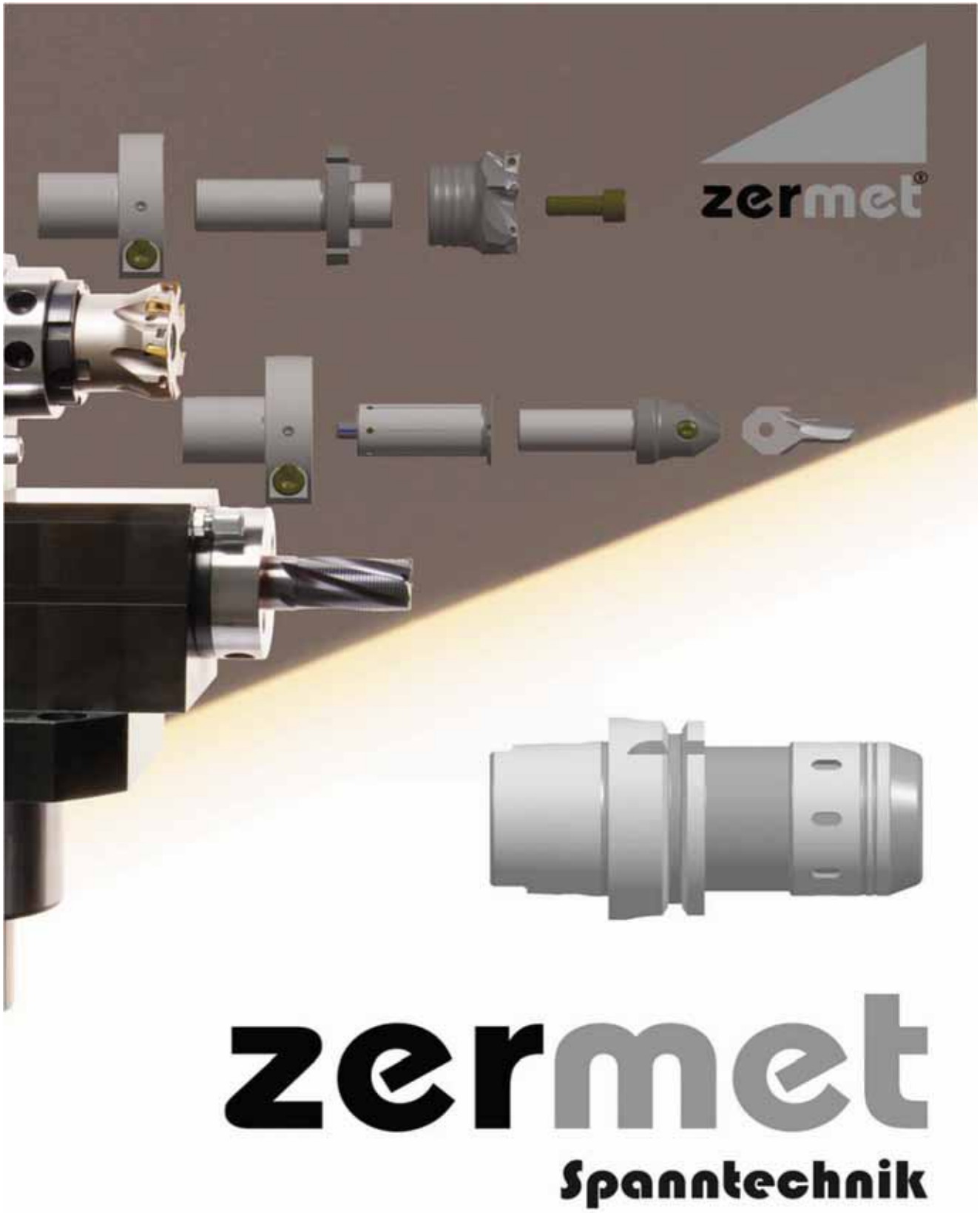
AISR-140516-MCR01 R41-TiAlN 				RDMW-12T3MO-T F12-TiAlN 				RDMW12T3MO-T R35-TiAlN 			
vc [m/min]	fz [mm]	ap [mm]	ae [mm]	vc [m/min]	fz [mm]	ap [mm]	ae [mm]	vc [m/min]	fz [mm]	ap [mm]	ae [mm]
160-200	0,8-2,0	1,0-2,0	0,2-0,7xd1					160-250	0,3-0,6	0,2-4,0	≤ 0,8xd1
160-200	0,8-2,0	1,0-2,0	0,2-0,7xd1					140-220	0,25-0,5	0,2-3,5	≤ 0,8xd1
140-180	0,8-2,0	1,0-1,8	0,2-0,7xd1					110-150	0,2-0,4	0,2-3,0	≤ 0,8xd1
120-160	0,8-1,6	1,0-1,6	0,2-0,7xd1					100-130	0,15-0,3	0,2-2,5	≤ 0,8xd1
200-240	0,8-2,0	1,0-2,0	0,2-0,7xd1	180-220	0,2-0,5	0,1-4,0	≤ 0,8xd1				
140-220	0,8-2,0	1,0-2,0	0,2-0,7xd1	150-180	0,2-0,4	0,1-3,5	≤ 0,8xd1				
120-200	0,8-1,8	1,0-1,8	0,2-0,7xd1	130-150	0,2-0,4	0,1-3,0	≤ 0,8xd1				
110-180	0,8-1,6	1,0-1,6	0,2-0,7xd1	120-140	0,2-0,3	0,1-3,0	≤ 0,7xd1				

Schnittwertempfehlungen, cutting parameters, Paramentri di taglio

Material			AOMX 0903..TR F35-TiAlN				AOMX 0903..TR F35-TiAlN-ZQS			
Material	**Material Code**	**[N/mm²] 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/mm²	140-230	0,15-0,4	0,2-4	≤ 1,0xd1				
GS-25CrMo4	1.7218									
16MnCr5	1.7131									
Ck45	1.1191	≤ 1100 N/mm²	120-200	0,12-0,3	0,2-3,0	≤ 1,0xd1				
100Cr6	1.3505									
40CrNnMoS8-6	1.2312									
42CrMo4V	1.7225	≤ 1400 N/mm²	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/mm²	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
40CrNnMoS8-6	1.2312	HRC 50-54								
X38CrMoV5-1	1.2343	HRC 52-56								
X155CrVMo12-1	1.2379	HRC 60-62								
Graphit										

Bremsscheibenbearbeitung | Brake disc | Lavorazione di dischi frenanti

Spannmittel | Clamping means | mezzi di bloccaggio



Notiz | Notes | Note

zermet Zerspanungstechnik GmbH & Co KG
Vogesenstrasse 4
D - 77933 Lahr

Tel. +49 7821 . 923 78 30
Fax +49 7821 . 923 78 31

www.zermet.de · info@zermet.de