


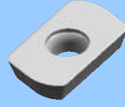

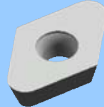



2011

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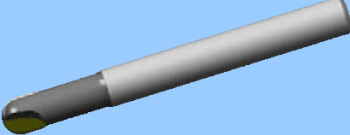



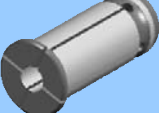



Inhaltsverzeichnis | Table of contents | Indice

Type			Seite	
SR1 / ISR-1				6+7
SR2 / ISR-2				8+9
ALC / VCGX				10+11
ALR1 92,5° / ALR1 inserts				12+13
ALR2 90° / ALR2 inserts				14+15
ALR2 92,5° / ALR2 inserts				16+17
CYA-...-SC / BD-...-SC / AOMX				18+19
CYA / AOMX				20+21
MFC / CPGW-...PKD / CVD / CBN				22+23
CYFC-...SC / FC-...				24+25


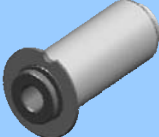

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Type	Seite
TA-...-SC / CY-...-SC / TAF-...-SC / CYF-...-SC	26+27
CY / TA	28+29
CYF / TAF	30+31
CY-...-HM / CYF-...-HM	32+33
MT-...-SC / CY-...-ST	34+35
CY-...-HM / TA-...-HM	36...39
RBS-...-SF / RB-...-SF / RB-...-N-FS	40+41
BD-...-N-90° / BD-...-R-90° / BD-...-N / BD-...-R	42+43
FB-...-N / FB-...-R / ISR / TO	44+45
FB-...-PKD / BD-...-CBN	46

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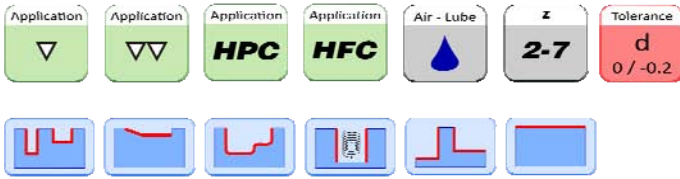
Type		Seite
Anzugsmoment für Schrauben / Zubehör Maximum torque on srew / Accessories Momenti di serraggio per viti / accessori		48+49
Tieflochbohrer Gun Drills Punte a cannone		50
PKD-Kugelschaftfräser PKD Ball-Endmill Frese sferiche in PKD		51
Torische PKD Schaftfräser Toric PKD endmill Frese toriche in PKD		52+53
MF-Kraftspannfutter SK / MAS / CAT / HSK MF-Power Chuck MF-Mandrini forte serraggio		54+55
MC-Kraftspannfutter auswuchtbar SK / MAS / CAT / HSK MC-Power Chuck balancable MC-Mandrini forte serraggio bilanciabile		56+57
MC-Spannhülse für Kraftspannfutter MC-Collets for Power chuck MC-Pinze per mandrini forte serraggio		58+59
HydroStar HQ-... / NQ-...		60+61
Voreinstellvorrichtung für Spannzangen mit Axialeinstellung Presetting equipment for collets with axial adjustment Dispositivo per preimpostazione di pinze con impostazione assiale		62
MC-Spannzangen Ø15 / Ø 20 / Ø25 MC-Collets MC-Pinze		63...65

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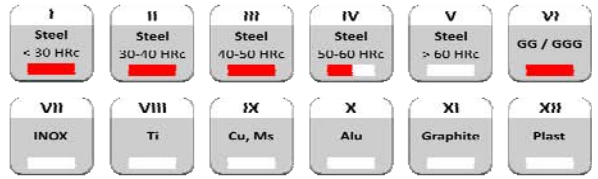
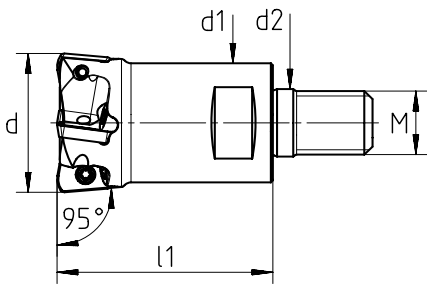
Type	Seite
MCT-Gewindebohrer-Spannzange Ø20 / Ø25 MCT-Screw tap collet MCT-Pinze per maschiatura	 66+67
MCTX-Gewindeschneidfutter Ø20 / Ø25 MCTX-Tapping collet MCTX-Pinze per maschiatura	 68
Gewindeschneidfutter Tapping collet Portautensili per filettare	 70+71

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


Application: ▽ ▽ ▽ **HPC** **HFC** Air - Lube **z** **2-7** Tolerance **d** 0 / -0.2



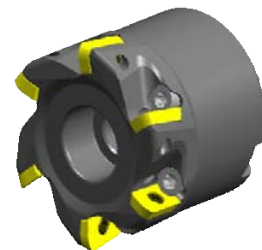
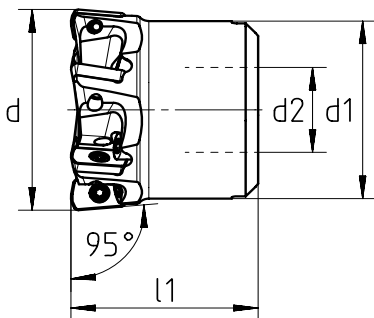
I Steel < 30 HRC
II Steel 30-40 HRC
III Steel 40-50 HRC
IV Steel 50-60 HRC
V Steel > 60 HRC
VI GG / GGG
VII INOX
VIII Ti
IX Cu, Ms
X Alu
XI Graphite
XII Plast

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
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

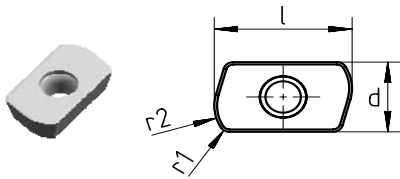
Application: ▽, ▽▽, **HQC**, **HSC**, **HPC**

z: **2**

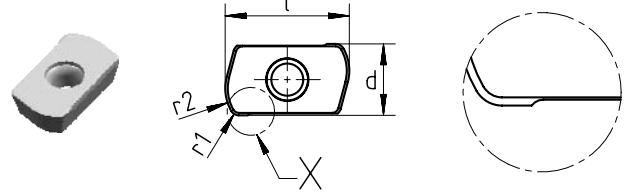
tolerance: d: 0 / -0.05

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

ISR-1



ISR-1-A



Sorten | Grades | Gradi

Beschichtung | Coating | Rivestimento

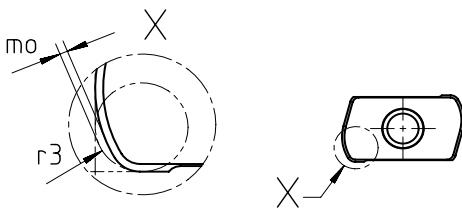
Type	d	l	r1	r2	r3	F10	R41	R42	F10	R41	R42	H16
						-	-	-	TiAlN	TiAlN	TiAlN	TiAlN-ZQS
ISR-1-5	8	14	1	5	1,6	8787	9236	-	9009	9235	-	32836
ISR-1-5-M	8	14	1	5	1,6	-	-	9252	-	-	9250	-
ISR-1-5-A	8	14	1	5	1,6	(9224)	(9239)	-	9225	9254	-	-
ISR-1-5-MA	8	14	1	5	1,6	-	(9233)	-	-	9231	-	-

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

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

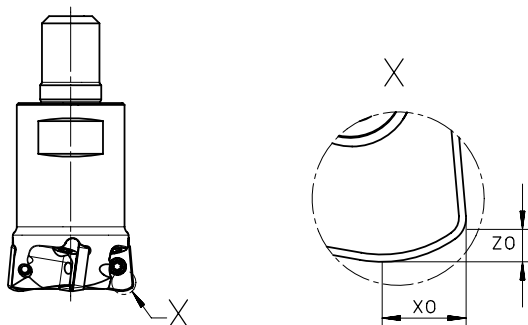
A ... mit seitlicher Freistellung | undernecked version | rastremato

Restmaterial | Remaining material | Materiale residuo



r3 = zu programmierender Radius | programming radius | raggio da programmare
 mo = ISR-1-5-(A) ~ 0,28

Informationen zur Werkzeugvoreinstellung | Presetting informations | Informazioni per presetting



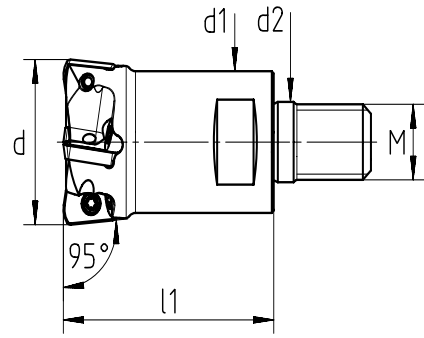
	x0	z0
ISR-1-5	3,3	1,7

SR2

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

Application: ▽ ▽ ▽ **HPC** **HFC** Air tube: z: **2-7** Tolerance: **d** 0 / -0.2

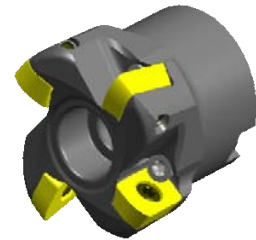
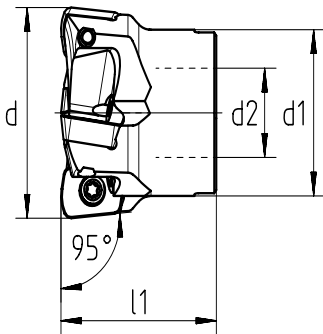
I Steel < 30 HRc	II Steel 30 40 HRc	III Steel 40 50 HRc	IV Steel 50 60 HRc	V Steel > 60 HRc	VI GG / GGG
VII INOX	VIII Ti	IX Cu, Ms	X Alu	XI Graphite	XII Plast



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 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

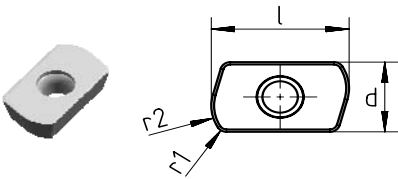
Application: ▽, ▽▽, **HQC**, **HSC**, **HPC**

z: **2**

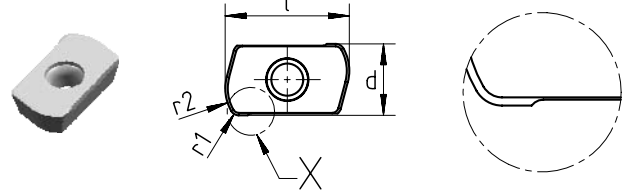
tolerance: **d** 0 / -0.05

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

ISR-2



ISR-2-A



Sorten | Grades | Gradi

Beschichtung | Coating | Rivestimento

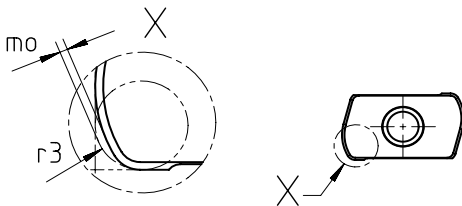
Type	d	l	r1	r2	r3	F10	R41	R42	F10	R41	R42	H16
						-	-	-	TiAlN	TiAlN	TiAlN	TiAlN-ZQS
ISR-2-5	12,5	19,5	1	5	2,0	9211	9214	-	9212	9201	-	-
ISR-2-10	12,5	18,5	2	10	2,6	9187	9181	-	9188	9179	-	-
ISR-2-5-A	12,5	19,5	1	5	2,0	(9182)	(9197)	-	9210	9209	-	-
ISR-2-10-A	12,5	18,5	2	10	2,6	(9247)	(9246)	-	9190	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

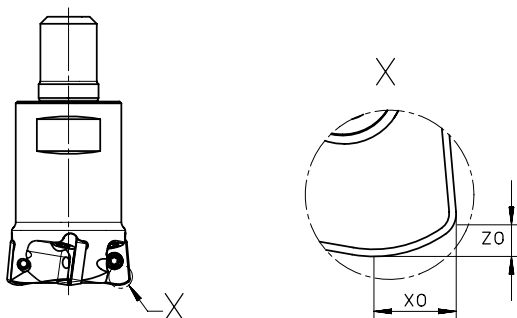
Restmaterial | Remaining material | Materiale residuo



r3 = zu programmierender Radius | programming radius | raggio da programmare

mo = ISR-2-5-(A) ~ 0,45 | ISR-2-10-(A) ~ 0,35

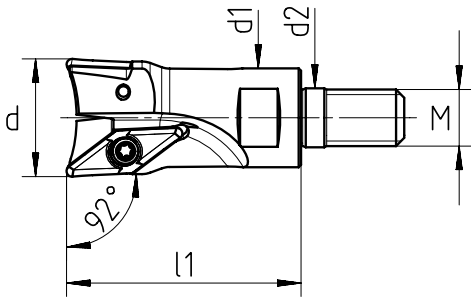
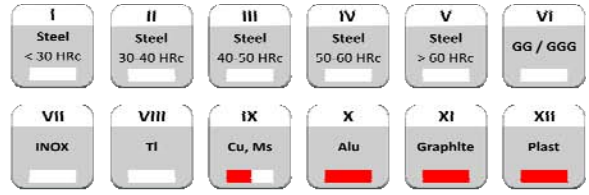
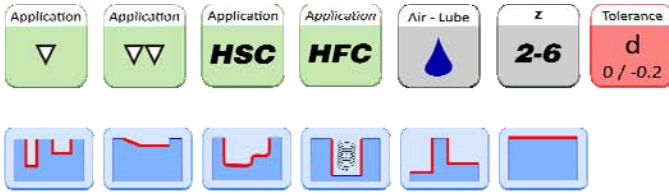
Informationen zur Werkzeugvoreinstellung | Presetting informations | Informazioni per presetting



	x0	z0
ISR-2-5	3,9	2,2
ISR-2-10	5,5	2,8

ALC

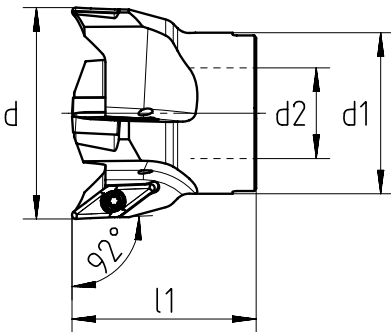
Hochleistungs-Schrupfräser | High feed end mill | Frese per elevate prestazioni



Einschraubversion | Modular type | Versione modulare

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

Abmessungen in mm | Dimensions in mm | Dimensioni in mm

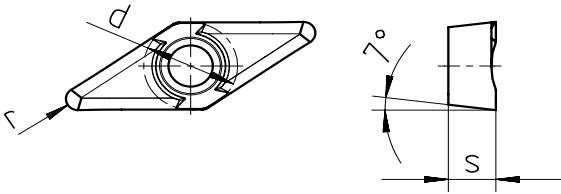
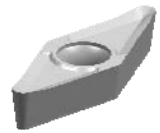


Aufsteckversion | Bore type | Versione a manicotto

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 in mm | Dimensions in mm | Dimensioni in mm

VCGX alle Versionen | all types | tutti versioni



Sorten | Grades | Gradi

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


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

ALR1 92,5° Schruppfräser | Roughing end mill | Frese per sgrossare

Application
▽


Application
▽▽


Application
▽▽▽


Air - Lubr



z
2-3


Tolerance
d
0 / -0.2









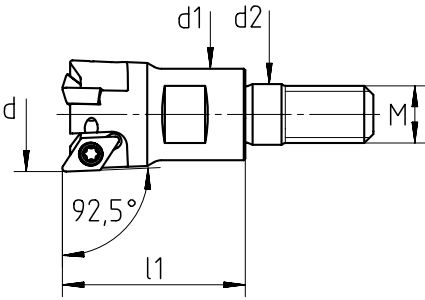









I Steel < 30 HRC	II Steel 30-40 HRC	III Steel 40-50 HRC	IV Steel 50-60 HRC	V Steel > 60 HRC	VI GG / GGG
VII INOX	VIII Ti	IX Cu, Ms	X Alu	XI Graphite	XII Plast



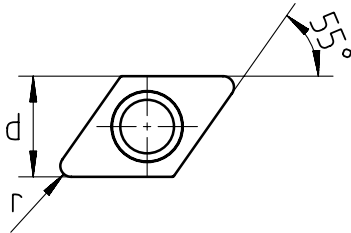
Einschraubversion | Modular type | Versione modulare

Code	Type	d	l1	d1	d2	M	Nm		z	s	
3707	ALR1-10-2-M6-92,5	10	20	10	6,5	M6	8	8	2	MS-2,2-001	T7
3703	ALR1-12-2-M6-92,5	12	20	10	6,5	M6	8	8	2	MS-2,2-001	T7
3712	ALR1-14-2-M8-92,5	14	25	13	6,5	M6	8	10	2	MS-2,2-001	T7
3710	ALR1-16-3-M8-92,5	16	25	13	8,5	M8	15	10	3	MS-2,2-001	T7
3693	ALR1-20-3-M10-92,5	20	32	18	10,5	M10	30	15	3	MS-2,2-001	T7

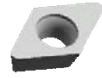
Abmessungen in mm | Dimensions in mm | Dimensioni in mm

ALR1 inserts

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

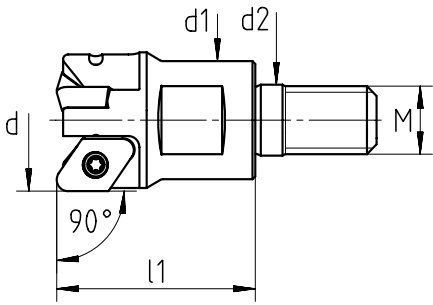
Type	d	r	F10	
			-	TiAlN
IALR1-4,6-0,5	4,6	0,5	8948	-
IALR1-4,6-1,0	4,6	1,0	8954	-
ISTR1-4,6-0,5	4,6	0,5	-	9320
ISTR1-4,6-1,0	4,6	1,0	-	9321
ISTN1-4,6-0,5	4,6	0,5	-	9316
ISTN1-4,6-1,0	4,6	1,0	-	9314

Abmessungen in mm | Dimensions in mm | Dimensioni in mm

ALR2 90°

Schruppfräser | Roughing end mill | Frese per sgrossare

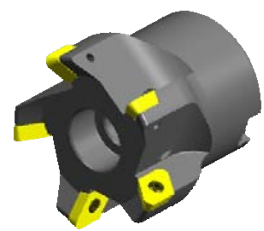
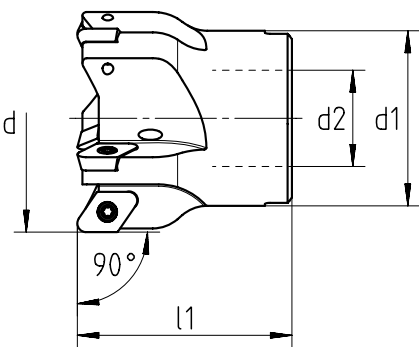
Application ▽	Application ▽▽	Application ▽▽▽	Air - Lube 	z 2-6	Tolerance d 0 / -0.2	I Steel < 30 HRc	II Steel 30-40 HRc	III Steel 40-50 HRc	IV Steel 50-60 HRc	V Steel > 60 HRc	VI GG / GGG
						VII INOX	VIII Ti	IX Cu, Ms	X Alu	XI Graphite	XII Plast



Einschraubversion | Modular type | Versione modulare

Code	Type	d	l1	d1	d2	M	Nm		z	s	
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

Abmessungen in mm | Dimensions in mm | Dimensioni in mm



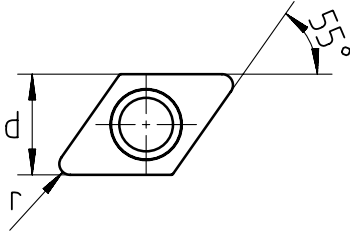
Aufsteckversion | Bore type | Versione manicotto

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 in mm | Dimensions in mm | Dimensioni in mm

ALR2 inserts

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	
			-	TiAlN
IALR2-9,2-2,0	9,2	2,0	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 in mm | Dimensions in mm | Dimensioni in mm

ALR2 92,5° Schruppfräser | Roughing end mill | Frese per sgrossare

Application
▽

Application
▽▽

Application
▽▽▽

Air - Lube:


z
2-8

Tolerance
d
0 / -0.2

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

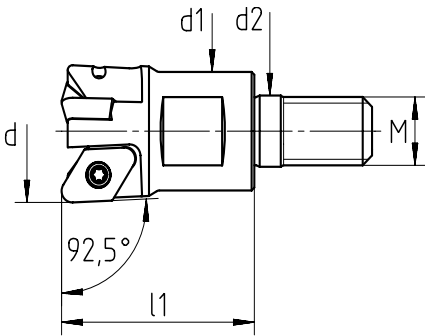
VIII
Ti

IX
Cu, Ms

X
Alu


XI
Graphite

XII
Plast

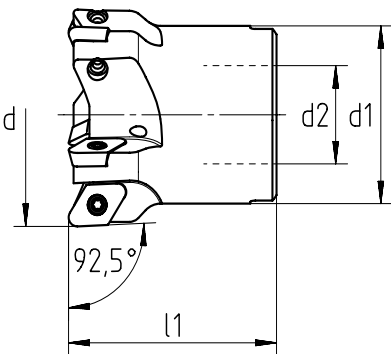


Einschraubversion | Modular type | Versione modulare



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 in mm | Dimensions in mm | Dimensioni in mm



Aufsteckversion | Bore type | Versione a manicotto

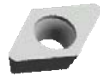
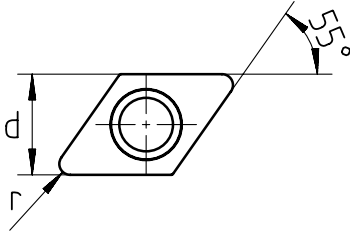


Code	Type	d	l1	d1	d2	z	s	
3800	ALR2-50-5-D22-92,5	50	50	40	22	5	MS-3,0-002	T9
3797	ALR2-63-6-D27-92,5	63	50	50	27	6	MS-3,0-002	T9
3804	ALR2-80-6-D27-92,5	80	50	60	27	6	MS-3,0-002	T9
3705	ALR2-100-7-D32-92,5	100	52	78	32	7	MS-3,0-002	T9
3704	ALR2-125-8-D40-92,5	125	65	88	40	8	MS-3,0-002	T9

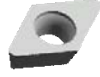
Abmessungen in mm | Dimensions in mm | Dimensioni in mm

ALR2 inserts

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	
			-	TiAIN
IALR2-9,2-2,0	9,2	2,0	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 in mm | Dimensions in mm | Dimensioni in mm

CYA

Schafffräser | End mill | Frese per spallamento

Application
▽

Application
▽▽

Air - Lube

z
1-6

Tolerance
d
0 / 0.1

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

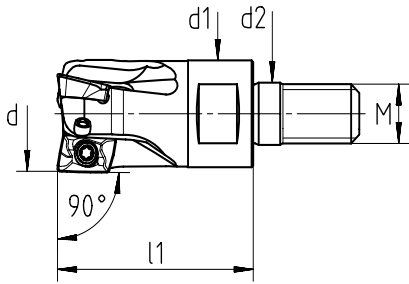
VIII
Ti

IX
Cu, Ms

X
Alu

XI
Graphite

XII
Plast

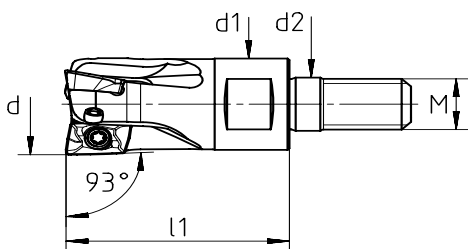


Einschraubversion | Modular type | Versione modulare

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-16-2-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	15	13	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	36	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	44	22,6	12,5	M12	50	19	3	MS-2,5-001	T8
4298	CYA-25-4-SC-M12	25,0	44	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	52	29,4	17,0	M16	100	24	5	MS-2,5-001	T8
4332	CYA-40-6-SC-M16	40,0	43	29,4	17,0	M16	100	24	6	MS-2,5-001	T8

Abmessungen in mm | Dimensions in mm | Dimensioni in mm

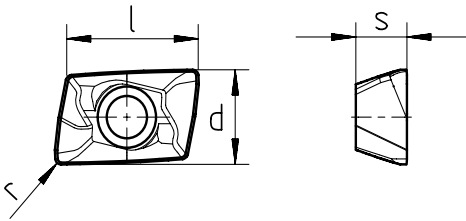
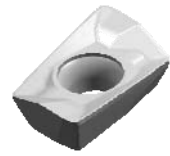
BDA



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

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	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 in mm | Dimensions in mm | Dimensioni in mm

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

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

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

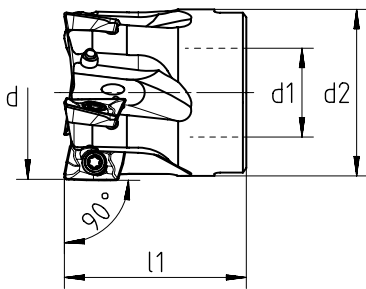
Se viene usato il AOMX-090332-TR sarebbe da modificare il corpo fresa.

CYA Eckfräser | End mill | Frese per spallamento

Application  Application  Air - tube  z **5-7** Tolerance **d** 0 / 0.1



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

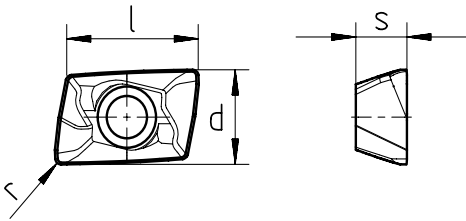
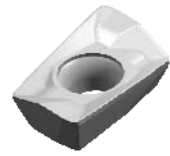


Aufsteckversion | Bore type | Versione a manicotto

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 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	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 in mm | Dimensions in mm | Dimensioni in mm

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

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.

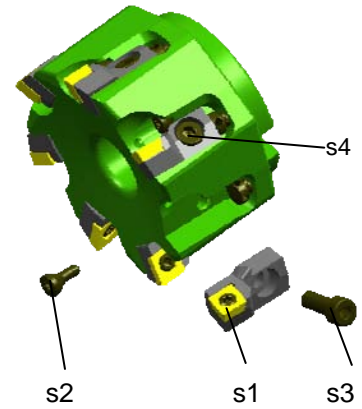
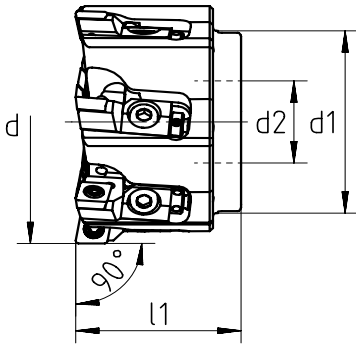
MFC Planfräser | Face mills | Frese per spianare

Application icons: ▽ ▽ ▽ ▽ ▽ ▽

HSC **HFC** **HQC**

z **3-13** Tolerance **d** 0 / 0.05

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



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-100-10-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

Sys. 1



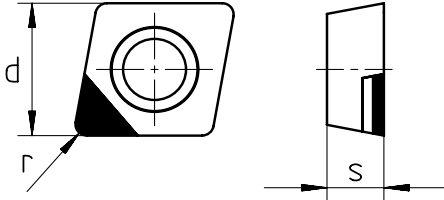
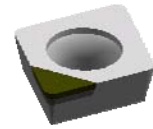
Sys. 2



Sys. 3



CPGW alle Versionen | all types | tutti versioni



Sorten | Grades | Gradi

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

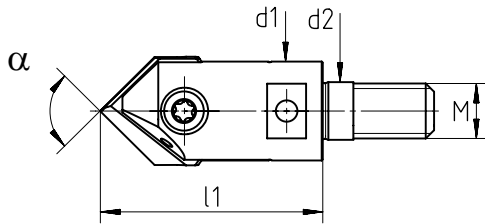
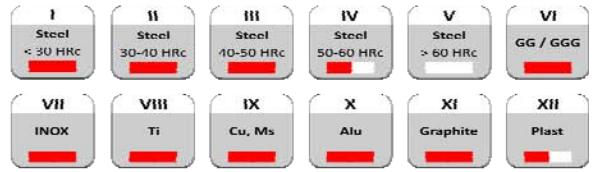
Abmessungen in mm | Dimensions in mm | Dimensioni in mm


Sorten | Grades | Gradi

Type	d	s	r	C O D E	CBN	CBN
					15EW	10EW
CPGW-09T304-PDRT	9,52	3,97	0,4		34019	34018

Abmessungen in mm | Dimensions in mm | Dimensioni in mm

CYFC Fasfräser | Chamfering cutter | Frese per smussare



Code	Type	d	l1	d1	d2	M	Nm		α	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

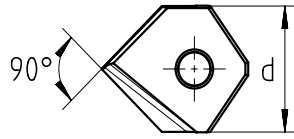
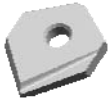
Innenkühlung auf Anfrage, Beispiel: 32401/CYFC-10-090-SC-M6-IK

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°



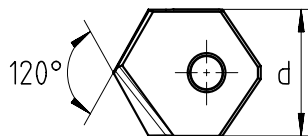
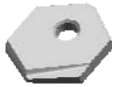
Sorten | Grades | Gradi

Beschichtung | Coating | Rivestimento

Type	d	TiAlN	
FC-10-90	10	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 in mm | Dimensions in mm | Dimensioni in mm

120°



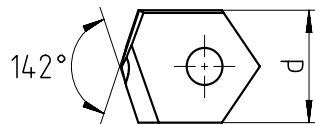
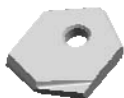
Sorten | Grades | Gradi

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 in mm | Dimensions in mm | Dimensioni in 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

TA-...-SC Kopierfräser | Copy end mill | Frese a copiare



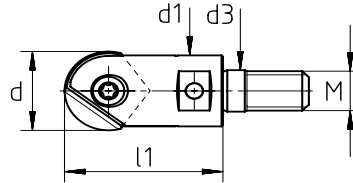
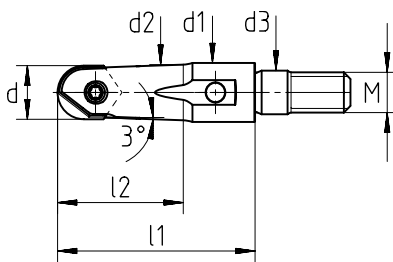
CY-...-SC

Application icons: ▽, ▽▽, ▽▽▽, ▽▽▽▽, **HQC**, **HPC**, Air-Lube OPTION, **Z 2**, Tolerance **d** 0 / -0.015

Material icons: [Aluminum], [Steel], [Titanium], [Inconel], [Copper], [Aluminum]

TA-...

CY-...



Code	Type	d	l1	d1	l2	d2	d3	M	Nm	s	
6363	TA-06-30-SC-M6	6	30	9,8	19,0	7,1	6,5	M6	8	MS-06-N	T7
6367	TA-07-30-SC-M6	7	30	9,8	19,0	7,4	6,5	M6	8	MS-07-N	T7
6476	TA-08-30-SC-M6	8	30	9,8	20,0	8,5	6,5	M6	8	MS-08-N	T7
6250	CY-10-25-SC-M6	10	25	9,8	15,7	9,0	6,5	M6	8	MS-10	T15
4236	CY-12-27-SC-M6	12	27	10,8	-	-	6,5	M6	8	MS-12	T20
4188	CY-16-31-SC-M8	16	31	14,4	-	-	8,5	M8	15	MS-16	T20
6252	CY-20-36-SC-M10	20	36	18,0	-	-	10,5	M10	30	MS-20	T20
6237	CY-25-44-SC-M12	25	44	22,5	-	-	12,5	M12	50	MS-25	T20
6241	CY-32-52-SC-M16	32	52	28,6	-	-	17,0	M16	100	MS-32	T30

Abmessungen in mm | Dimensions in mm | Dimensioni in mm

Innenkühlung auf Anfrage, Beispiel: 6365/TA-06-30-SC-M6-**IK**

Internal coolant on request, example: 6365/TA-06-30-SC-M6-**IK**

Lubrificazione interna su richiesta, per esempio: 6365/TA-06-30-SC-M6-**IK**



40...41

RBS-...-SF 	RB-...-SF 	RB-...-N-FS
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TAF-...-SC

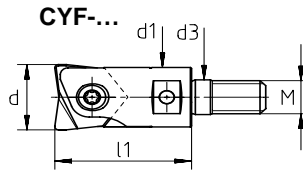
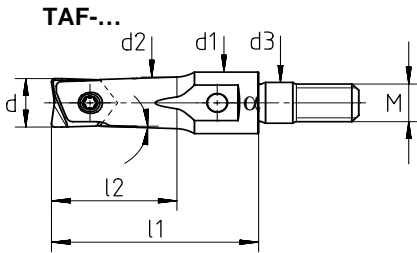
Kopierfräser | Copy end mill | Frese a copiare



CYF-...-SC

Application icons: ▽, ▽▽, ▽▽▽, ▽▽▽▽, **HQC**, **HPC**, Air - Lube OPTION, **Z 2**, Tolerance **d 0 / 0.015**

Chip formation diagrams: 8 icons showing different chip profiles.



Code	Type	d	l1	d1	l2	d2	d3	M	Nm	α	s	
6503	TAF-06-30-SC-M6	6	30	9,8	19,0	7,1	6,5	M6	8	3°	MS-06-N	T6
6489	TAF-08-30-SC-M6	8	30	9,8	20,0	8,5	6,5	M6	8	3°	MS-08-N	T7
4259	CYF-10-25-SC-M6	10	25	9,8	15,8	9,0	6,5	M6	8	-	MS-10	T15
4276	CYF-12-27-SC-M6	12	27	10,8	-	-	6,5	M6	8	-	MS-12	T20
6486	TAF-12-40-SC-M8	12	40	14,4	31,0	11,5	8,5	M8	8	0,65°	MS-12	T20
4294	CYF-16-31-SC-M8	16	31	14,4	-	-	8,5	M8	8	-	MS-16	T20
32139	TAF-16-50-SC-M10	16	50	18,0	41,0	15,5	10,5	M10	15	0,8°	MS-16	T20
4286	CYF-20-36-SC-M10	20	36	18,0	-	-	10,5	M10	15	-	MS-20	T20
4059	CYF-25-44-SC-M12	25	44	22,5	-	-	12,5	M12	50	-	MS-25	T20
4064	CYF-32-52-SC-M16	32	52	28,6	-	-	17,0	M16	100	-	MS-32	T30

Abmessungen in mm | Dimensions in mm | Dimensioni in mm

Innenkühlung auf Anfrage, Beispiel: 6505/TAF-06-30-SC-M6-IK

Internal coolant on request, example: 6505/TAF-06-30-SC-M6-IK

Lubrificazione interna su richiesta, per esempio: 6505/TAF-06-30-SC-M6-IK

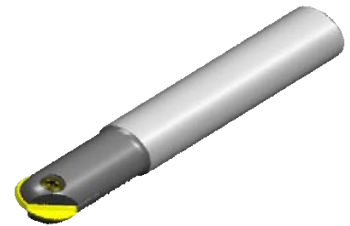
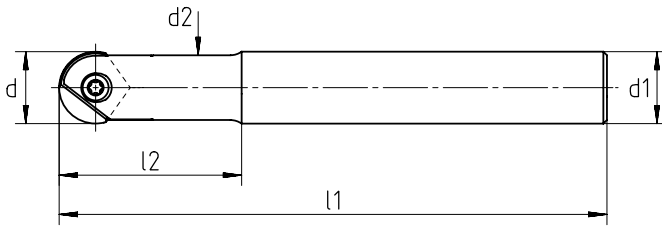


42...46

BD-...-N-...90 BD-...-N			BD-...-R-...90 BD-...-R			BD-...-N-...-CBN	
FB-...-N			FB-...-R			FB-...-R-...PKD	
ISR-...			TO-...				

CY Kopierfräser | Copy end mill | Frese a copiare

Application ▾ Application ▽▽ Application ▽▽▽ Application ▽▽▽▽ Application **HQC** z **2** Shank Steel Tolerance **d** 0 / -0.015






Code	Type	d	l1	d1	l2	d2	s	
4227	CY-06-100-10	6	100	10	19	5,3	MS-06-N	T7
4215	CY-08-100-10	8	100	10	19	6,8	MS-08-N	T7
4249	CY-10-100-12	10	100	12	25	9,0	MS-10	T15
4252	CY-12-125-12	12	125	12	36	10,8	MS-12	T20
4240	CY-12-150-12	12	150	12	46	10,8	MS-12	T20
4192	CY-16-160-16	16	160	16	50	14,4	MS-16	T20
4178	CY-20-150-20	20	150	20	50	18,0	MS-20	T20
4193	CY-20-190-20	20	190	20	61	18,0	MS-20	T20
4197	CY-25-150-25	25	150	25	50	22,5	MS-25	T20
33046	CY-25-200-25	25	200	25	64	22,5	MS-25	T20
4203	CY-32-190-32	32	190	32	57	28,6	MS-32	T30
33047	CY-32-250-32	32	250	32	76	28,6	MS-32	T30

Abmessungen in mm | Dimensions in mm | Dimensioni in mm


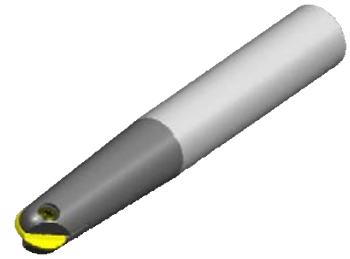
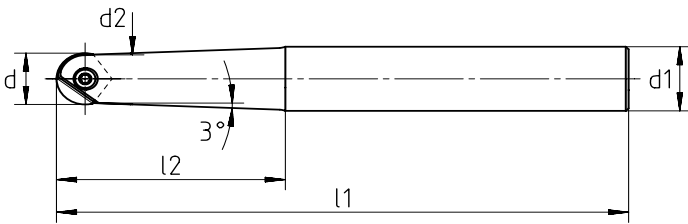


40...41

RBS-...-SF	RB-...-SF	RB-...-N-FS
		

TA Kopierfräser | Copy end mill | Frese a copiare

Application ▾ Application ▽ Application ▽▽ Application ▽▽▽ Application **HQC** Z **2** Shank Steel Tolerance **d** 0 / -0.015







Code	Type	d	l1	d1	l2	d2	s	
6364	TA-06-150-10	6	150	10	25	5,3	MS-06-N	T7
6376	TA-06-095-12	6	95	12	39	5,3	MS-06-N	T7
6377	TA-06-125-12	6	125	12	50	5,3	MS-06-N	T7
6362	TA-07-095-12	7	95	12	39	6,2	MS-07-N	T7
6477	TA-08-150-10	8	150	10	25	6,8	MS-08-N	T7
6478	TA-08-095-12	8	95	12	39	6,8	MS-08-N	T7
6479	TA-08-125-12	8	125	12	55	6,8	MS-08-N	T7
6484	TA-10-150-12	10	150	12	35	9,0	MS-10	T15
6480	TA-12-190-16	12	190	16	60	10,8	MS-12	T20
6468	TA-16-190-20	16	190	20	57	14,4	MS-16	T20
6474	TA-20-200-25	20	200	25	80	18,0	MS-20	T20
33048	TA-25-315-32	25	315	32	100	22,5	MS-25	T20
33049	TA-30-250-40	30	250	40	120	27,2	MS-32	T30
6496	TA-32-250-40	32	250	40	120	28,6	MS-32	T30

Abmessungen in mm | Dimensions in mm | Dimensioni in mm

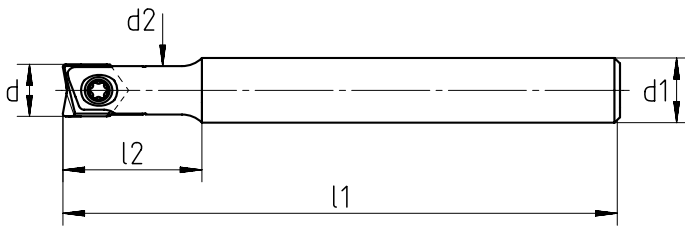


40...41

RBS-...-SF	RB-...-SF	RB-...-N-FS
		

CYF Kopierfräser | Copy end mill | Frese a copiare

Application: ▽ ▽ ▽ ▽ ▽ **HQC** z: **2** Shank: Steel Tolerance: **d** 0 / -0.015



Code	Type	d	l1	d1	l2	d2	s	
4328	CYF-06-100-10	6	100	10	19	5,3	MS-06-N	T7
4269	CYF-08-100-10	8	100	10	19	6,8	MS-08-N	T7
4271	CYF-10-100-12	10	100	12	25	9,0	MS-10	T15
4261	CYF-12-150-12	12	150	12	46	10,8	MS-12	T20
4295	CYF-16-160-16	16	160	16	50	14,4	MS-16	T20
4277	CYF-20-150-20	20	150	20	50	18,0	MS-20	T20
4278	CYF-20-200-20	20	200	20	61	18,0	MS-20	T20
4062	CYF-25-150-25	25	150	25	50	22,5	MS-25	T20
4060	CYF-25-200-25	25	200	25	64	22,5	MS-25	T30
4067	CYF-32-190-32	32	190	32	57	28,6	MS-32	T30

Abmessungen in mm | Dimensions in mm | Dimensioni in mm



42...46

BD-...-N-...90 BD-...-N			BD-...-R-...90 BD-...-R			BD-...-N-...-CBN	
FB-...-N			FB-...-R			FB-...-R-...PKD	
ISR-...			TO-...				

TAF Kopierfräser | Copy end mill | Frese a copiare

Application ▼

Application ▼▼

Application ▼▼▼

Application ▼▼▼▼

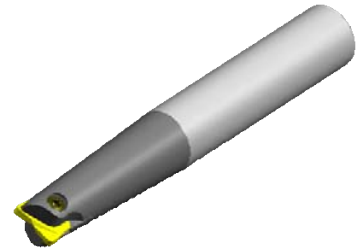
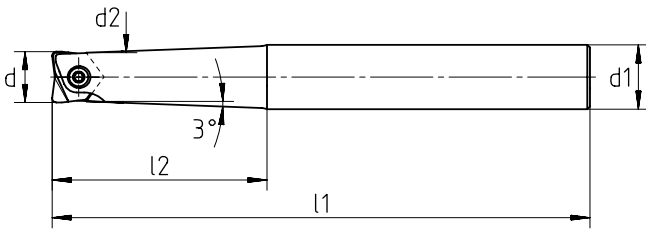
Application **HQC**

Application **HPC**

Air Lube OPTION

Z **2**

Tolerance **d**
0 / 0.015



Code	Type	d	l1	d1	l2	d2	s	
6504	TAF-06-150-10	6	150	10	25	5,3	MS-06-N	T7
6501	TAF-08-150-10	8	150	10	25	6,8	MS-08-N	T7
6490	TAF-10-150-12	10	150	12	35	9,0	MS-10	T15
6488	TAF-12-190-16	12	190	16	60	10,8	MS-12	T20
6487	TAF-16-190-20	16	190	20	57	14,4	MS-16	T20
6494	TAF-20-200-25	20	200	25	80	18,0	MS-20	T20
6495	TAF-20-250-32	20	250	32	100	22,5	MS-25	T20
6493	TAF-25-315-32	25	315	32	100	22,5	MS-25	T20
6491	TAF-30-250-40	30	250	40	120	27,2	MS-32	T30
6492	TAF-32-250-40	32	250	40	120	28,6	MS-32	T30

Abmessungen in mm | Dimensions in mm | Dimensioni in mm



42...46

BD-...-N-...90 BD-...-N			BD-...-R-...90 BD-...-R			BD-...-N-...-CBN	
FB-...-N			FB-...-R			FB-...-R-...PKD	
ISR-...			TO-...				

CY-...-HM

Kopierfräser mit VHM-Schaft | Copy end mill with solid carbide shank |
 Frese a copiare con gambo in MD

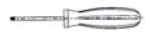
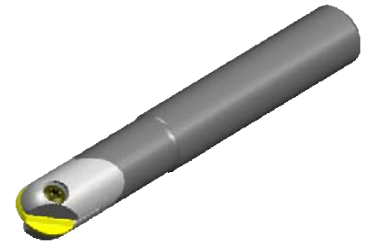
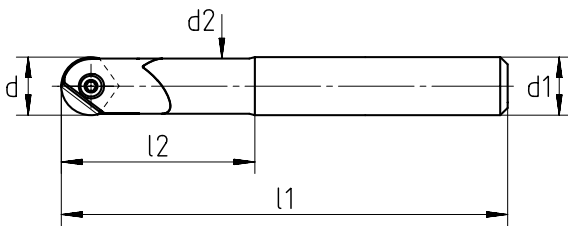
Application: ▽ ▽ ▽ ▽ ▽ ▽

HQC HSC

z: 2

Shank: Solid Carbide

Tolerance: d 0 / -0.015



Code	Type	d	l1	d1	l2	d2	s	
4232	CY-06-070-10-040-HM	6	70	10	40	5,6	MS-06-N	T7
4226	CY-06-100-10-060-HM	6	100	10	60	5,6	MS-06-N	T7
4220	CY-08-070-10-040-HM	8	70	10	40	7,2	MS-08-N	T7
4224	CY-08-100-10-060-HM	8	100	10	60	7,2	MS-08-N	T7
4247	CY-10-100-10-060-HM	10	100	10	60	9,0	MS-10	T15
4254	CY-10-120-10-080-HM	10	120	10	80	9,0	MS-10	T15
4237	CY-12-110-12-060-HM	12	110	12	60	10,8	MS-12	T20
4245	CY-12-140-12-080-HM	12	140	12	80	10,8	MS-12	T20
4242	CY-12-180-12-120-HM	12	180	12	120	10,8	MS-12	T20
4176	CY-16-150-16-060-HM	16	150	16	60	15,0	MS-16	T20
4177	CY-16-180-16-100-HM	16	180	16	100	15,0	MS-16	T20
4173	CY-16-220-16-160-HM	16	220	16	160	15,0	MS-16	T20
4208	CY-20-150-20-100-HM	20	150	20	100	19,0	MS-20	T20
4204	CY-20-200-20-120-HM	20	200	20	120	19,0	MS-20	T20
4213	CY-20-220-20-160-HM	20	220	20	160	19,0	MS-20	T20

Abmessungen in mm | Dimensions in mm | Dimensioni in mm



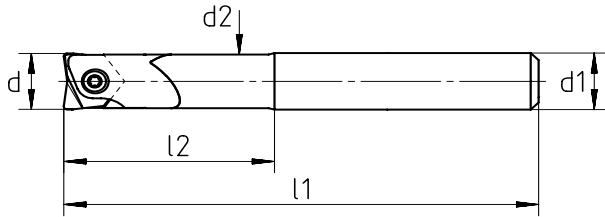
40...41

RBS-...-SF	RB-...-SF	RB-...-N-FS

CYF-...-HM

Kopierfräser mit VHM-Schaft | Copy end mill with solid carbide shank |
 Frese a copiare con gambo in MDI

Application: ▽ ▽ ▽ ▽ ▽ **HQC** **HSC** z: **2** Shank: Solid Carbide Tolerance: **d** 0 / -0.015



Code	Type	d	l1	d1	l2	d2	s	
4325	CYF-06-070-10-040-HM	6	70	10	40	5,6	MS-06-N	T7
4324	CYF-06-100-10-060-HM	6	100	10	60	5,6	MS-06-N	T7
4274	CYF-08-070-10-040-HM	8	70	10	40	7,2	MS-08-N	T7
4266	CYF-08-100-10-060-HM	8	100	10	60	7,2	MS-08-N	T7
4260	CYF-10-100-10-060-HM	10	100	10	60	9,0	MS-10	T15
4256	CYF-10-120-10-080-HM	10	120	10	80	9,0	MS-10	T15
4290	CYF-12-110-12-060-HM	12	110	12	60	10,8	MS-12	T20
4291	CYF-12-140-12-080-HM	12	140	12	80	10,8	MS-12	T20
4287	CYF-12-180-12-120-HM	12	180	12	120	10,8	MS-12	T20
4280	CYF-16-150-16-060-HM	16	150	16	60	15,0	MS-16	T20
4281	CYF-16-180-16-100-HM	16	180	16	100	15,0	MS-16	T20
4279	CYF-16-220-16-160-HM	16	220	16	160	15,0	MS-16	T20
4284	CYF-20-150-20-100-HM	20	150	20	100	19,0	MS-20	T20
4172	CYF-20-200-20-120-HM	20	200	20	120	19,0	MS-20	T20
4061	CYF-20-220-20-160-HM	20	220	20	160	19,0	MS-20	T20

Abmessungen in mm | Dimensions in mm | Dimensioni in mm

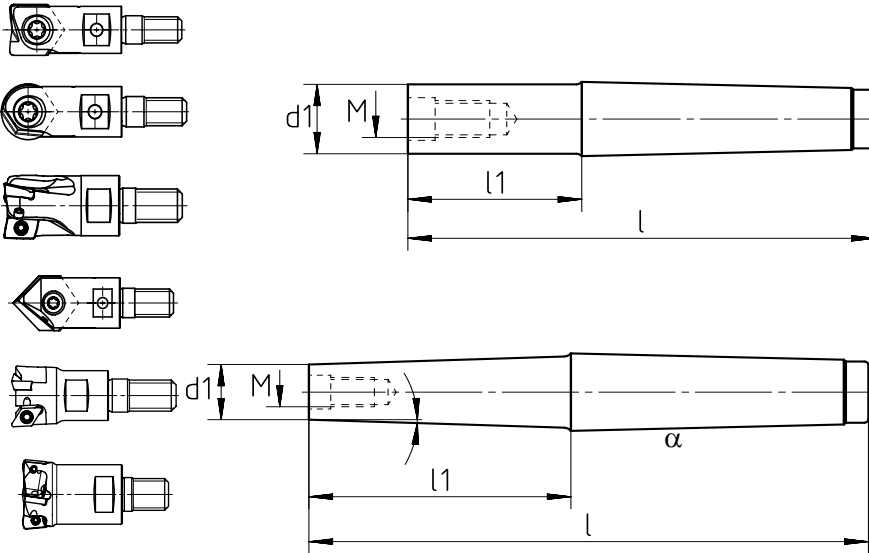


BD-...-N-...90 BD-...-N		BD-...-R-...90 BD-...-R		BD-...-N-...-CBN	
FB-...-N		FB-...-R		FB-...-R-...PKD	
ISR-...		TO-...			

MT-...-SC

Morsekegelaufnahme | Morse tapered shank | Prolunga cono morse

Application HQC	Application HPC	Application HFC	Shank Steel
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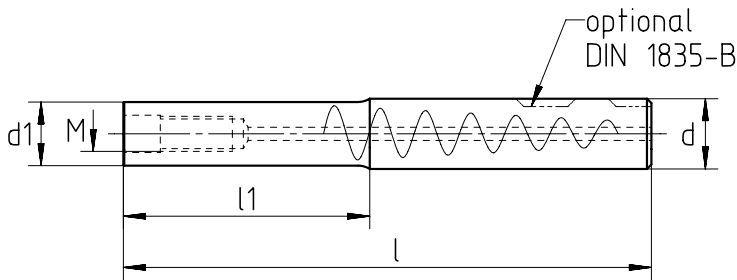
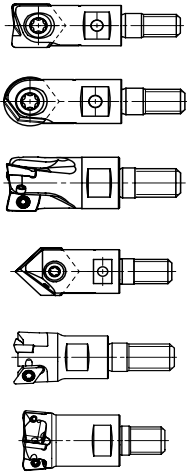
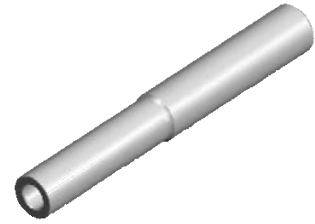


Code	Type	l1	d1	l	M	α
8402	MT-2-12-100-8-SC	8	10,8	77	M6	-
8400	MT-2-12-127-33-SC	33	10,8	102	M6	-
8401	MT-2-12-159-63-SC	63	10,8	132	M6	1,5
8388	MT-2-16-104-4-SC	4	14,4	73	M8	-
8389	MT-2-16-135-34-SC	34	14,4	103	M8	-
8387	MT-2-16-172-74-SC	74	14,4	143	M8	1,0
8385	MT-2-20-111-3-SC	3	18,0	73	M10	-
8386	MT-2-20-146-39-SC	39	18,0	108	M10	-
8393	MT-3-20-203-79-SC	79	18,0	165	M10	1,5
8394	MT-3-25-134-6-SC	6	22,5	92	M12	-
8392	MT-3-25-179-51-SC	51	22,5	137	M12	-
8390	MT-4-25-247-96-SC	96	22,5	205	M12	1,5
8420	MT-4-32-165-8-SC	8	28,6	117	M16	-
8418	MT-4-32-218-58-SC	58	28,6	167	M16	-
8416	MT-4-32-272-113-SC	113	28,6	222	M16	0,5

Abmessungen in mm | Dimensions in mm | Dimensioni in mm

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

CY-...-ST Zylinderschaft mit Hartmetallkern | Cylindrical extension with solid carbide center |
Prolunga in acciaio con anima in MDI



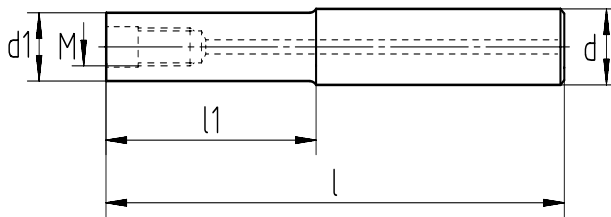
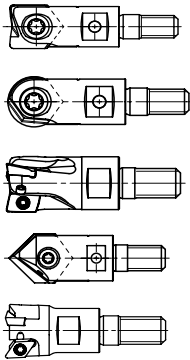
schwingungsgedämpft | anti-vibration | effetto ammortizzante

Code	Type	d	l	d1	l1	M
35046	CY-12-070-12-5-ST-M6	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

CY-...-HM Zylindrische Vollhartmetallaufnahme | Cylindrical solid carbide extension | Prolunga cilindrica in MDI

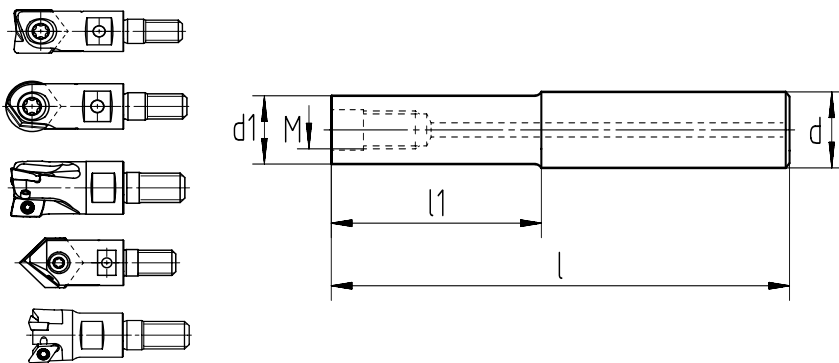
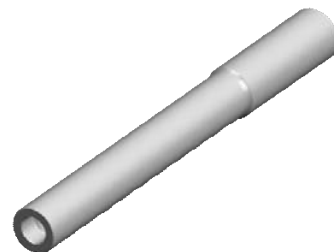


Code	Type	d	l	d1	l1	M
5146	CY-10-80-10-31-HM-M6	10	80	9,8	31	M6
5145	CY-10-80-10-D-HM-M6	10	80	10,0	-	M6
5035	CY-10-150-10-24-HM-M6	10	150	9,8	24	M6
33036	CY-10-150-10-100-HM-M6	10	150	9,8	100	M6
34957	CY-12-65-12-20-HM-M7	12	65	11,4	20	M7
5134	CY-12-80-12-31-HM-M6	12	80	10,8	31	M6
5136	CY-12-80-12-D-HM-M6	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-12,5-88-16-40-HM-M8	16	88	12,5	40	M8
35017	CY-12,5-108-16-60-HM-M8	16	108	12,5	60	M8
35018	CY-13,6-88-16-40-HM-M8	16	88	13,6	40	M8
35019	CY-13,6-108-16-60-HM-M8	16	108	13,6	60	M8
34962	CY-13-128-16-80-HM-M8	16	128	13,6	80	M8
34963	CY-13-148-16-100-HM-M8	16	148	13,6	100	M8
34964	CY-13-68-16-20-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

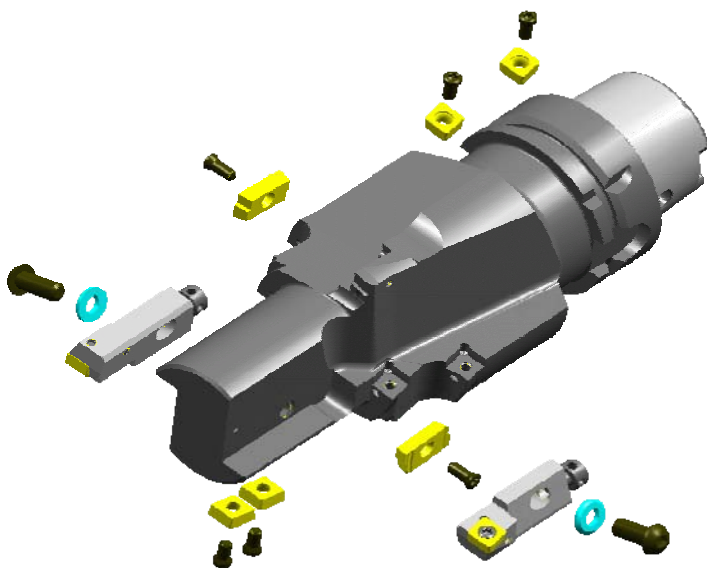
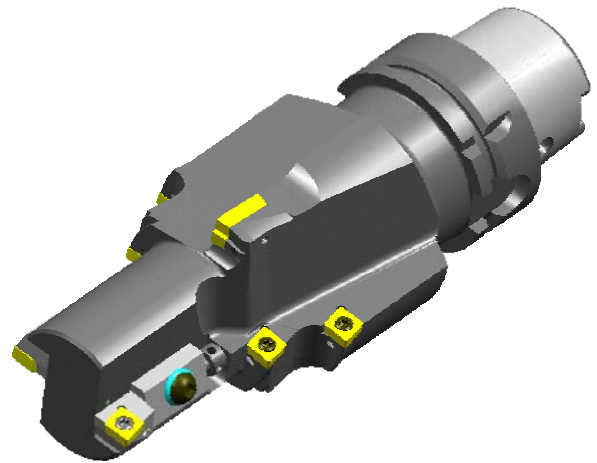
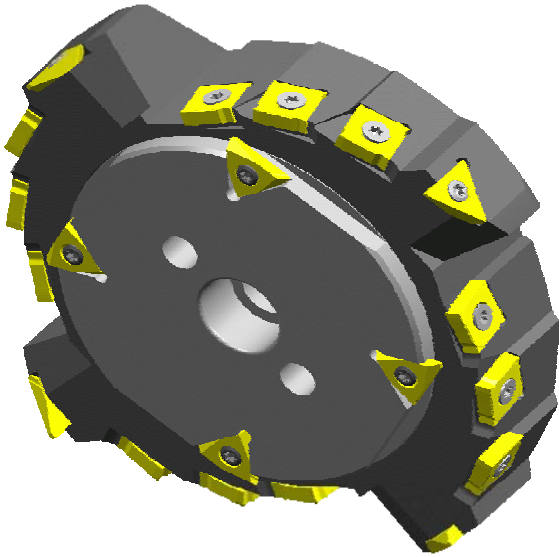
CY-...-HM Zylindrische Vollhartmetallaufnahme | Cylindrical solid carbide extension | Prolunga cilindrica in MDI



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-16-150-20-100-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-10	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

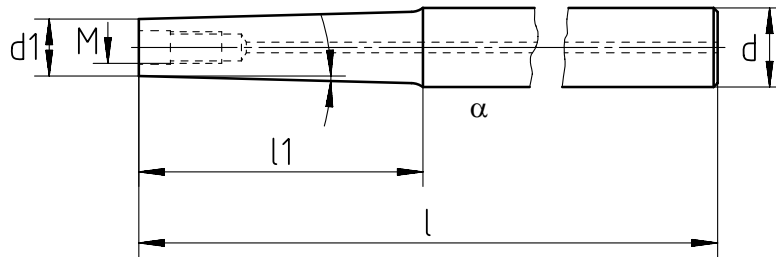
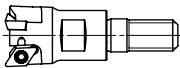
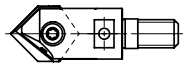
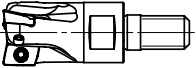
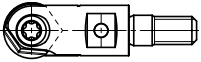
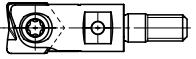
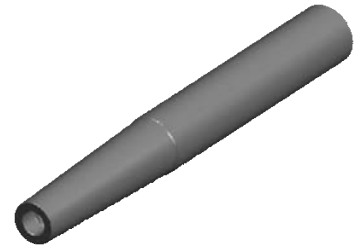
Abmessungen in mm | Dimensions in mm | Dimensioni in mm

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



TA-...-HM Konische Vollhartmetallaufnahme | Conical solid carbide extension | Prolunga conica in MDI

Application HQC	Application HPC	Application HFC	Shank Solid Carbide	Air - Lube 	Tolerance d h6
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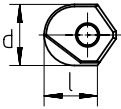
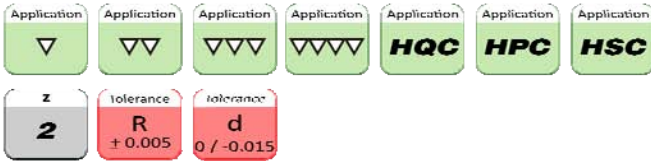
Code	Type	d	l	d1	l1	M	α
34985	TA-12-125-16-100-HM-M7	16	125	11,0	100	M7	1
6481	TA-12-150-16-63-HM-M6	16	150	10,8	63	M6	1,5
6466	TA-16-095-16-40-HM-M8	16	95	14,4	40	M8	0,6
6469	TA-16-155-16-100-HM-M8	16	155	14,4	100	M8	0,3
6467	TA-16-200-20-72-HM-M8	20	200	14,4	72	M8	1,5
6473	TA-20-140-20-80-HM-M10	20	140	18,0	80	M10	0,8
6472	TA-20-160-20-100-HM-M10	20	160	18,0	100	M10	0,6
6471	TA-20-200-25-81-HM-M10	25	200	18,0	81	M10	1,5
6500	TA-25-250-32-94-HM-M12	32	250	22,5	94	M12	1,5
6497	TA-32-300-32-111-HM-M16	32	300	28,6	111	M16	0,8

Abmessungen in mm | Dimensions in mm | Dimensioni in mm

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

RBS-...SF

Kopier-Rundplatten | Round inserts | Inserti sferici



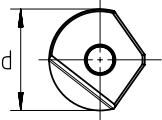
Sorten | Grades | Gradi

Beschichtung | Coating | Rivestimento

Type	d	l	-					
			NA	TiCN	TiAlN	TiAlN-ZQS	DMD-G	
RBS-06-SF	6	7,7	C O D E	(9511)	(9512)	9520	(34756)	(9514)
RBS-07-SF	7	7,4		(9517)	(9531)	9545	(34757)	(9518)
RBS-08-SF	8	7,0		(9543)	(9550)	9551	(34758)	(9544)

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

RB-...-SF



Sorten | Grades | Gradi

Beschichtung | Coating | Rivestimento

Type	d	-					
		NA	TiCN	TiAlN	TiAlN-ZQS	DMD-G	
RB-10-SF	10	C O D E	(10383)	(10382)	10369	(34759)	(31737)
RB-12-SF	12		(10487)	(10486)	10473	(34760)	(10488)
RB-16-SF	16		(10491)	(10499)	10500	(34761)	(10494)
RB-20-SF	20		(10429)	(10437)	10435	(34762)	(10430)
RB-25-SF	25		(9565)	(9564)	9571	(34763)	(9566)
RB-30-SF	30		(9573)	(9588)	9586	(34764)	(9559)
RB-32-SF	32		(9581)	(9580)	9552	(34765)	(9583)

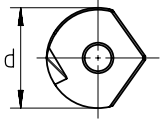
Abmessungen in mm | Dimensions in mm | Dimensioni in mm (...) auf Anfrage | on request | su richiesta

RB-...-N-FS Kopier-Rundplatten | Round inserts | Insetti sferici

Application ▾ Application ▽▽ Application ▽▽▽ Application **HPC** Application **HSC**

z **2** Tolerance **R** ± 0.01 Tolerance **d** 0 / -0.015

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



Sorten | Grades | Gradi
Beschichtung | Coating | Rivestimento



Type	d		NA	TiCN	TiAlN	TiAlN-ZQS	DMD-G
RB-10-N-FS	10	C O D E	(10354)	(10350)	10351	(34773)	-
RB-12-N-FS	12		(10366)	(10374)	10375	(34774)	-
RB-14-N-FS	14		(10474)	(10472)	(10470)	(34792)	-
RB-16-N-FS	16		(10504)	(10503)	10501	(34775)	-
RB-20-N-FS	20		(10497)	(10442)	10440	(34776)	-
RB-22-N-FS	22		(10434)	(10448)	(10462)	(34777)	-
RB-25-N-FS	25		(10466)	(10465)	10452	(34778)	-
RB-30-N-FS	30		(9569)	(9556)	(9557)	(34779)	-
RB-32-N-FS	32		(9585)	(9593)	9591	(34780)	-

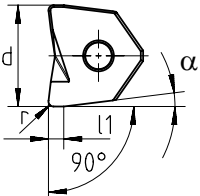
Abmessungen in mm | Dimensions in mm | Dimensioni in mm () ... auf Anfrage | on request | su richiesta

BD-...-N 90° Torische Kopierplatten | Toric inserts | Insetti torici

Application ▾ Application ▽▽ Application ▽▽▽ Application **HSC**

z **2** Tolerance **CR** + 0.01 Tolerance **d** 0 / -0.01

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



Sorten | Grades | Gradi
Beschichtung | Coating | Rivestimento



Type	d	r	l1	α		NA	TiCN	TiAlN	TiAlN-ZQS	DMD-G
BD-10-N-ER0,5-90	10	0,5	1,5	4°	C O D E	33143	(35328)	34294	35329	(33144)
BD-10-N-ER0,8-90	10	0,8	1,8	4°		33145	(35330)	33146	35331	(35332)
BD-10-N-ER1,0-90	10	1,0	2,0	4°		33147	(35333)	33148	35334	(35335)
BD-12-N-ER0,5-90	12	0,5	2,5	7°		33126	(34870)	33127	34794	(33128)
BD-12-N-ER1,0-90	12	1,0	3,0	7°		33129	(34871)	33130	34795	(33131)
BD-16-N-ER0,5-90	16	0,5	2,5	7°		33132	(34796)	33133	34797	(34798)
BD-16-N-ER1,0-90	16	1,0	3,0	7°		33149	(35336)	33150	35337	(33546)
BD-16-N-ER1,3-90	16	1,3	3,6	7°		33134	(34846)	33135	34799	(33136)
BD-20-N-ER0,5-90	20	0,5	2,5	7°		33151	(35338)	33152	35339	(35340)
BD-20-N-ER1,0-90	20	1,0	3,0	7°		33153	(35341)	33154	35342	(35343)
BD-20-N-ER1,6-90	20	1,6	3,6	7°		33137	(34800)	33138	34802	(34801)
BD-25-N-ER2,0-90	25	2,0	4,0	7°		33139	(34803)	33140	34805	(34804)
BD-32-N-ER2,6-90	32	2,6	4,6	7°		33141	(34806)	33142	34807	(34872)

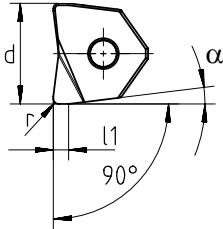
Abmessungen in mm | Dimensions in mm | Dimensioni in mm () ... auf Anfrage | on request | su richiesta

BD-...-R 90°

Torische Kopierplatten | Toric inserts | Inserti torici

Application ▽	Application ▽▽	Application ▽▽▽	Application ▽▽▽▽	Application HQC	Application HSC
z 2	Tolerance CR ± 0.01	Tolerance d 0 / -0.01			

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



Sorten | Grades | Gradi

Beschichtung | Coating | Rivestimento

Type	d	r	l1	α	C O A T I N G				
					NA	TiCN	TiAlN	TiAlN-ZQS	DMD-G
BD-06-R-ER0,4-90	6	0,4	2,4	2°	33155	(34814)	33157	34815	(33156)
BD-06-R-ER0,5-90	6	0,5	2,5	2°	33159	(34816)	33160	34817	(33158)
BD-08-R-ER0,4-90	8	0,4	2,4	2°	33161	(34818)	33163	34819	(33162)
BD-08-R-ER0,5-90	8	0,5	2,5	2°	33165	(34820)	33166	34821	(33164)
BD-10-R-ER0,5-90	10	0,5	2,5	4°	33168	(34822)	33169	34823	(33167)
BD-10-R-ER0,8-90	10	0,8	2,8	4°	33171	(34824)	33172	34825	(33170)
BD-12-R-ER0,5-90	12	0,5	2,5	7°	3188	(34826)	33173	34827	(3181)
BD-12-R-ER1,0-90	12	1,0	3,0	7°	33174	(34828)	33175	34829	(33176)
BD-16-R-ER0,5-90	16	0,5	2,5	7°	33178	(34830)	33182	34831	(33177)
BD-16-R-ER1,0-90	16	1,0	3,0	7°	34910	(35356)	34911	35357	-35358
BD-16-R-ER1,3-90	16	1,3	3,3	7°	33180	(34832)	33181	34833	(33179)
BD-20-R-ER1,6-90	20	1,6	3,6	7°	33184	(34834)	33185	34835	(33183)
BD-25-R-ER2,0-90	25	2,0	4,0	7°	33187	(34836)	33188	34837	(33186)
BD-32-R-ER2,6-90	32	2,6	4,6	7°	33190	(34840)	34838	34839	(33189)

Abmessungen in mm | Dimensions in mm | Dimensioni in mm

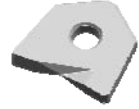
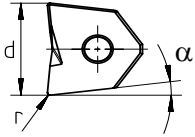
(...) auf Anfrage | on request | su richiesta

BD-...-N Torische Kopierplatten | Toric inserts | Inserti torici

Application ▾ Application ▽▽ Application ▽▽▽ **HSC**

z **2** Tolerance **CR** ± 0.01 Tolerance **d** 0 / 0.01

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



Sorten | Grades | Gradi
Beschichtung | Coating | Rivestimento

Type	d	r	α	-					
				NA	TiCN	TiAlN	TiAlN-ZQS	DMD-G	
BD-12-N-ER0,5	12	0,5	7°	C O D E	3242	(3240)	3241	34841	(3243)
BD-12-N-ER1,0	12	1,0	7°		3184	(3190)	3191	34842	(3185)
BD-16-N-ER0,5	16	0,5	7°		3208	(34843)	3209	34844	(34845)
BD-16-N-ER1,3	16	1,3	7°		3202	(3200)	3198	34847	(3194)
BD-20-N-ER1,6	20	1,6	7°		3336	(3335)	3333	34848	(34849)
BD-25-N-ER2,0	25	2,0	7°		3265	(3266)	3273	34850	(34851)
BD-32-N-ER2,6	32	2,6	7°		3255	(3256)	3263	34852	(34853)

Abmessungen in mm | Dimensions in mm | Dimensioni in mm

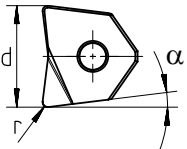
() ... auf Anfrage | on request | su richiesta

BD-...-R

Application ▾ Application ▽▽ Application ▽▽▽ Application ▽▽▽▽ **HQC** **HSC**

z **2** Tolerance **CR** + 0.01 Tolerance **d** 0 / -0.01

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



Sorten | Grades | Gradi
Beschichtung | Coating | Rivestimento

Type	d	r	α	-					
				NA	TiCN	TiAlN	TiAlN-ZQS	DMD-G	
BD-06-R-ER0,4	6	0,4	2°	C O D E	2793	(2794)	2792	34854	(2786)
BD-06-R-ER0,5	6	0,5	2°		2778	(34855)	2779	34856	(2790)
BD-08-R-ER0,4	8	0,4	2°		2776	(2783)	2784	34857	(2777)
BD-08-R-ER0,5	8	0,5	2°		2781	(3004)	3227	34858	(2782)
BD-10-R-ER0,5	10	0,5	4°		3219	(3220)	3234	34859	(3221)
BD-10-R-ER0,8	10	0,8	4°		3249	(3247)	3245	34860	(3248)
BD-12-R-ER0,5	12	0,5	7°		3172	(3173)	3180	34861	(3176)
BD-12-R-ER1,0	12	1,0	7°		3192	(3207)	3205	34862	(3178)
BD-16-R-ER0,5	16	0,5	7°		3315	(34863)	3316	34864	(3307)
BD-16-R-ER1,3	16	1,3	7°		3301	(3299)	3297	34865	(3300)
BD-20-R-ER1,6	20	1,6	7°		3325	(3323)	3324	34866	(3327)
BD-25-R-ER2,0	25	2,0	7°		3270	(3271)	3258	34867	(3272)
BD-32-R-ER2,6	32	2,6	7°		3260	(3261)	34868	34869	(3262)

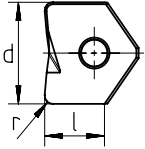
Abmessungen in mm | Dimensions in mm | Dimensioni in mm

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

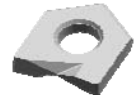
FB-...-N Torische Kopierplatten | Toric inserts | Inserti torici

Application ▾ Application ▽▽ Application ▽▽▽ **HSC**

z **2** Tolerance **CR** ± 0.01 Tolerance **d** 0 / -0.01



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



Sorten | Grades | Gradi

Beschichtung | Coating | Rivestimento

Type	d	r	l	-				
				NA	TiCN	TiAlN	TiAlN-ZQS	DMD-G
FB-10-N-ER0,5	10	0,5	7,8	2574	(2572)	2573	34873	(2576)
FB-10-N-ER0,8	10	0,8	7,9	2518	(2514)	2515	34874	(2517)
FB-12-N-ER0,5	12	0,5	8,6	2641	(2640)	2647	34875	(2642)
FB-12-N-ER1,0	12	1,0	8,6	2631	(2637)	2638	34876	(2632)
FB-16-N-ER1,3	16	1,3	10,1	2600	(2601)	2599	34877	(2656)
FB-20-N-ER1,6	20	1,6	11,8	2622	(2620)	2618	34878	(34879)
FB-25-N-ER2,0	25	2,0	15,8	2503	(2392)	2393	34880	(34881)
FB-32-N-ER2,6	32	2,6	20,6	2380	(2387)	34882	34883	(34897)

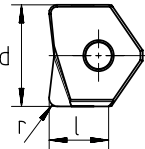
Abmessungen in mm | Dimensions in mm | Dimensioni in mm

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

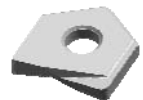
FB-...-R

Application ▾ Application ▽▽ Application ▽▽▽ Application ▽▽▽ **HQC** **HSC**

z **2** Tolerance **CR** ± 0.01 Tolerance **d** 0 / -0.01



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



Sorten | Grades | Gradi

Beschichtung | Coating | Rivestimento

Type	d	r	l	-				
				NA	TiCN	TiAlN	TiAlN-ZQS	DMD-G
FB-06-R-ER0,4	6	0,4	7,2	2564	(2565)	2563	34886	(2557)
FB-08-R-ER0,4	8	0,4	6,5	2580	(2581)	2579	34887	(2566)
FB-08-R-ER0,5	8	0,5	6,4	2585	(2586)	2584	34888	(2578)
FB-10-R-ER0,5	10	0,5	7,9	2509	(2524)	2538	34889	(2511)
FB-10-R-ER0,8	10	0,8	7,9	2536	(2544)	2542	34890	(2537)
FB-12-R-ER0,5	12	0,5	8,6	2663	(2662)	2660	34891	(2635)
FB-12-R-ER1,0	12	1,0	8,6	2667	(2653)	2654	34892	(2669)
FB-16-R-ER1,3	16	1,3	10,1	2591	(2587)	2588	34893	(2590)
FB-20-R-ER1,6	20	1,6	11,8	2610	(2609)	2616	34894	(2612)
FB-25-R-ER2,0	25	2,0	15,8	2398	(2394)	2395	34895	(2397)
FB-32-R-ER2,6	32	2,6	20,6	2399	(2413)	2414	34896	(2385)

Abmessungen in mm | Dimensions in mm | Dimensioni in mm

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

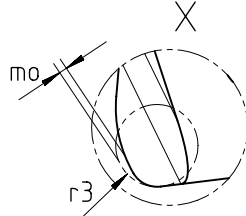
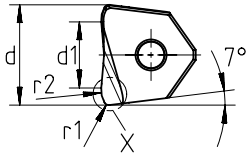
ISR Torische Schruppplatten | Toric roughing insert | Insetto torico per sgrossare

Application: ▽ ▽ ▽ **HQC** **HSC** **HPC**

z: **2**
Tolerance: **d** 0 / -0.05

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

Restmaterial | Remaining material | Materiale residuo



zu programmierender Radius | programming radius | raggio da programmare

Sorten | Grades | Gradi

Beschichtung | Coating | Rivestimento

Type	d	d1	r1	r2	r3	mo	-	-	-	-	-
							NA	TiCN	TiAlN	TiAlN-ZQS	DMD-G
ISR-10	10	6,5	0,6	3	0,9	0,17	-	-	9243	(34899)	-
ISR-12	12	6,1	1,0	5	1,5	0,29	-	-	9242	(34900)	-
ISR-16	16	10,0	1,0	5	1,5	0,29	-	-	9248	(34901)	-

Abmessungen in mm | Dimensions in mm | Dimensioni in mm

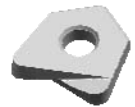
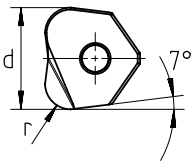
(...) auf Anfrage | on request | su richiesta

TO

Application: ▽ ▽ ▽ **HSC** **HFC**

z: **2**
Tolerance: **CR** ± 0.02
Tolerance: **d** 0 / -0.02

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



Sorten | Grades | Gradi

Beschichtung | Coating | Rivestimento

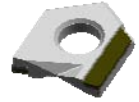
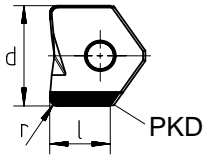
Type	d	r	-	-	-	-	-
			NA	TiCN	TiAlN	TiAlN-ZQS	DMD-G
TO-10-ER3,0	10	3,0	-	-	5437	(34902)	-
TO-12-ER3,0	12	3,0	-	-	5442	(34903)	-
TO-15-ER3,5	15	3,5	-	-	5427	(34904)	-
TO-16-ER4,0	16	4,0	-	-	5431	(34905)	-
TO-20-ER5,0	20	5,0	-	-	5459	(34906)	-
TO-25-ER6,0	25	6,0	-	-	5464	(34907)	-
TO-32-ER8,0	32	8,0	-	-	5449	(34908)	-

Abmessungen in mm | Dimensions in mm | Dimensioni in mm

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

FB-...R...-PKD

Torische PKD-Kopierplatten | Toric PKD inserts | Inserti torici in PKD



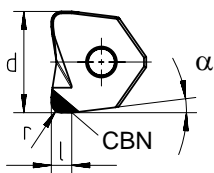
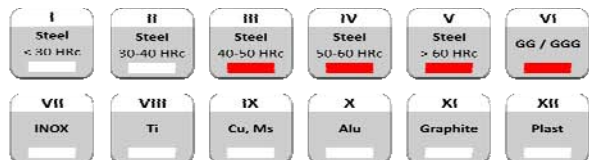
Sorten | Grades | Gradi

Type	d	r	l	PKD-130	
FB-10-R-ER0,3-PKD	10	0,3	8,0	C O D E	(2512)
FB-10-R-ER0,5-PKD	10	0,5	8,0		(2510)
FB-10-R-ER0,8-PKD	10	0,8	8,0		(2543)
FB-10-R-ER1,0-PKD	10	1,0	8,0		(33732)
FB-12-R-ER0,5-PKD	12	0,5	8,5		(2664)
FB-12-R-ER1,0-PKD	12	1,0	8,5		(2666)
FB-16-R-ER1,0-PKD	16	1,0	10,0		(2602)
FB-20-R-ER1,0-PKD	20	1,0	11,5		(35370)
FB-20-R-ER1,5-PKD	20	1,5	11,5		(2623)
FB-25-R-ER2,0-PKD	25	2,0	15,5		(34768)
FB-32-R-ER2,5-PKD	32	2,5	20,5		(34769)

Abmessungen in mm | Dimensions in mm | Dimensioni in mm

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

BD-...N...-CBN

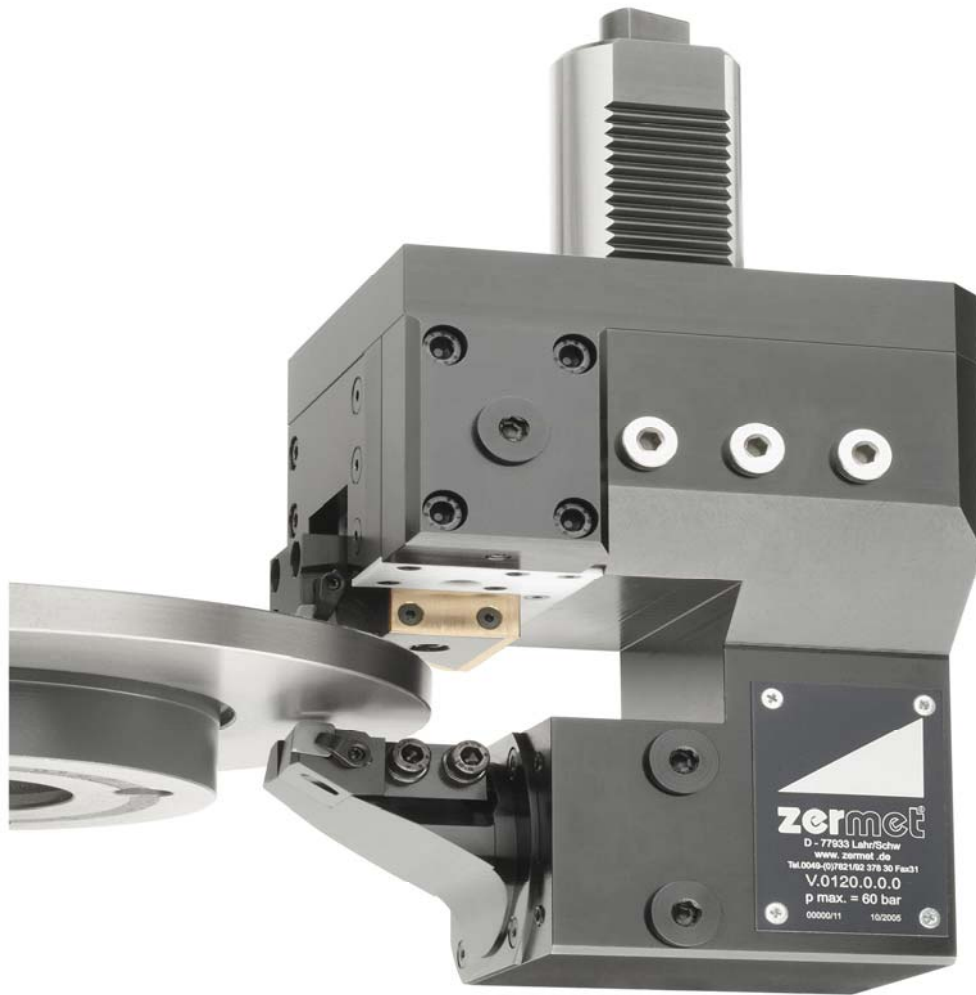


Sorten | Grades | Gradi

Type	d	r	l	α	CBN-100	
BD-10-N-ER0,5-CBN	10	0,5	3	4°	C O D E	(3226)
BD-12-N-ER1,0-CBN	12	1,0	3	7°		(3213)
BD-16-N-ER1,0-CBN	16	1,0	3	7°		(3196)
BD-20-N-ER2,0-CBN	20	2,0	3	7°		(31488)
BD-25-N-ER2,0-CBN	25	2,0	3	7°		(34766)
BD-32-N-ER2,5-CBN	32	2,5	3	7°		(34767)

Abmessungen in mm | Dimensions in mm | Dimensioni in mm

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



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
8608	MS-6-N	T7	90
8609	MS-7-N	T7	90
8596	MS-8-N	T7	100
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

zermat Grades	ISO Grades
R42	P40..50
R46	P30..40
R41	P25..30
F35	M25..P30
H16	K20F
F10	K05F
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



Drehmoment-Schlüssel | Torque key | Chiave dinametrica


Bits | Bits | Inserti

Code	Type	Anzugsmoment (Ncm) Maximum torque on screw Momento di serraggio	Code	Type	Größe Size Italiano
4076	D-0,6/1,5	60-150	1228	DE-T7	T7
			1227	DE-T8	T8
4074	D-1,5/3,0	150-300	1215	DE-T9	T9
			1224	DE-T10	T10
4012	D-3,0/5,4	300-540	1223	DE-T15	T15
			1222	DE-T20	T20



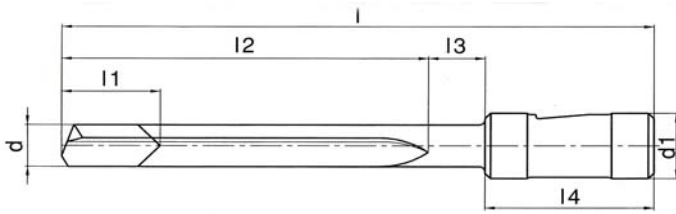
Drehmoment-Schlüssel | Torque key | Chiave dinamometrica

Einsteck-Maulschlüssel | Plug in wrench | Inserti

Code	Type	Anzugsmoment (Nm) Tightening torque Momento di serraggio	A	Code	Type		A
4040	D-70-NM-60	8 - 60	9 x 12	1001	DE-SW08-9x12	8	9 x 12
				773	DE-SW13-9x12	13	9 x 12
				780	DE-SW15-9x12	15	9 x 12
4026	D-70-NM-200	40 - 200	14 x 18	778	DE-SW24-14x18	24	14 x 18
				31657	DE-SW28-14x18	28	14 x 18

Abmessungen in mm | Dimensions in mm | Dimensioni in mm

Tieflochbohrer | Gun drill | Punta a cannone



Anfrage | Inquiry | Richiesta
 Bestellung | Order | Ordine
 Stückzahl | Quantity | Quantità

Firma Company Azienda	_____	Kontakt Contact Contatto	_____
Straße Street Indirizzo	_____	Tel	_____
PLZ Zip CAP	_____	Fax	_____
Ort City Città	_____	Datum Date Data	_____

Werkzeug | Tool | Utensile

Bohrerdurchmesser Drill diameter Diametro	d = _____
Gesamtlänge overall length lunghezza totale	l = _____
Spannutlänge Flute length lunghezza della scanalatura	l2 = _____
Spannhülse Collet Pinza	d1 = _____

Sonderhülse nach Zeichnung | Special tool after drawing | Pinza speciale
 Standardanschiff | Standard grind | Affilatura standard
 Sonderanschiff nach Zeichnung | Special grinding | Affilatura speciale

Bohrung | Drilling process | Foro

Bohrtiefe | Drilling depth | Profondità di foratura
 Durchgangsloch | Through hole | Foro passante
 Sackloch | Blind hole | Foro cieco
 Anschnitt/Austritt schräg | Entrance/Exit slanted | Entrata/Uscita inclinata
 Besondere Hinweise | Indications | Particolarità
 Beschichtung | Coating | Rivestimento

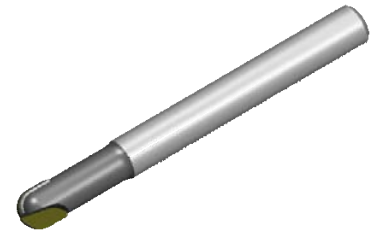
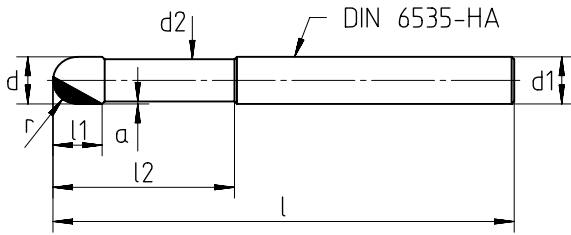
Maschine | Machine | Macchina

Werkzeug rotiert | Tool rotates | Utensile sta rotando
 Werkstück rotiert | Workpiece rotates | Pezzo sta rotando

Werkstück | Workpiece | Pezzo da lavorare

Zu bohrender Werkstoff | Material to be machined | Materiale
 Zugfestigkeit | Tensile strength | Resistenza alla trazione
 Besondere Eigenschaften | Special characteristics | Particolarità

R-PKD PKD-Kugelschafffräser | PKD Ball-Endmill | Frese sferiche in PKD



Code	Type	d	r	l	d1	l1	d2	l2	a	z
10634	R-PKD-02007502006	2	1,0	75	6	2,0	1,7	6	0,15	1
10635	R-PKD-02007502010	2	1,0	75	6	2,0	1,7	10	0,15	1
10633	R-PKD-02007502014	2	1,0	75	6	2,0	1,7	14	0,15	1
10631	R-PKD-02007502035	2	1,0	75	6	2,0	1,7	35	0,15	1

10619	R-PKD-03007502509	3	1,5	75	6	2,5	2,5	9	0,25	2
10620	R-PKD-03007502515	3	1,5	75	6	2,5	2,5	15	0,25	2
10618	R-PKD-03007502521	3	1,5	75	6	2,5	2,5	21	0,25	2
10616	R-PKD-03007502535	3	1,5	75	6	2,5	2,5	35	0,25	2

10624	R-PKD-04007502512	4	2,0	75	6	2,5	3,5	12	0,25	2
10625	R-PKD-04007502520	4	2,0	75	6	2,5	3,5	20	0,25	2
10623	R-PKD-04007502528	4	2,0	75	6	2,5	3,5	28	0,25	2
10621	R-PKD-04007502535	4	2,0	75	6	2,5	3,5	35	0,25	2

10511	R-PKD-05007503015	5	2,5	75	6	3,0	4,4	15	0,30	2
10400	R-PKD-05007503025	5	2,5	75	6	3,0	4,4	25	0,30	2
10401	R-PKD-05007503035	5	2,5	75	6	3,0	4,4	35	0,30	2

10398	R-PKD-06010006018	6	3,0	100	6	6,0	5,4	18	0,30	2
10405	R-PKD-06010006030	6	3,0	100	6	6,0	5,4	30	0,30	2
10406	R-PKD-06010006042	6	3,0	100	6	6,0	5,4	42	0,30	2

10403	R-PKD-08010007024	8	4,0	100	8	7,0	7,2	24	0,40	2
10390	R-PKD-08010007040	8	4,0	100	8	7,0	7,2	40	0,40	2

10391	R-PKD-10010008030	10	5,0	100	10	8,0	9,0	30	0,50	2
10389	R-PKD-10010008050	10	5,0	100	10	8,0	9,0	50	0,50	2

10387	R-PKD-12010509036	12	6,0	105	12	9,0	11,0	36	0,50	2
10388	R-PKD-12010509060	12	6,0	105	12	9,0	11,0	60	0,50	2

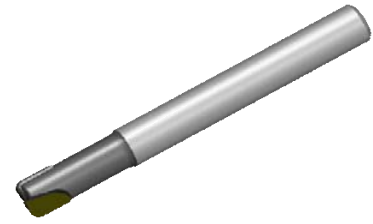
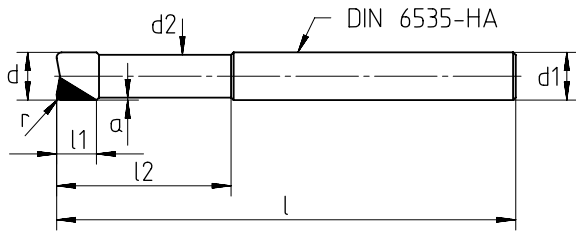
10396	R-PKD-16013011050	16	8,0	130	16	11,0	15,0	50	0,50	2
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10394	R-PKD-20016013060	20	6,0	160	20	13,0	19,0	60	0,50	2
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Abmessungen in mm | Dimensions in mm | Dimensiuni in mm

TO-PKD

Torische PKD Schafffräser | Toric PKD endmill | Frese toriche in PKD



Code	Type	d	r	l	d1	l1	d2	l2	a	z
5968	TO-PKD-0200750903	2	0,3	75	6	2,0	1,7	9	0,15	1
5967	TO-PKD-0200751003	2	0,3	75	6	2,0	1,7	10	0,15	1
5966	TO-PKD-0200751403	2	0,3	75	6	2,0	1,7	14	0,15	1
5973	TO-PKD-0200753503	2	0,3	75	6	2,0	1,7	35	0,15	1

5971	TO-PKD-0300750903	3	0,3	75	6	2,5	2,5	9	0,25	2
5985	TO-PKD-0300751503	3	0,3	75	6	2,5	2,5	15	0,25	2
5999	TO-PKD-0300751505	3	0,5	75	6	2,5	2,5	15	0,25	2
5996	TO-PKD-0300753503	3	0,3	75	6	2,5	2,5	35	0,25	2
6000	TO-PKD-0300752103	3	0,3	75	6	2,5	2,5	21	0,25	2

6005	TO-PKD-0400751203	4	0,3	75	6	2,5	3,5	12	0,25	2
6003	TO-PKD-0400752003	4	0,3	75	6	2,5	3,5	20	0,25	2
6001	TO-PKD-0400752005	4	0,5	75	6	2,5	3,5	20	0,25	2
6002	TO-PKD-0400752803	4	0,3	75	6	2,5	3,5	28	0,25	2
5989	TO-PKD-0400753503	4	0,3	75	6	2,5	3,5	35	0,25	2

5988	TO-PKD-0500751503	5	0,3	75	6	3,0	4,4	15	0,30	2
5994	TO-PKD-0500752505	5	0,5	75	6	3,0	4,4	25	0,30	2
5987	TO-PKD-0500752503	5	0,3	75	6	3,0	4,4	25	0,30	2
5995	TO-PKD-0500753503	5	0,3	75	6	3,0	4,4	35	0,30	2

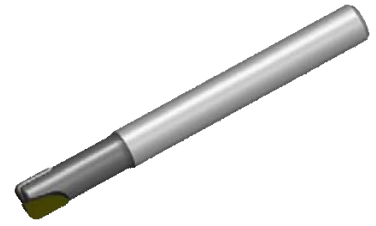
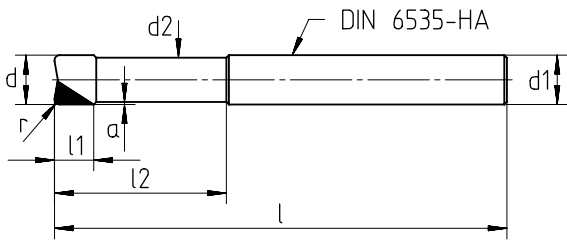
5992	TO-PKD-0601001805	6	0,5	100	6	6,0	5,4	18	0,30	2
5964	TO-PKD-0601001810	6	1,0	100	6	6,0	5,4	18	0,30	2
5937	TO-PKD-0601003005	6	0,5	100	6	6,0	5,4	30	0,30	2
5935	TO-PKD-0601003010	6	1,0	100	6	6,0	5,4	30	0,30	2
5934	TO-PKD-0601004205	6	0,5	100	6	6,0	5,4	42	0,30	2
5941	TO-PKD-0601004210	6	1,0	100	6	6,0	5,4	42	0,30	2

5938	TO-PKD-0801002405	8	0,5	100	8	7,0	7,2	24	0,40	2
5939	TO-PKD-0801002410	8	1,0	100	8	7,0	7,2	24	0,40	2
5927	TO-PKD-0801004005	8	0,5	100	8	7,0	7,2	40	0,40	2
5925	TO-PKD-0801004010	8	1,0	100	8	7,0	7,2	40	0,40	2
5923	TO-PKD-0801004020	8	2,0	100	8	7,0	7,2	40	0,40	2

Abmessungen in mm | Dimensions in mm | Dimensioni in mm

TO-PKD

Torische PKD Schafffräser | Toric PKD endmill | Frese toriche in PKD



Code	Type	d	r	l	d1	l1	d2	l2	a	z
5931	TO-PKD-1001003005	10	0,5	100	10	8	9	30	0,5	2
5932	TO-PKD-1001003010	10	1,0	100	10	8	9	30	0,5	2
5943	TO-PKD-1001005005	10	0,5	100	10	8	9	50	0,5	2
5930	TO-PKD-1001003015	10	1,5	100	10	8	9	30	0,5	2
5928	TO-PKD-1001003020	10	2,0	100	10	8	9	30	0,5	2
5957	TO-PKD-1001005010	10	1,0	100	10	8	9	50	0,5	2
5958	TO-PKD-1001005015	10	1,5	100	10	8	9	50	0,5	2
5956	TO-PKD-1001005020	10	2,0	100	10	8	9	50	0,5	2

5955	TO-PKD-1201053605	12	0,5	105	12	9	11	36	0,5	2
5962	TO-PKD-1201053610	12	1,0	105	12	9	11	36	0,5	2
5963	TO-PKD-1201053615	12	1,5	105	12	9	11	36	0,5	2
5961	TO-PKD-1201053620	12	2,0	105	12	9	11	36	0,5	2
5959	TO-PKD-1201056005	12	0,5	105	12	9	11	60	0,5	2
5960	TO-PKD-1201056010	12	1,0	105	12	9	11	60	0,5	2
5947	TO-PKD-1201056015	12	1,5	105	12	9	11	60	0,5	2
5948	TO-PKD-1201056030	12	3,0	105	12	9	11	60	0,5	2

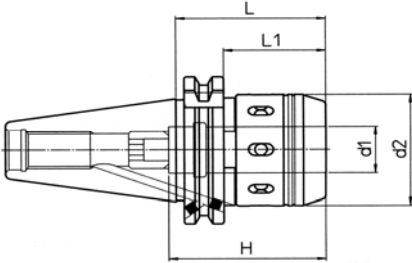
5946	TO-PKD-1601305050	16	5,0	130	16	11	15	50	0,5	2
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5944	TO-PKD-2001606060	20	6,0	160	20	13	19	60	0,5	2
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Abmessungen in mm | Dimensions in mm | Dimensioni in mm

MF-SK

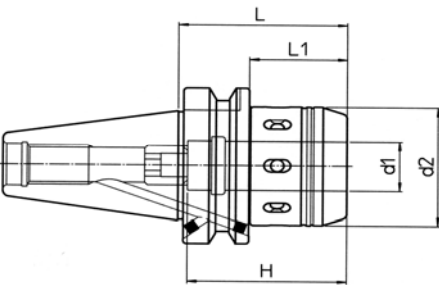
Kraftspannfutter | Power chuck | Mandrini forte serraggio




Code	Type	ISO	d1	d2	l2	l	l1	kg	
19177	MF-SK40-69871-12.50	40	12	28	46	50	31	0,8	028
19176	MF-SK40-69871-20.60	40	20	48	63	60	41	1,1	050
19189	MF-SK40-69871-32.95	40	32	66	80	95	-	1,6	075
20974	MF-SK50-69871-20.80	50	20	48	63	80	61	2,3	050
20975	MF-SK50-69871-32.75	50	32	66	90	75	56	2,8	075

Abmessungen in mm | Dimensions in mm | Dimensioni in mm

MF-MAS



Code	Type	ISO	d1	d2	l2	l	l1	kg	
8291	MF-MAS40-12.60	40	12	28	46	60	33	0,8	028
8298	MF-MAS40-20.63	40	20	48	63	63	36	1,1	050
8299	MF-MAS40-32.90	40	32	66	80	90	-	1,6	075
8295	MF-MAS50-20.85	50	20	48	63	85	47	2,3	050
8296	MF-MAS50-32.95	50	32	66	90	95	57	2,8	075

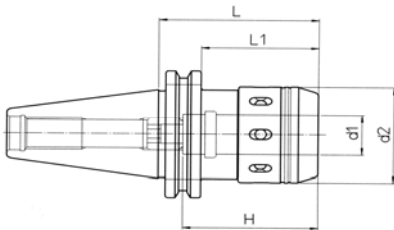
Abmessungen in mm | Dimensions in mm | Dimensioni in mm


Kühlmittelzufuhr | Internal coolant | Lubrificazione interna DIN 69871 AD / B

Lieferumfang: ohne Spanschlüssel | Delivery: without clamping key | Consegna: senza chiave

MF-CAT

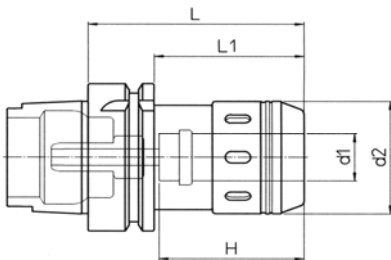
Kraftspannfutter | Power chuck | Mandrini forte serraggio




Code	Type	ISO	d1	d2	l2	l	l1	kg	
5003	MF-CAT40-1/2 2.50	40	1/2"	1.10"	1.85"	2.50"	1.25"	0,6	028
5001	MF-CAT40-3/4 3.00	40	3/4"	1.89"	2.48"	3.00"	2.25"	1,1	050
5005	MF-CAT40-1 1/4 4.25	40	1 1/4"	2.59"	3.15"	4.25"	-	1,6	075
4990	MF-CAT50-3/4 3.00	50	3/4"	1.89"	2.48"	3.00"	1.56"	2,3	050
4989	MF-CAT50-1 1/4 6.50	50	1 1/4"	2.59"	3.54"	6.50"	5.75"	2,8	075

Abmessungen in inch | Dimensions in inch | Dimensioni in inch

MF-HSK



Code	Type	HSK-A	d1	d2	l2	l	l1	kg	
8850	MF-HSK-A63-12.70	63	12	28	46	70	44	0,8	028
8848	MF-HSK-A63-20.85	63	20	48	60	85	59	1,1	050
8849	MF-HSK-A63-32.105	63	32	66	80	105	-	1,6	075

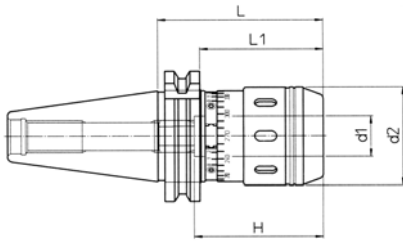
Abmessungen in mm | Dimensions in mm | Dimensioni in mm


Kühlmittelezufuhr | Internal coolant | Lubrificazione interna DIN 69871 AD / B

Lieferumfang: ohne Spanschlüssel | Delivery: without clamping key | Consegna: senza chiave

MC-SK

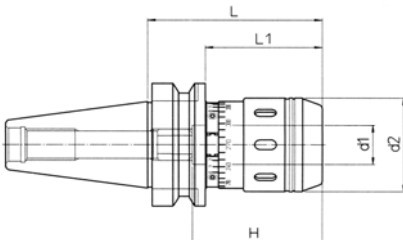
Kraftspannfutter auswuchtbar | Balanceable Power chuck | Mandrini forte serraggio bilanciabile




Code	Type	ISO	d1	d2	l2	l	l1	kg	
19178	MC-SK40-69871-20.75	40	20	48	60	75	55,9	1,3	050
19175	MC-SK40-69871-32.105	40	32	66	80	105	-	2,1	075
20968	MC-SK50-69871-20.90	50	20	48	60	90	70,9	3,0	050
20971	MC-SK50-69871-32.100	50	32	66	100	100	80,9	4,0	075

Abmessungen in mm | Dimensions in mm | Dimensioni in mm

MC-MAS



Code	Type	ISO	d1	d2	l2	l	l1	kg	
31534	MC-MAS40-20.80	40	20	48	60	80	53,5	1,4	050
8290	MC-MAS40-32.90	40	32	66	80	90	65,0	1,9	075
8297	MC-MAS50-32.105	50	32	66	100	105	67,0	3,1	075

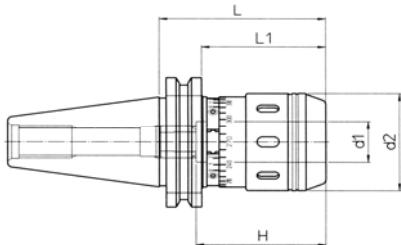
Abmessungen in mm | Dimensions in mm | Dimensioni in mm


Kühlmittelzufuhr | Internal coolant | Lubrificazione interna DIN 69871 AD / B

Lieferumfang: ohne Spannschlüssel | Delivery: without clamping key | Consegna: senza chiave

MC-CAT

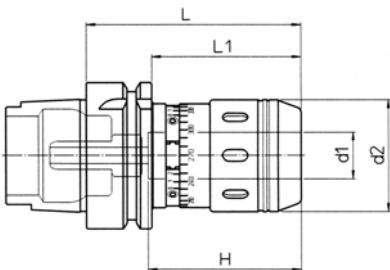
Kraftspannfutter auswuchtbar | Balanceable Power chuck | Mandrini forte serraggio bilanciabile




Code	Type	ISO	d1	d2	l2	l (mm)	l1	kg	
5004	MC-CAT40-3/4.75	40	3/4"	1.89"	2.36"	75	2.16"	1,3	050
4997	MC-CAT40-1 1/4.105	40	1 1/4"	2.60"	3.15"	105	-	1,8	075
5002	MC-CAT50-1 1/4.100	50	1 1/4"	2.60"	3.15"	100	3.18"	3,0	075

Abmessungen in inch | Dimensions in inch | Dimensioni in inch

MC-HSK



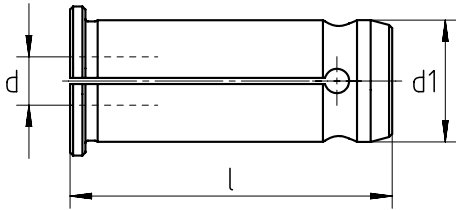
Code	Type	HSK-A	d	d1	l2	l	l1	kg	
8851	MC-HSK-A63-20.85	63	20	48	60	85	59	1,2	050
8852	MC-HSK-A63-32.110	63	32	66	80	110	-	2,0	075
8858	MC-HSK-A100-32.110	100	32	66	80	110	81	3,6	075

Abmessungen in mm | Dimensions in mm | Dimensioni in mm

Kühlmittelzufuhr | Internal coolant | Lubrificazione interna DIN 69871 AD / B

Lieferumfang: ohne Spanschlüssel | Delivery: without clamping key | Consegna: senza chiave

MC Spannhülse für Kraftspannfutter | Collets for Power chuck | Pinze per mandrini forte serraggio

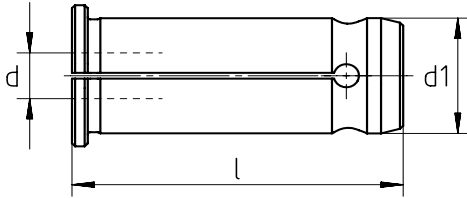


Code	Type	d	d1	l
9547	MC-20.03	3	20	50
9548	MC-20.04	4	20	50
33813	MC-20.05	5	20	50
9535	MC-20.06	6	20	50
9536	MC-20.08	8	20	50
9534	MC-20.10	10	20	50
9532	MC-20.12	12	20	50
33814	MC-20.14	14	20	50
9533	MC-20.16	16	20	50
34916	MC-32.03	3	32	63
34917	MC-32.04	4	32	63
34918	MC-32.05	5	32	63
9537	MC-32.06	6	32	63
9538	MC-32.08	8	32	63
9649	MC-32.10	10	32	63
9650	MC-32.12	12	32	63
9648	MC-32.14	14	32	63
9646	MC-32.16	16	32	63
9647	MC-32.18	18	32	63
9654	MC-32.20	20	32	63
9655	MC-32.25	25	32	63

Abmessungen in mm | Dimensions in mm | Dimensioni in mm

Lieferumfang: ohne Spannschlüssel | Delivery: without clamping key | Consegna: senza chiave

MC Spannhülse für Kraftspannfutter | Collets for Power chuck | Pinze per mandrini forte serraggio



Code	Type	d	d1	l
34920	MC-3/4.1/4	1/4"	3/4"	1,97" (50 mm)
34921	MC-3/4.5/16	5/16"	3/4"	1,97" (50 mm)
34922	MC-3/4.3/8	3/8"	3/4"	1,97" (50 mm)
34923	MC-3/4.7/16	7/16"	3/4"	1,97" (50 mm)
34924	MC-3/4.1/2	1/2"	3/4"	1,97" (50 mm)
34925	MC-3/4.5/8	5/8"	3/4"	1,97" (50 mm)
34926	MC-1 1/4.3/8	3/8"	1 1/4"	2,48" (63 mm)
34927	MC-1 1/4.1/2	1/2"	1 1/4"	2,48" (63 mm)
34928	MC-1 1/4.5/8	5/8"	1 1/4"	2,48" (63 mm)
34929	MC-1 1/4.3/4	3/4"	1 1/4"	2,48" (63 mm)
34930	MC-1 1/4.1	1"	1 1/4"	2,48" (63 mm)

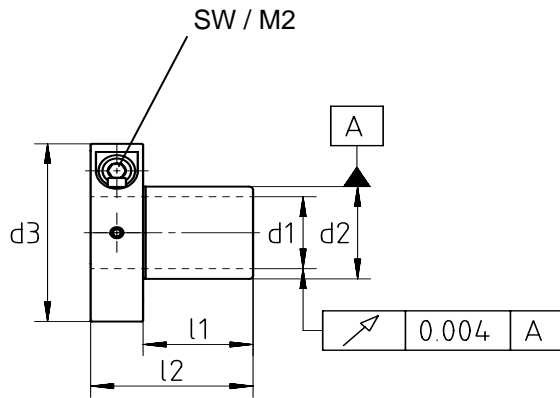
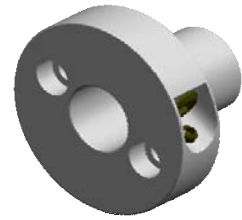
Abmessungen in inch | Dimensions in inch | Dimensioni in inch


Lieferumfang: ohne Spannschlüssel | Delivery: without clamping key | Consegna: senza chiave

HydroStar

Hydrodehn-Spannelement | Hydraulic chuck | Portautensili con bloccaggio idraulico

HQ-... High Quality



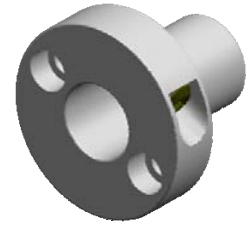
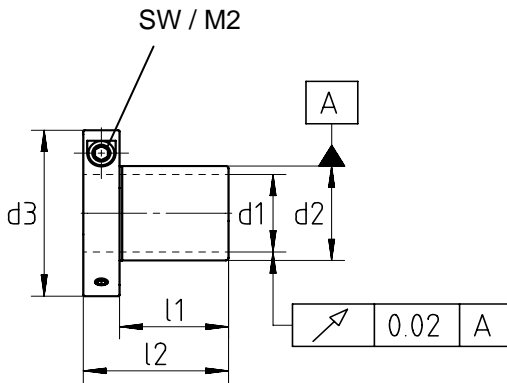
Code	Type	d1	d2	d3	l1	l2		Übertragbares Drehmoment	Anzugsmoment
								Conferrable torque	Tightening torque
								Coppia trasmissibile	Coppia di spunto
								M1 (Nm)	M2 (Nm)
8999	HydroStar-HQ-15	15	19	52	25	41	5	40	5
9000	HydroStar-HQ-20	20	25	59	30	46	6	120	10
9008	HydroStar-HQ-25	25	32	70	35	55	6	290	16
9006	HydroStar-HQ-30	30	38	76	40	60	6	500	16
9004	HydroStar-HQ-32	32	41	79	42	62	6	600	16
9005	HydroStar-HQ-35	35	44	82	45	65	6	800	16
8992	HydroStar-HQ-40	40	52	92	55	75	8	1200	24
8993	HydroStar-HQ-45	45	56	96	58	78	8	1550	24
8991	HydroStar-HQ-50	50	65	105	60	80	8	2000	24
8989	HydroStar-HQ-60	60	75	122	70	95	10	4000	40
8990	HydroStar-HQ-70	70	90	136	85	110	10	6500	40
8997	HydroStar-HQ-75	75	95	146	90	115	10	7800	40
8998	HydroStar-HQ-80	80	100	154	95	120	10	9000	40
8996	HydroStar-HQ-90	90	112	170	105	133	10	13000	60
9001	HydroStar-HQ-100	100	125	184	115	145	12	18000	80

Abmessungen in mm | Dimensions in mm | Dimensioni in mm

HydroStar

Hydrodehn-Spannelement | Hydraulic chuck | Portautensili con bloccaggio idraulico

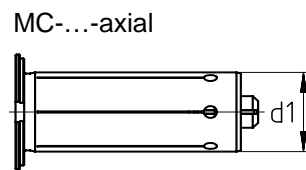
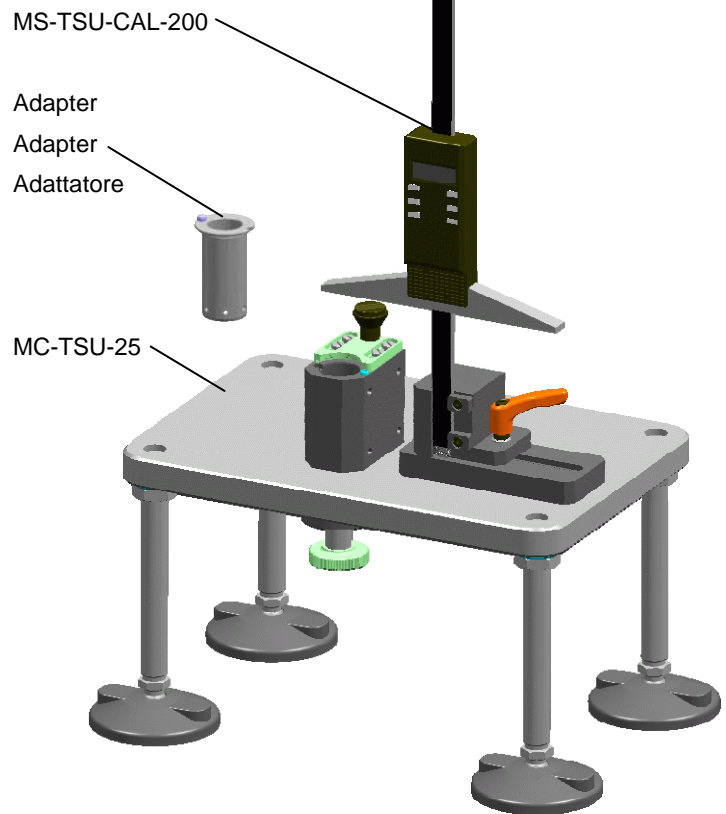
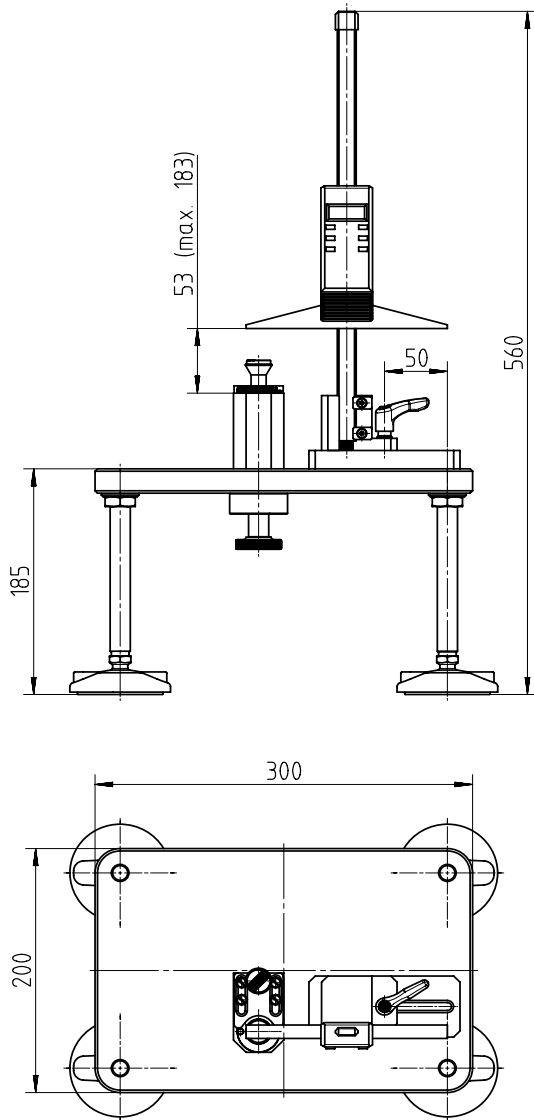
NQ-... Normal Quality



Code	Type	d1	d2	d3	l1	l2	🔑	Übertragbares Drehmoment	Anzugsmoment
								Conferrable torque Coppia trasmissibile	Tightening torque Coppia di spunto
								M1 (Nm)	M2 (Nm)
8995	HydroStar-NQ-15	15	18	46,0	25	39	5	46	5
8933	HydroStar-NQ-5/8"	15,875(5/8")	19	47,0	26	40	5	53	5
8967	HydroStar-NQ-16	16	19	47,0	26	40	5	53	5
8939	HydroStar-NQ-19	19	23	50,5	28	42	5	85	5
8941	HydroStar-NQ-3/4"	19,05(3/4")	23	50,5	28	42	5	85	5
8938	HydroStar-NQ-20	20	24	51,5	30	44	5	110	5
8937	HydroStar-NQ-22	22	27	55,5	32	46	5	130	5
8944	HydroStar-NQ-24	24	29	57,5	33	47	5	190	5
8945	HydroStar-NQ-25	25	30	58,0	35	49	5	230	5
8994	HydroStar-NQ-1"	25,4(1")	31	59,0	35	49	5	190	5
8943	HydroStar-NQ-28	28	34	63,0	38	52	5	280	5
8942	HydroStar-NQ-30	30	36	64,5	40	54	5	380	5
34919	HydroStar-NQ-1 1/4"	31,75(1 1/4")	39	68,5	42	56	5	430	5
8929	HydroStar-NQ-32	32	39	68,5	42	56	5	440	5
8930	HydroStar-NQ-35	35	42	73,0	45	59	5	640	5
8928	HydroStar-NQ-38	38	46	84,5	52	72	8	890	21
8959	HydroStar-NQ-1 1/2"	38,1(1 1/2")	46	84,5	52	72	8	890	21
8926	HydroStar-NQ-40	40	48	86,5	55	75	8	1100	21
8927	HydroStar-NQ-42	42	51	89,0	56	76	8	1100	21
8934	HydroStar-NQ-45	45	54	93,0	58	78	8	1400	21
8935	HydroStar-NQ-48	48	59	97,0	59	79	8	1700	21
8931	HydroStar-NQ-50	50	60	98,5	60	80	8	1900	21
8940	HydroStar-NQ-2"	50,8(2")	61	101,5	60	80	8	1900	21
8932	HydroStar-NQ-55	55	67	106,0	65	85	8	2400	21
8946	HydroStar-NQ-60	60	73	115,5	70	90	8	3300	21
8960	HydroStar-NQ-70	70	85	135,5	85	109	10	5600	39
8961	HydroStar-NQ-80	80	97	145,5	95	119	10	8700	39

Abmessungen in mm | Dimensions in mm | Dimensioni in mm

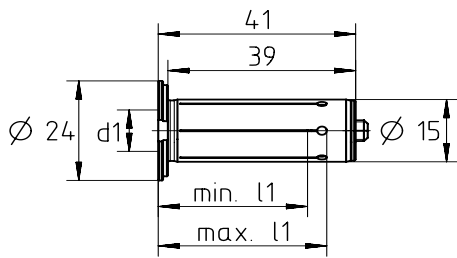
Voreinstellvorrichtung für Spannzangen mit Axialeinstellung | Presetting equipment for collets with axial adjustment
 Dispositivo per preimpostazione di pinze con impostazione assiale




Code	Type	d1	Bemerkung Note Nota
34932	MC-TSU-25-CAL	25	mit incl. MC-TSU-CAL-200
34933	MC-TSU-25	25	ohne without senza MC-TSU-CAL-200
34934	MC-TSU-CAL-200	-	Digital-Messbrücke Digital measuring bridge Ponte di misura digitale
34935	MC-TSU-A15	15	Adapter adattatore für per Ø15 (auf Anfrage on request su richiesta)
34936	MC-TSU-A20	20	Adapter adattatore für per Ø20

MC-...-S

Spannzangen Ø15, kurz | Collets Ø15, short | Pinze Ø15, corto

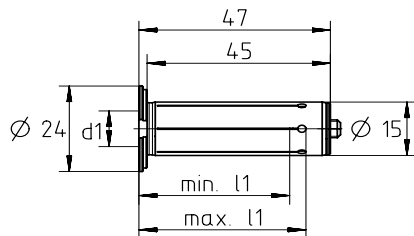



Code	Type	d1	l1		s1	s2	
			min.	max.			
30680	MC-15.03-axial-S	3	27	35	MC-HOL-1305	MC-SCR-0512	MC15
8064	MC-15.04-axial-S	4	27	35	MC-HOL-1305	MC-SCR-0512	MC15
8065	MC-15.05-axial-S	5	27	35	MC-HOL-1305	MC-SCR-0512	MC15
8061	MC-15.06-axial-S	6	27	35	MC-HOL-1305	MC-SCR-0512	MC15
8070	MC-15.08-axial-S	8	27	35	MC-HOL-1305	MC-SCR-0512	MC15
8066	MC-15.10-axial-S	10	31	35	MC-HOL-1305	MC-SCR-0508	MC15
8054	MC-15.12-axial-S	12	31	35	MC-HOL-1305	MC-SCR-0508	MC15

Abmessungen in mm | Dimensions in mm | Dimensioni in mm

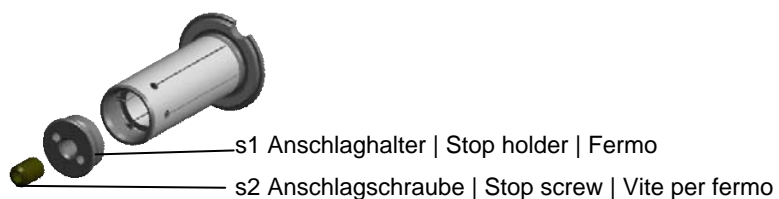
MC-...-L

Spannzangen Ø15, lang | Collets Ø15, long | Pinze Ø15, lungo



Code	Type	d1	l1		s1	s2	
			min.	max.			
8063	MC-15.06-axial-L	6	33	41	MC-HOL-1305	MC-SCR-0512	MC15
8069	MC-15.08-axial-L	8	33	41	MC-HOL-1305	MC-SCR-0512	MC15
8068	MC-15.10-axial-L	10	37	41	MC-HOL-1305	MC-SCR-0508	MC15
8067	MC-15.12-axial-L	12	37	41	MC-HOL-1305	MC-SCR-0508	MC15

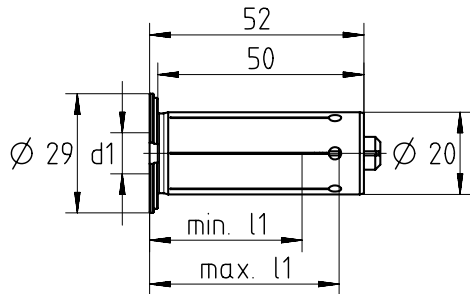
Abmessungen in mm | Dimensions in mm | Dimensioni in mm




Sonderabmessungen auf Anfrage | Special dimensions on request | Misure speciale su richiesta

Lieferumfang: ohne Demontageschlüssel | Delivery: without disassembling key | Consegna: senza chiave

MC Spannzangen Ø20 | Collets Ø20 | Pinze Ø20



Code	Type	d1	l1		s1	s2	
			min.	max.			
8051	MC-20.03-axial	3,0	27	34	MC-HOL-1608	MC-SCR-0816	MC20
8052	MC-20.035-axial	3,5	27	34	MC-HOL-1608	MC-SCR-0816	MC20
8059	MC-20.04-axial	4,0	27	34	MC-HOL-1608	MC-SCR-0816	MC20
31476	MC-20.045-axial	4,5	27	34	MC-HOL-1608	MC-SCR-0816	MC20
8056	MC-20.05-axial	5,0	27	34	MC-HOL-1608	MC-SCR-0816	MC20
8085	MC-20.06-axial	6,0	35	46	MC-HOL-1608	MC-SCR-0816	MC20
8083	MC-20.07-axial	7,0	35	46	MC-HOL-1608	MC-SCR-0816	MC20
8087	MC-20.08-axial	8,0	35	46	MC-HOL-1608	MC-SCR-0816	MC20
8074	MC-20.09-axial	9,0	36	46	MC-HOL-1608	MC-SCR-0816	MC20
8081	MC-20.10-axial	10,0	36	46	MC-HOL-1608	MC-SCR-0816	MC20
31688	MC-20.11-axial	11,0	36	46	MC-HOL-1608	MC-SCR-0816	MC20
8078	MC-20.12-axial	12,0	36	46	MC-HOL-1608	MC-SCR-0816	MC20
8022	MC-20.13-axial	13,0	36	46	MC-HOL-1608	MC-SCR-0816	MC20
8021	MC-20.14-axial	14,0	36	46	MC-HOL-1608	MC-SCR-0816	MC20
8019	MC-20.15-axial	15,0	36	46	MC-HOL-1608	MC-SCR-0816	MC20
8027	MC-20.16-axial	16,0	36	46	MC-HOL-1608	MC-SCR-0816	MC20
33197	MC-20.17-axial	17,0	36	46	MC-HOL-1608	MC-SCR-0816	MC20
8026	MC-20.18-axial	18,0	36	46	MC-HOL-1608	MC-SCR-0816	MC20

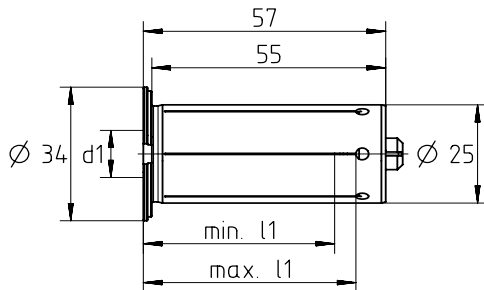
Abmessungen in mm | Dimensions in mm | Dimensioni in mm




Sonderabmessungen auf Anfrage | Special dimensions on request | Misure speciale su richiesta

Lieferumfang: ohne Demontageschlüssel | Delivery: without disassembling key | Consegna: senza chiave

MC Spannzangen Ø25 | Collets Ø25 | Pinze Ø25



Code	Type	d1	l1		s1	s2	
			min.	max.			
8009	MC-25.06-axial	6	36	44	MC-HOL-2308	MC-SCR-0816	MC25
31030	MC-25.07-axial	7	36	44	MC-HOL-2308	MC-SCR-0816	MC25
8016	MC-25.08-axial	8	36	44	MC-HOL-2308	MC-SCR-0816	MC25
8015	MC-25.09-axial	9	40	44	MC-HOL-2308	MC-SCR-0816	MC25
8043	MC-25.10-axial	10	40	44	MC-HOL-2308	MC-SCR-0816	MC25
8042	MC-25.11-axial	11	40	44	MC-HOL-2308	MC-SCR-0816	MC25
8041	MC-25.12-axial	12	45	50	MC-HOL-2308	MC-SCR-0816	MC25
33198	MC-25.13-axial	13	45	50	MC-HOL-2308	MC-SCR-0816	MC25
8049	MC-25.14-axial	14	45	50	MC-HOL-2308	MC-SCR-0816	MC25
8045	MC-25.15-axial	15	45	50	MC-HOL-2308	MC-SCR-0816	MC25
8046	MC-25.16-axial	16	48	50	MC-HOL-2308	MC-SCR-0816	MC25
33199	MC-25.17-axial	17	48	50	MC-HOL-2308	MC-SCR-0816	MC25
8033	MC-25.18-axial	18	48	50	MC-HOL-2308	MC-SCR-0816	MC25
33200	MC-25.19-axial	19	48	50	MC-HOL-2308	MC-SCR-0816	MC25
8032	MC-25.20-axial	20	50	50	MC-HOL-2308	MC-SCR-0816	MC25

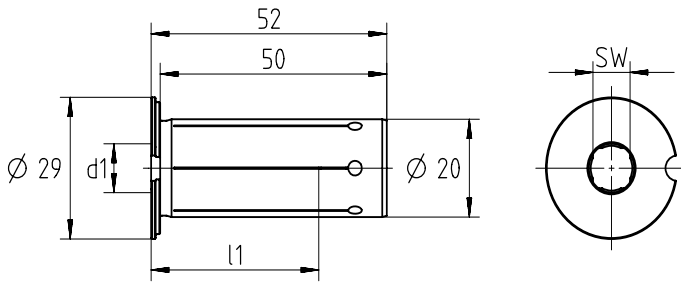
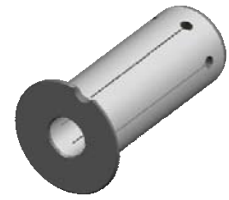
Abmessungen in mm | Dimensions in mm | Dimensioni in mm




Sonderabmessungen auf Anfrage | Special dimensions on request | Misure speciale su richiesta

Lieferumfang: ohne Demontageschlüssel | Delivery: without disassembling key | Consegna: senza chiave

MCT-20 Gewindebohrer-Spannzange Ø20 | Tapping collet Ø20 | Pinze per maschiatura Ø20



Code	Type	d1	l1	SW	s1	
32436	MCT-20.06-SW4,9	6	35	4,9	MC-HOL20-4,9	MC20
32867	MCT-20.07-SW5,5	7	35	5,5	MC-HOL20-5,5	MC20
32868	MCT-20.08-SW6,2	8	35	6,2	MC-HOL20-6,2	MC20
32869	MCT-20.09-SW7,0	9	37	7,0	MC-HOL20-7,0	MC20
33208	MCT-20.10-SW8,0	10	37	8,0	MC-HOL20-8,0	MC20
33209	MCT-20.12-SW9,0	12	37	9,0	MC-HOL20-9,0	MC20

Abmessungen in mm | Dimensions in mm | Dimensioni in mm

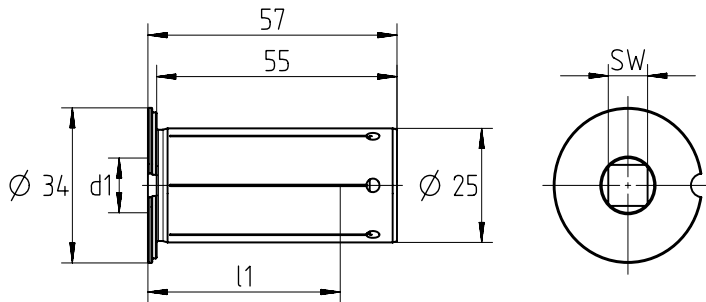



Sonderabmessungen auf Anfrage | Special dimensions on request | Misure speciale su richiesta

Lieferumfang: ohne Demontageschlüssel | Delivery: without disassembling key | Consegna: senza chiave

MCT-25

Gewindebohrer-Spannzange Ø25 | Tapping collet Ø25 | Pinze per maschiatura Ø25



Code	Type	d1	l1	SW	s1	
33213	MCT-25.06-SW4,9	6	44	4,9	MC-HOL25-4,9	MC25
33214	MCT-25.07-SW5,5	7	44	5,5	MC-HOL25-5,5	MC25
33215	MCT-25.08-SW6,2	8	44	6,2	MC-HOL25-6,2	MC25
33216	MCT-25.09-SW7,0	9	44	7,0	MC-HOL25-7,0	MC25
33217	MCT-25.10-SW8,0	10	44	8,0	MC-HOL25-8,0	MC25
33218	MCT-25.11-SW9,0	11	44	9,0	MC-HOL25-9,0	MC25
33219	MCT-25.12-SW9,0	12	50	9,0	MC-HOL25-9,0	MC25
33220	MCT-25.14-SW11,0	14	50	11,0	MC-HOL25-11,0	MC25
33221	MCT-25.16-SW12,0	16	50	12,0	MC-HOL25-12,0	MC25
33222	MCT-25.18-SW14,5	18	50	14,5	MC-HOL25-14,5	MC25
33223	MCT-25.20-SW16,0	20	50	16,0	MC-HOL25-16,0	MC25

Abmessungen in mm | Dimensions in mm | Dimensioni in mm



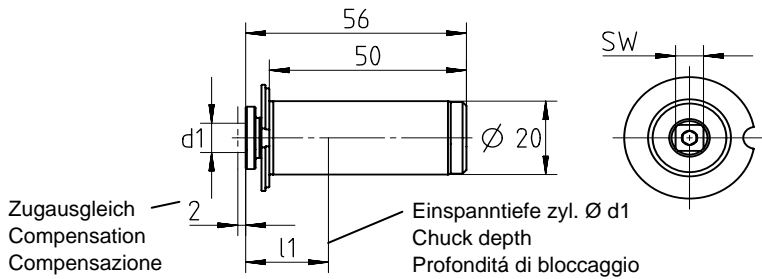
s1 Anschlaghalter | Stop holder | Fermo


Sonderabmessungen auf Anfrage | Special dimensions on request | Misure speciale su richiesta

Lieferumfang: ohne Demontageschlüssel | Delivery: without disassembling key | Consegna: senza chiave

MCTX-20

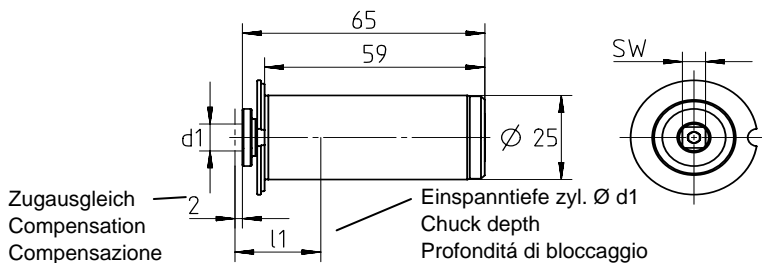
Gewindeschneidfutter mit Zugausgleich | Tapping collet with pulling compensation |
Bussole per maschiare con compensazione assiale




Code	Type	d1	l1		
32742	MCTX-20.035-SW2,7	3,5	20	2,7	MC20
31019	MCTX-20.045-SW3,4	4,5	20	3,4	MC20
31018	MCTX-20.06-SW4,9	6,0	21	4,9	MC20
31020	MCTX-20.07-SW5,5	7,0	21	5,5	MC20
31017	MCTX-20.08-SW6,2	8,0	21	6,2	MC20
31021	MCTX-20.09-SW7,0	9,0	20	7,0	MC20

Abmessungen in mm | Dimensions in mm | Dimensioni in mm

MCTX-25



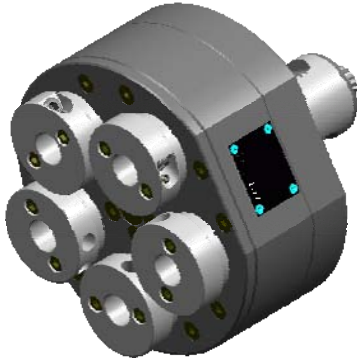
Code	Type	d1	l1		
32743	MCTX-25.035-SW2,7	3,5	20	2,7	MC25
33224	MCTX-25.045-SW3,4	4,5	20	3,4	MC25
31011	MCTX-25.06-SW4,9	6,0	21	4,9	MC25
31012	MCTX-25.07-SW5,5	7,0	21	5,5	MC25
30790	MCTX-25.08-SW6,2	8,0	21	6,2	MC25
31013	MCTX-25.09-SW7,0	9,0	20	7,0	MC25
31014	MCTX-25.10-SW8,0	10,0	25	8,0	MC25
31015	MCTX-25.11-SW9,0	11,0	25	9,0	MC25
31016	MCTX-25.12-SW9,0	12,0	25	9,0	MC25

Abmessungen in mm | Dimensions in mm | Dimensioni in mm

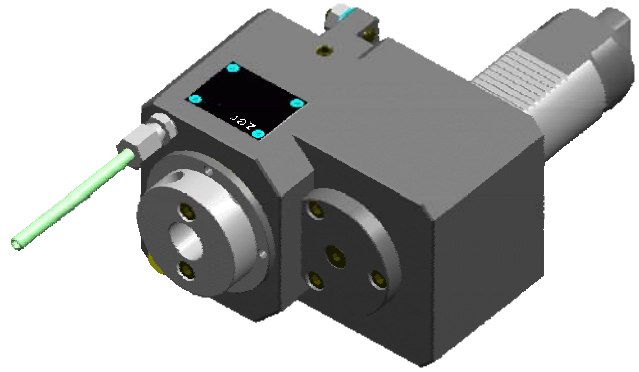
Sonderabmessungen auf Anfrage | Special dimensions on request | Misure speciale su richiesta

Angetriebene Werkzeuge | Driven tools | Utensili motorizzati

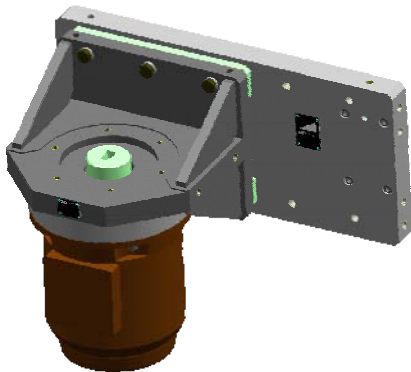
Mehrspindel-Axialbohrkopf
Axial multi spindle head
Testa per foratura assiale



Achsversetzer-Axialkopf
Axial offset drill / milling head
Testa assiale con asse spostata



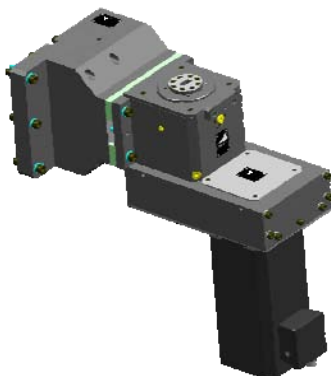
Antriebsadapter
Drive line adapter
Unità di trazione



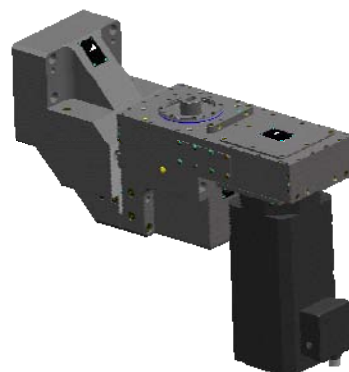
Antriebseinheit (Bohren / Fräsen)
Drill / milling unit
Unità di trazione per fresatura / foratura



Antriebseinheit (Bohren / Fräsen)
Drill / milling unit
Unità di trazione per fresatura / foratura

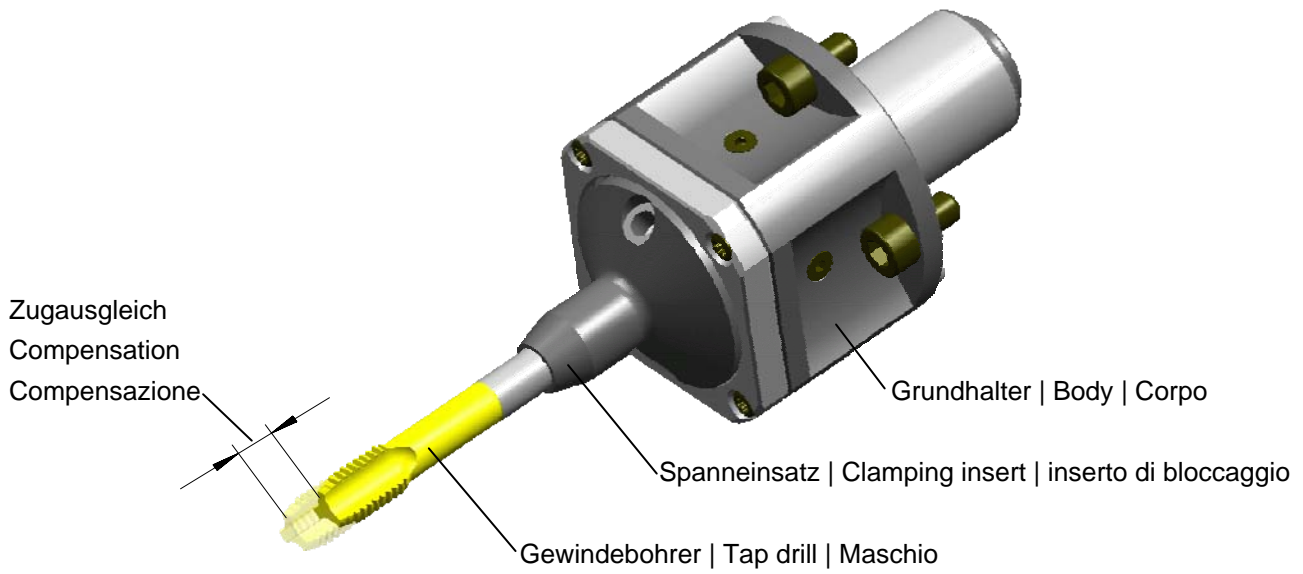


Antriebseinheit (Bohren / Fräsen)
Drill / milling unit
Unità di trazione per fresatura / foratura



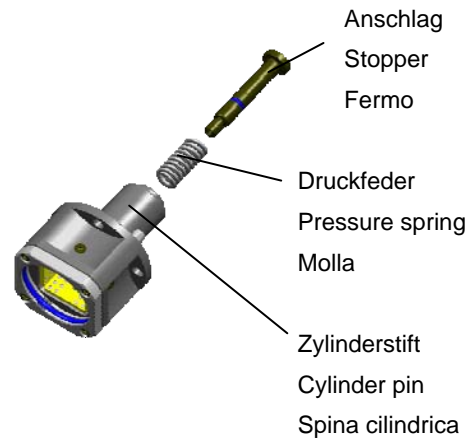
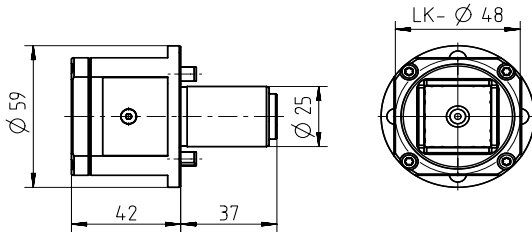
GMZ

Gewindeschneidfutter mit Zugausgleich | Tapping collet with pulling compensation |
Bussole per maschiare con compensazione assiale



GMZ

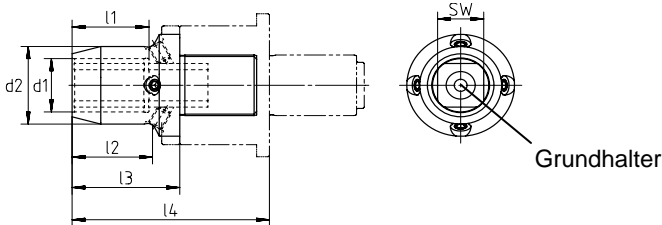
Grundhalter und Spanneinsätze für Gewindebohrer | Body and clamping insert for tap drill
Corpi ed inserti di bloccaggio per maschi



Grundhalter | Body | Corpo

Code	Type	
32726	GMZ-25-59	montiert mit : Anschlag / Druckfeder / Zylinderstift mounted with : stopper / pressure spring / cylinder pin montato con : fermo / molla / spina cilindrica

RED



Spanneinsatz | Clamping insert | inserto di bloccaggio

Code	Type	d1	l1	d2	l2	l3	l4	s	
32730	RED-7-5,5	7	30	13	20,6	37	72	5,5	REDCS-0412 (2x)
34173	RED-8-6,2	8	30	14	20,9	37	72	6,2	REDCS-0412 (2x)
34946	RED-9-7,0	9	30	15	21,2	37	72	7,0	REDCS-0412 (2x)
32013	RED-10-8,0	10	30	16	26,0	38	73	8,0	REDCS-0412 (2x)
34428	RED-11-9,0	11	30	17	22,8	38	73	9,0	REDCS-0412 (2x)
34947	RED-12-9,0	12	30	20	23,6	38	73	9,0	REDCS-0412 (2x)
34948	RED-14-11,0	14	30	22	25,2	39	74	11,0	REDCS-0412 (2x)
34427	RED-16-12,0	16	30	24	26,8	40	75	12,0	REDCS-0412 (4x)
32729	RED-18-14,5	18	30	26	27,4	40	75	14,5	REDCS-0412 (4x)
34949	RED-20-16,0	20	30	30	30,7	42	77	16,0	REDCS-0412 (4x)
31872	RED-22-18,0	22	30	32	31,4	42	77	18,0	REDCS-0412 (4x)

Abmessungen in mm | Dimensions in mm | Dimensioni in mm

Sonderabmessungen auf Anfrage | Special dimensions on request | Misure speciale su richiesta

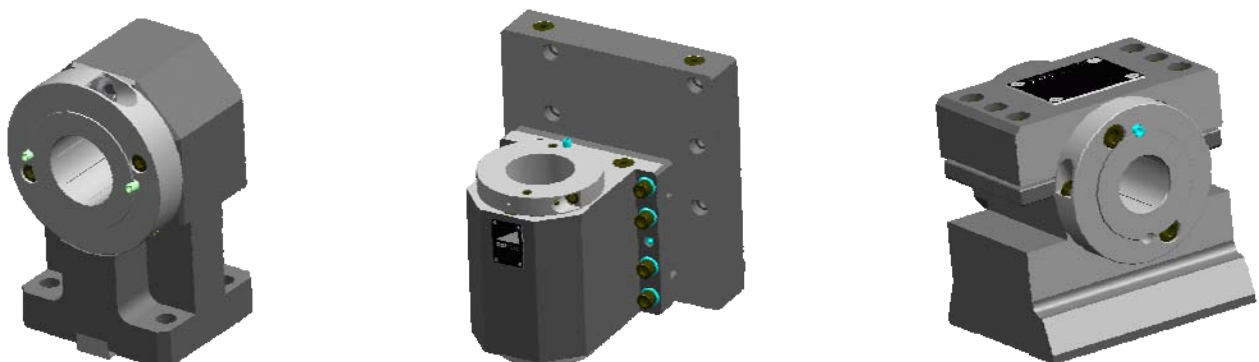
Sonder-Werkzeuge | Special-Tools | Utensili speciali



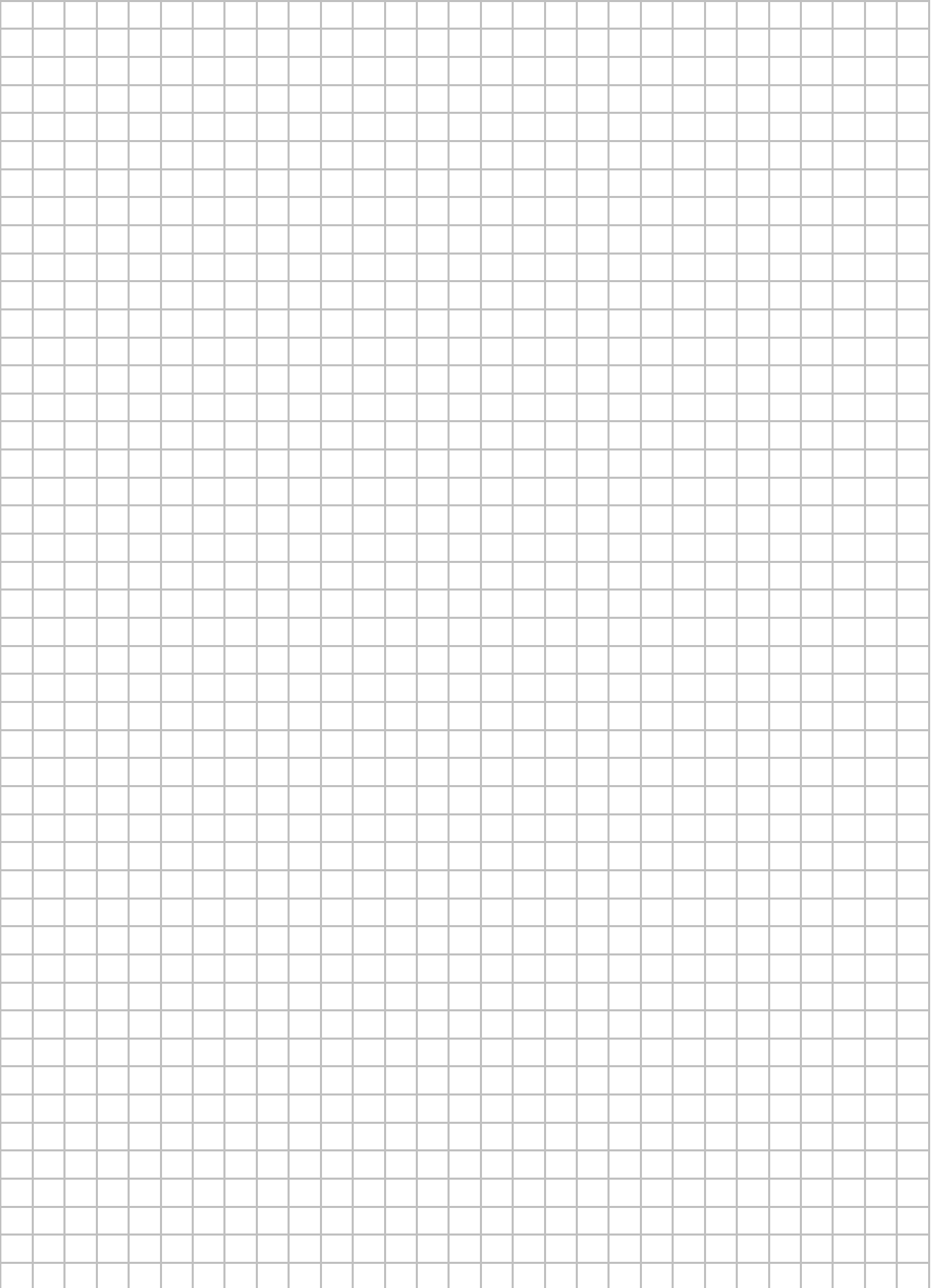
Sonder-Werkzeughalter | Special tool holder | Portautensili speciali



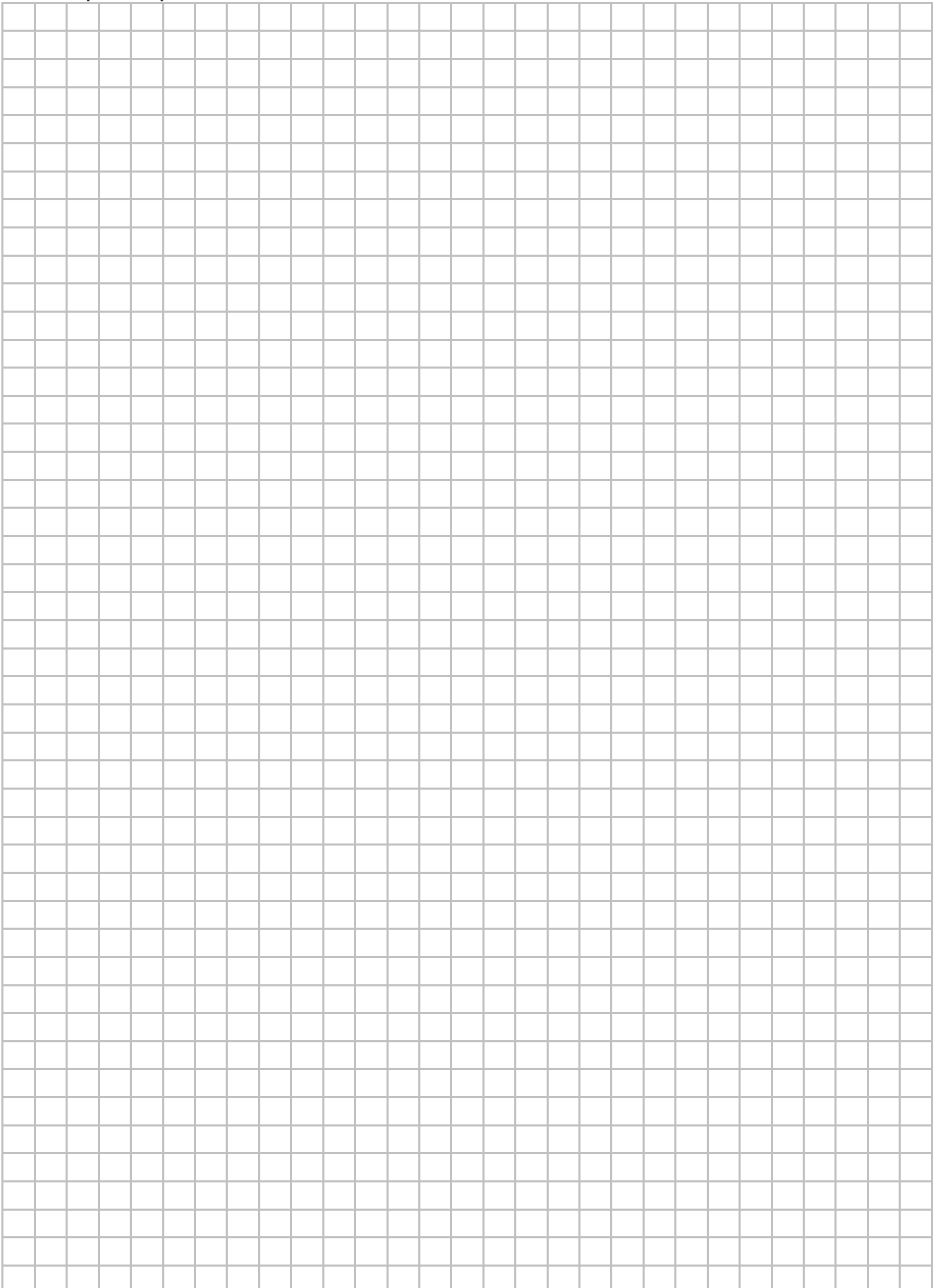
Bohrstangenhalter mit hydraulischer Klemmung HydroStar |
Tool holder for boring bars with hydraulic clamping HydroStar |
Portautensili per barenatura con bloccaggio idraulico HydroStar



Notizen | Notes | Nota



Notizen | Notes | Nota

A large rectangular area filled with a light grey grid pattern, intended for taking notes. The grid is composed of 25 columns and 40 rows of squares.



zermet®



sales agency

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