



PRÄZISION

Span - um Span - Spitze



GESAMT
KATALOG

ERWEITERUNG 2019



ISO-CODES

P	Stahl, hochlegierter Stahl
M	Rostfreier Stahl
K	Grauguss, Sphäroguss und Temperguss
N	Aluminium und andere Nichteisenmetalle
S	Sonder-, Super- und Titanlegierungen
H	Gehärteter Stahl und Hartguss

Auf den Produktseiten finden Sie zu jedem Werkzeug Empfehlungen zur Eignung für die Anwendungsgruppen:

- optimal geeignet
- bedingt geeignet



ARBEITSRICHTWERTE

Die jeweiligen Arbeitsrichtwerte finden Sie in unseren Prospekten SuperV, Tieflochbohrer, SuperF-UT und Gewindewerkzeuge. Gerne unterstützen Sie auch unsere Anwendungstechniker unter +49 30 40903-33 300.



PIKTOGRAMME

SCHNEIDSTOFF	VHM				HM				M42	HSS-E	HSS-Co	HSS-E-PM	HSS	
	Vollhartmetall				Hartmetall									
BESCHICHTUNG	blank	TiAl nano	Al-TiN	TiAl-ZrN	AlTi-ZrN	TiCN	TiAl-SiN	TiN	TiCN	Al-TiN+	Al-CrN	Bronze-VAP	...	
TOLERANZ	e8	h5	h8	h10	H7	js9	m7	ISO2/6H	2BX	4HX	6GX	6HX	6H +0,1	
BOHRTIEFE	2xD	2,5xD	~3xD	5xD	~5xD	8xD	15xD	20xD	25xD	30xD	40xD			
FORM	B	C	D	E										
SCHNEIDRICHTUNG	R		L											
	rechts		links											
SCHAFTFORM	Cyl	~HA	HA	HB	T 3.1	3								
SPITZENWINKEL	120°	130°	135°	140°	90°									
SPIRALWINKEL	0°	35° 38°	36° 38° 37°	38°	38°	38° 40°	39° 40° 41°	45°	40° 42°	48°				
NORM	DIN 335	DIN 338	DIN 1897	DIN 371	DIN 376	DIN 371/376	DIN 2189	DIN 6527 K	DIN 6527 L	DIN 6537 K	DIN 6537 L	NAS 907	...	
	~DIN 371/374	~DIN 371/376	~DIN 374	~DIN 376	WN									
	Werksnorm													
TYP	SuperV-AI	SuperV-IK-U	SuperV-U	SuperV-UX	SuperT-NXL	V16	V18	NX	SuperF-UT N2	SuperF-UT NX-3	SuperF-UT N-5	S	Z	ZS
	Produktiv H	Intensiv H	Produktiv N	Produktiv N-X	Intensiv N-X	Durativ	Durativ N-X	TMSP	NH	N	NL	H	VA	...

Dieser Katalog ergänzt den Gesamtkatalog „Präzisionswerkzeuge“. Die gültige Preisliste zu den einzelnen Werkzeugen kann jederzeit bei uns angefordert werden. Nachdruck, auch auszugsweise, nicht gestattet.

Eventuelle Druckfehler oder zwischenzeitlich eingetretene Änderungen jeder Art berechtigen nicht zu Ansprüchen. Alle mit DIN gekennzeichneten Produkte können abweichend der Maße im Katalog geliefert werden, solange diese der angezeigten DIN-Norm entsprechen.

P	M	K	N	S	H	Typ	Schaftform	Bohrtiefe	Schneidstoff	Oberfläche	Norm	d1/mm	Katalog-Nr.	Progr. Seite
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SuperV-Bohrer ohne Innenkühlung



•		•	○	○	○	SuperV-U	HB	5xD	VHM	TiAlN nano	DIN 6537L	3,000 - 20,000	51687	14
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SuperV-Bohrer mit Innenkühlung



•	○	•	○	○	○	SuperV-IK-U	HB	5xD	VHM	TiAlN nano	DIN 6537L	3,000 - 20,000	51681	16
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			•			SuperV-AI	HA	5xD	VHM	blank	DIN 6537L	3,000 - 20,000	71791	18
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•	○	○	○	○	○	SuperV-UX	HA	5xD	VHM	TiAlN nano	DIN 6537L	3,000 - 20,000	51785	20
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•	○	○	○	○	○	SuperV-UX	HA	8xD	VHM	TiAlN nano	Werksnorm	3,000 - 20,000	51790	22
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•	•	•	○	○		SuperV-T	HA	15xD	VHM	AlTiN	Werksnorm	3,000 - 16,000	51764	24
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•	•	•	○	○		SuperV-T	HA	20xD	VHM	AlTiN	Werksnorm	3,000 - 16,000	51765	25
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•	•	•	○	○		SuperV-T	HA	25xD	VHM	AlTiN	Werksnorm	3,000 - 16,000	51766	26
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•	•	•	○	○		SuperV-T	HA	30xD	VHM	AlTiN	Werksnorm	3,000 - 14,000	51767	27
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•	•	•	○	○		SuperV-T	HA	40xD	VHM	AlTiN	Werksnorm	3,000 - 10,000	51768	28
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Spiralbohrer mit verst. Zylinderschaft



○		○			•	H	HA	~3xD	VHM	AlTiN	DIN 6537K	2,600 - 14,100	51146	29
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Einlippenbohrer SuperT-NXL



•	○	•	•	○	○	SuperT-NXL			HM bestückt	TiN	Werksnorm	5,000 - 25,000	65030	30
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•	○	•	•	○	○	SuperT-NXL			HM bestückt	TiN	Werksnorm	5,000 - 22,000	65031	31
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P	M	K	N	S	H	Typ	Schaftform	Bohrtiefe	Schneidstoff	Oberfläche	Norm	d1/mm	Katalog-Nr.	Progr. Seite
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Einlippenbohrer SuperT-NXL



●	○	●	●	○	○	SuperT-NXL			HM bestückt	TiN	Werksnorm	4,000 - 22,000	65032	32
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●	○	●	●	○	○	SuperT-NXL			HM bestückt	TiN	Werksnorm	5,000 - 22,000	65033	33
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Spiralbohrer extra kurz



○	●	○	○	●		V18	zyl.	~3xD	HSS-Co	AlTiZrN	DIN 1897	1,000 - 13,000	61131	34
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Spiralbohrer kurz



○	●	○	○	●		V18	zyl.	~5xD	HSS-Co	AlTiZrN	DIN 338	1,000 - 13,000	61232	36
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V16-Spiralbohrer



●	●	●	●	●	○	V16	zyl.	~5xD	M42	Bronze-VAP	DIN 338	1,000 - 13,000	71018	37
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V16-Spiralbohrer-Sätze



●	●	●	●	●	○	V16	zyl.	~5xD	M42	Bronze-VAP	DIN 338		71019	39
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V16-Pocket-Satz (Spiralbohrer, Gewindebohrer und Senker)



●	○	○	○	○			zyl.			Werksnorm			71020	40
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P	M	K	N	S	H	Typ	Schaft- form	Bohrtiefe	Schneidstoff	Oberfläche	Norm	d1/mm	Katalog-Nr.	Progr. Seite
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Stangenbohrer, Länge 6 inches



•	•	•	•	•	•	N	zyl.		HSS	blank	NAS 907	1,500 - 8,500	71140	41
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•	•	•	•	•	•	N	zyl.		HSS	nitriert	NAS 907	1,500 - 8,000	71142	42
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Stangenbohrer, Länge 12 inches



•	•	•	•	•	•	N	zyl.		HSS	blank	NAS 907	1,500 - 8,500	71141	43
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•	•	•	•	•	•	N	zyl.		HSS	nitriert	NAS 907	1,500 - 8,000	71143	44
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P	M	K	N	S	H	Typ	Form	Toleranz- klasse	Schneidstoff	Oberfläche	Norm	d1	Katalog-Nr.	Progr. Seite
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Gewindebohrer für Metrische ISO-Gewinde

	•	•	○	○	○	Produktiv N-X	B	6H+0,1	HSS-E	AlTiZrN	DIN 371/ DIN 376	M2 - M30	53737	45
	•	•	○	○	○	Produktiv N-X	B	6GX	HSS-E	AlTiZrN	DIN 371/ DIN 376	M2 - M30	53738	46
	•	•	○	○	○	Produktiv N-X	B	6HX	HSS-E	AlTiZrN	Werksnorm	M3 - M20	53739	47
	•	•	○	○	○	Produktiv N-X	B	6HX	HSS-E-PM	AlTiZrN	DIN 371/ DIN 376	M3 - M20	53735	48
	•	•	○	○	○	Produktiv N-X	B	6HX	HSS-E-PM	AlTiZrN	DIN 371/ DIN 376	M5 - M30	53736	49
	•	•	○	○	○	Intensiv N-X	C	6H+0,1	HSS-E	TiAlN-H	DIN 371/ DIN 376	M2 - M30	53750	50
	•	•	○	○	○	Intensiv N-X	C	6GX	HSS-E	TiAlN-H	DIN 371/ DIN 376	M2 - M30	53751	51
	•	•	○	○	○	Intensiv N-X	C	6HX	HSS-E	TiAlN-H	Werksnorm	M3 - M20	53752	52
	•	•	○	○	○	Intensiv N-X	E	6HX	HSS-E	TiAlN-H	DIN 371/ DIN 376	M2 - M30	53760	53
	•	•	○	○	○	Intensiv N-X	C	6HX	HSS-E-PM	TiAlN-H	DIN 371/ DIN 376	M3 - M20	53748	54
	•	•	○	○	○	Intensiv N-X	C	6HX	HSS-E-PM	TiAlN-H	DIN 371/ DIN 376	M5 - M20	53749	55
	•	•	○	○	○	Produktiv N-X LH	B	6HX	HSS-E	AlTiZrN	DIN 371/ DIN 376	M2 - M30	53734	56
	•	•	○	○	○	Produktiv N-X LH	C	6HX	HSS-E	TiAlN-H	DIN 371/ DIN 376	M2 - M30	53747	57
	•	○	○	○	○	Produktiv N	B	ISO2/6H	HSS-E	TiN	DIN 371/ DIN 376	M3 - M20	63033	58
	•	•	•	○	○	H	C	6HX	HSS-E	TiCN	DIN 376	M16 - M39	53646	59
	•	•	•	○	○	H	C	6HX	HSS-E	TiCN	~DIN 376	M16 - M39	53647	60

P	M	K	N	S	H	Typ	Form	Toleranz- klasse	Schneidstoff	Oberfläche	Norm	d1	Katalog-Nr.	Progr. Seite
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Gewindebohrer für Metrische ISO-Gewinde

	•	•	○	○	○	Produktiv H	B	ISO2/6H	HSS-E-PM	TiCN	DIN 371/ DIN 376	M3 - M16	53640	61
	•	•	○	○	○	Intensiv H	C	ISO2/6H	HSS-E	TiCN	DIN 371/ DIN 376	M2 - M16	53661	62
	•	•	○	○	○	H	D	6HX	HSS-E-PM	TiCN	DIN 371/ DIN 376	M3 - M16	53676	63

Gewindebohrer für Metrische ISO-Feingewinde

	•	•	○	○	○	Produktiv N-X	B	6GX	HSS-E	AlTiZrN	DIN 374	M6 x 0,75 - M24 x 1,5	53779	64
	•	•	○	○	○	Produktiv N-X	B	6HX	HSS-E-PM	AlTiZrN	DIN 374	M8 x 1 - M24 x 1,5	53789	65
	•	•	○	○	○	Produktiv N-X	B	6HX	HSS-E-PM	AlTiZrN	DIN 374	M8 x 1 - M24 x 1,5	53790	66
	•	•	○	○	○	Intensiv N-X	C	6GX	HSS-E	TiAlN-H	DIN 374	M6 x 0,75 - M24 x 1,5	53781	67
	•	•	○	○	○	Intensiv N-X	E	6HX	HSS-E	TiAlN-H	DIN 374	M6 x 0,75 - M24 x 1,5	53770	68
	•	•	○	○	○	Intensiv N-X	C	6HX	HSS-E-PM	TiAlN-H	DIN 374	M8 x 1 - M24 x 1,5	53791	69
	•	•	○	○	○	Intensiv N-X	C	6HX	HSS-E-PM	TiAlN-H	DIN 374	M8 x 1 - M24 x 1,5	53792	70

Gewindebohrer für UNC-Gewinde

	•	•	○	○	○	Produktiv N-X	B	2BX	HSS-E	AlTiZrN	DIN 371/ DIN 376	2 - 56 - 1 - 8	53782	71
	•	•	○	○	○	Intensiv N-X	C	2BX	HSS-E	TiAlN-H	DIN 371/ DIN 376	2 - 56 - 1 - 8	53783	72

Gewindebohrer für UNF-Gewinde

	•	•	○	○	○	Produktiv N-X	B	2BX	HSS-E	AlTiZrN	~DIN 371/ ~DIN 374	2 - 64 - 1 - 12	53784	73
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P	M	K	N	S	H	Typ	Form	Toleranz- klasse	Schneidstoff	Oberfläche	Norm	d1	Katalog-Nr.	Progr. Seite
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Gewindebohrer für UNF-Gewinde



•	•	○	○	○		Intensiv N-X	C	2BX	HSS-E	TiAIN-H	~DIN 371/ ~DIN 374	2 - 64 - 1 - 12	53785	74
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Gewindebohrer für Whitworth-Rohrgewinde



•	•	○	○	○		Intensiv N-X	E		HSS-E	TiAIN-H	DIN 5156	G1/16 - G1	53775	75
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Gewindeformer für Metrische ISO-Gewinde



•	•	•	○	•		Durativ N-X	C	4HX/6HX	HSS-E-PM	TiCN	~DIN 371/ ~DIN 376	M1 - M20	53630	76
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•	•	•	○	•		Durativ N-X	C	6GX	HSS-E-PM	TiCN	~DIN 371/ ~DIN 376	M2 - M20	53631	77
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Gewindeformer für Metrische ISO-Feingewinde



•	•	•	○	•		Durativ N-X	C	6HX	HSS-E-PM	TiCN	~DIN 374	M8 x 1 - M20 x 1,5	53632	78
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Gewindeformer für UNC-Gewinde



•	•	•	○	•		Durativ N-X	C	2BX	HSS-E-PM	TiCN	~DIN 371/ ~DIN 376	4 - 40 - 3/4 - 10	53633	79
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Gewindeformer für UNF-Gewinde



•	•	•	○	•		Durativ N-X	C	2BX	HSS-E-PM	TiCN	~DIN 371/ ~DIN 374	4 - 48 - 3/4 - 16	53634	80
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Gewindeformer für Whitworth-Rohrgewinde



•	•	•	○	•		Durativ N-X	C		HSS-E-PM	TiCN	DIN 2189	G1/8 - G1/2	53635	81
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Kühlkanal-Gewindeformer für Metr. ISO-Gewinde



•	•	•	○	•		Durativ N-X	C	6HX	HSS-E-PM	TiCN	~DIN 371/ ~DIN 376	M5 - M20	53610	82
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Kühlkanal-Gewindeformer für Metr. ISO-Gewinde



•	•	•	○	•		Durativ N-X	E	6HX	HSS-E-PM	TiCN	~DIN 371	M2 - M20	53618	83
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Kühlkanal-Gewindeformer für Metr. ISO-Feingewinde



•	•	•	○	•		Durativ N-X	C	6HX	HSS-E-PM	TiCN	~DIN 374	M8 x 1 - M20 x 1,5	53612	84
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•	•	•	○	•		Durativ N-X	E	6HX	HSS-E-PM	TiCN	~DIN 374	M8 x 1 - M20 x 1,5	53619	85
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Gewindefräser ohne Senkfase für Metr. ISO-Gewinde



•	•	•	•	•	≤ 55	TMU SP			VHM	TiCN	Werksnorm	≥ 10 - ≥ 30	73830	86
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•	○	•	•	○	≤ 55	TM SP			VHM	TiCN	Werksnorm	M6 - M20	53860	87
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Gewindefräser mit Senkfase für Metrische ISO-Gewinde



•	•	•	○	○		TMC-NX SP			VHM	AlCrN	Werksnorm	M3 - M16 x 1,5	53890	88
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Mikro-Gewindefräser für Metrische ISO-Gewinde



•	•	•	•	•		TM SP			VHM	TiCN	Werksnorm	M1,6 - M16	53840	89
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•	•	•	○	•		TM SP			VHM	TiAlN	Werksnorm	M2 - M12	53850	90
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•	•	•	•	•	≤ 55	MTM-NX SP			VHM	TiCN	Werksnorm	M1,6 - M20	53892	91
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P	M	K	N	S	H	Typ	Schaftform	Schneidstoff	Oberfläche	Norm	d1/mm	Katalog-Nr.	Progr. Seite
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SuperF-UT-Fräser N2



•	○	•	•	○	○	SuperF-UT N2	HB	VHM	TiAlZrN	DIN 6527L	3,000 - 25,000	64552	92
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SuperF-UT-Fräser NL



•	•	•	•	•	•	SuperF-UT NL	HB	VHM	TiAlN	Werksnorm	6,000 - 25,000	54553	93
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SuperF-UT-Fräser N-r



•	○	•	•	•	•	SuperF-UT N-r	HB	VHM	AlCrN	DIN 6527L	3,000 - 20,000	54550	94
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SuperF-UT-Fräser N-5



•	•	•	•	•	•	SuperF-UT N-5	HA	VHM	TiAlN	Werksnorm	4,000 - 20,000	54583	95
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•	•	•	•	•	•	SuperF-UT N-5	HB	VHM	TiAlN	Werksnorm	4,000 - 20,000	54584	96
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SuperF-UT-Fräser NX-3



•	•	•	•	•	•	SuperF-UT NX-3	HA	VHM	TiAlSiN	Werksnorm	3,000 - 20,000	54586	97
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•	•	•	•	•	•	SuperF-UT NX-3	HB	VHM	TiAlSiN	Werksnorm	3,000 - 20,000	54587	98
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SuperF-UT-Fräser NX



•	•	•	•	•	•	SuperF-UT NX	HA	VHM	TiAlSiN	DIN 6527K	3,000 - 20,000	54588	99
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•	•	•	•	•	•	SuperF-UT NX	HB	VHM	TiAlSiN	DIN 6527K	3,000 - 20,000	54589	100
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SuperF-UT-Fräser Z



•	•	•	•	•	•	SuperF-UT Z	HB	VHM	AlTiN+	Werksnorm	3,000 - 20,000	54577	101
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P	M	K	N	S	H	Typ	Schaftform	Schneidstoff	Oberfläche	Norm	d1/mm	Katalog-Nr.	Progr. Seite
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SuperF-UT-Fräser ZS

						SuperF-UT ZS	HA	VHM	AlTiN+	Werksnorm	3,000 - 20,000	54582	102
						SuperF-UT ZS	HB	VHM	AlTiN+	Werksnorm	3,000 - 20,000	54578	103

SuperF-UT-Fräser S

						SuperF-UT S	HA	VHM	TiAlN	DIN 6527L	3,000 - 20,000	54556	104
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SuperF-UT-Fräser VA-r

						SuperF-UT VA-r	HB	VHM	TiAlSiN	DIN 6527L	3,000 - 20,000	54542	105
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SuperF-UT-Fräser N2, Sätze

						SuperF-UT N2	HB	VHM	TiAlZrN	DIN 6527L		78883	106
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SuperF-UT-Fräser Z, Sätze

						SuperF-UT Z	HB	VHM	AlTiN+	Werksnorm		78882	107
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Kopierfräser mit Torusanschliff

						H	HA	VHM	TiAlSiN	Werksnorm	1,000 - 16,000	54304	108
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P	M	K	N	S	H	Typ	Schaftform	Schneidstoff	Oberfläche	Norm	d1/mm	Katalog-Nr.	Progr. Seite
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Kopierfräser mit Torusanschliff



○	●	●	○	●	●	H	HA	VHM	TiAlSiN	Werksnorm	1,000 - 16,000	54305	109
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●	●	●	○	●	○	NH	HA	VHM	TiAlSiN	Werksnorm	0,500 - 12,000	54302	110
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Entgratfräser 90°



●	●	●	●	●		SuperAF-90	HB	VHM	TiAlZrN	Werksnorm	6,000 - 20,000	53399	111
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P	M	K	N	S	H	Typ	Schaftform	Schneidstoff	Oberfläche	Norm	d1/mm	Katalog-Nr.	Progr. Seite
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VHM-Hochleistungs-Reibahlen



•	•	○	•	•	•	SuperR-HS-KS	HA	VHM	AlTiN nano	Werksnorm	14,000 - 42,000	72874	112
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•	•	○	•	•	•	SuperR-HS-KD	HA	VHM	AlTiN nano	Werksnorm	14,000 - 42,000	72875	113
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Kegelsenker 90°, spiralisiert



•	•	•	○	○	•	V-NX	zyl.	HSCO	AlTiN	DIN 335	6,300 - 31,000	52348	114
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•	•	•	○	○	•	V-NX	3-Flächen	HSCO	AlTiN	DIN 335	6,300 - 31,000	52350	115
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Kegelsenkersätze 90°, spiralisiert



•	•	•	○	○	•	V-NX	zyl.	HSCO	AlTiN	DIN 335		52398	116
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•	•	•	○	○	•	V-NX	3-Flächen	HSCO	AlTiN	DIN 335		52399	117
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SuperV-Bohrer

SuperV-Bohrer ohne Innenkühlung

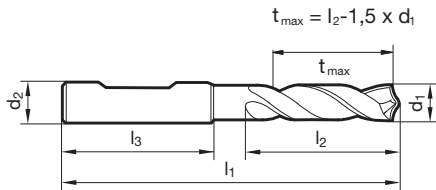


Katalog-Nr. 51687



P	M	K	N	S	H
●		●	○	○	○

- Flächenanschliff
- Hauptschneidenform gerade
- optimierte Schneidengeometrie



d1 mm	d2 mm	l1 mm	l2 mm	l3 mm	d1 mm	d2 mm	l1 mm	l2 mm	l3 mm
3,000	6,000	66,000	28,000	36,000	6,600	8,000	91,000	53,000	36,000
3,100	6,000	66,000	28,000	36,000	6,700	8,000	91,000	53,000	36,000
3,170	6,000	66,000	28,000	36,000	6,750	8,000	91,000	53,000	36,000
3,200	6,000	66,000	28,000	36,000	6,800	8,000	91,000	53,000	36,000
3,250	6,000	66,000	28,000	36,000	6,900	8,000	91,000	53,000	36,000
3,300	6,000	66,000	28,000	36,000	7,000	8,000	91,000	53,000	36,000
3,400	6,000	66,000	28,000	36,000	7,100	8,000	91,000	53,000	36,000
3,500	6,000	66,000	28,000	36,000	7,140	8,000	91,000	53,000	36,000
3,570	6,000	66,000	28,000	36,000	7,200	8,000	91,000	53,000	36,000
3,600	6,000	66,000	28,000	36,000	7,300	8,000	91,000	53,000	36,000
3,700	6,000	66,000	28,000	36,000	7,400	8,000	91,000	53,000	36,000
3,800	6,000	74,000	36,000	36,000	7,500	8,000	91,000	53,000	36,000
3,900	6,000	74,000	36,000	36,000	7,540	8,000	91,000	53,000	36,000
3,970	6,000	74,000	36,000	36,000	7,600	8,000	91,000	53,000	36,000
4,000	6,000	74,000	36,000	36,000	7,700	8,000	91,000	53,000	36,000
4,100	6,000	74,000	36,000	36,000	7,800	8,000	91,000	53,000	36,000
4,200	6,000	74,000	36,000	36,000	7,900	8,000	91,000	53,000	36,000
4,300	6,000	74,000	36,000	36,000	7,940	8,000	91,000	53,000	36,000
4,370	6,000	74,000	36,000	36,000	8,000	8,000	91,000	53,000	36,000
4,400	6,000	74,000	36,000	36,000	8,100	10,000	103,000	61,000	40,000
4,500	6,000	74,000	36,000	36,000	8,200	10,000	103,000	61,000	40,000
4,600	6,000	74,000	36,000	36,000	8,300	10,000	103,000	61,000	40,000
4,650	6,000	74,000	36,000	36,000	8,330	10,000	103,000	61,000	40,000
4,700	6,000	74,000	36,000	36,000	8,400	10,000	103,000	61,000	40,000
4,760	6,000	82,000	44,000	36,000	8,500	10,000	103,000	61,000	40,000
4,800	6,000	82,000	44,000	36,000	8,600	10,000	103,000	61,000	40,000
4,900	6,000	82,000	44,000	36,000	8,700	10,000	103,000	61,000	40,000
5,000	6,000	82,000	44,000	36,000	8,730	10,000	103,000	61,000	40,000
5,100	6,000	82,000	44,000	36,000	8,800	10,000	103,000	61,000	40,000
5,160	6,000	82,000	44,000	36,000	8,900	10,000	103,000	61,000	40,000
5,200	6,000	82,000	44,000	36,000	9,000	10,000	103,000	61,000	40,000
5,300	6,000	82,000	44,000	36,000	9,100	10,000	103,000	61,000	40,000
5,400	6,000	82,000	44,000	36,000	9,130	10,000	103,000	61,000	40,000
5,500	6,000	82,000	44,000	36,000	9,200	10,000	103,000	61,000	40,000
5,550	6,000	82,000	44,000	36,000	9,250	10,000	103,000	61,000	40,000
5,560	6,000	82,000	44,000	36,000	9,300	10,000	103,000	61,000	40,000
5,600	6,000	82,000	44,000	36,000	9,400	10,000	103,000	61,000	40,000
5,700	6,000	82,000	44,000	36,000	9,500	10,000	103,000	61,000	40,000
5,800	6,000	82,000	44,000	36,000	9,520	10,000	103,000	61,000	40,000
5,900	6,000	82,000	44,000	36,000	9,600	10,000	103,000	61,000	40,000
5,950	6,000	82,000	44,000	36,000	9,700	10,000	103,000	61,000	40,000
6,000	6,000	82,000	44,000	36,000	9,800	10,000	103,000	61,000	40,000
6,100	8,000	91,000	53,000	36,000	9,900	10,000	103,000	61,000	40,000
6,200	8,000	91,000	53,000	36,000	9,920	10,000	103,000	61,000	40,000
6,300	8,000	91,000	53,000	36,000	10,000	10,000	103,000	61,000	40,000
6,350	8,000	91,000	53,000	36,000	10,100	12,000	118,000	71,000	45,000
6,400	8,000	91,000	53,000	36,000	10,200	12,000	118,000	71,000	45,000
6,500	8,000	91,000	53,000	36,000	10,300	12,000	118,000	71,000	45,000

d1 mm	d2 mm	l1 mm	l2 mm	l3 mm	d1 mm	d2 mm	l1 mm	l2 mm	l3 mm
10,320	12,000	118,000	71,000	45,000	13,500	14,000	124,000	77,000	45,000
10,400	12,000	118,000	71,000	45,000	13,700	14,000	124,000	77,000	45,000
10,500	12,000	118,000	71,000	45,000	14,000	14,000	124,000	77,000	45,000
10,600	12,000	118,000	71,000	45,000	14,200	16,000	133,000	83,000	48,000
10,700	12,000	118,000	71,000	45,000	14,290	16,000	133,000	83,000	48,000
10,800	12,000	118,000	71,000	45,000	14,500	16,000	133,000	83,000	48,000
10,900	12,000	118,000	71,000	45,000	14,700	16,000	133,000	83,000	48,000
11,000	12,000	118,000	71,000	45,000	15,000	16,000	133,000	83,000	48,000
11,100	12,000	118,000	71,000	45,000	15,200	16,000	133,000	83,000	48,000
11,110	12,000	118,000	71,000	45,000	15,500	16,000	133,000	83,000	48,000
11,200	12,000	118,000	71,000	45,000	15,700	16,000	133,000	83,000	48,000
11,300	12,000	118,000	71,000	45,000	16,000	16,000	133,000	83,000	48,000
11,400	12,000	118,000	71,000	45,000	16,500	18,000	143,000	93,000	48,000
11,500	12,000	118,000	71,000	45,000	17,000	18,000	143,000	93,000	48,000
11,600	12,000	118,000	71,000	45,000	17,500	18,000	143,000	93,000	48,000
11,700	12,000	118,000	71,000	45,000	18,000	18,000	143,000	93,000	48,000
11,800	12,000	118,000	71,000	45,000	18,500	20,000	153,000	101,000	50,000
11,900	12,000	118,000	71,000	45,000	19,000	20,000	153,000	101,000	50,000
11,910	12,000	118,000	71,000	45,000	19,500	20,000	153,000	101,000	50,000
12,000	12,000	118,000	71,000	45,000	20,000	20,000	153,000	101,000	50,000
12,200	14,000	124,000	77,000	45,000					
12,500	14,000	124,000	77,000	45,000					
12,700	14,000	124,000	77,000	45,000					
13,000	14,000	124,000	77,000	45,000					

SuperV-Bohrer

SuperV-Bohrer mit Innenkühlung

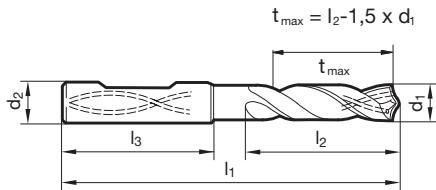


Katalog-Nr. 51681



P	M	K	N	S	H
●	○	●	○	○	○

- Flächenanschliff
- Hauptschneidenform gerade
- optimierte Schneidengeometrie



d1 mm	d2 mm	l1 mm	l2 mm	l3 mm	d1 mm	d2 mm	l1 mm	l2 mm	l3 mm
3,000	6,000	66,000	28,000	36,000	6,700	8,000	91,000	53,000	36,000
3,100	6,000	66,000	28,000	36,000	6,750	8,000	91,000	53,000	36,000
3,170	6,000	66,000	28,000	36,000	6,800	8,000	91,000	53,000	36,000
3,200	6,000	66,000	28,000	36,000	6,900	8,000	91,000	53,000	36,000
3,250	6,000	66,000	28,000	36,000	7,000	8,000	91,000	53,000	36,000
3,300	6,000	66,000	28,000	36,000	7,100	8,000	91,000	53,000	36,000
3,400	6,000	66,000	28,000	36,000	7,140	8,000	91,000	53,000	36,000
3,500	6,000	66,000	28,000	36,000	7,200	8,000	91,000	53,000	36,000
3,570	6,000	66,000	28,000	36,000	7,300	8,000	91,000	53,000	36,000
3,600	6,000	66,000	28,000	36,000	7,400	8,000	91,000	53,000	36,000
3,700	6,000	66,000	28,000	36,000	7,500	8,000	91,000	53,000	36,000
3,800	6,000	74,000	36,000	36,000	7,540	8,000	91,000	53,000	36,000
3,900	6,000	74,000	36,000	36,000	7,600	8,000	91,000	53,000	36,000
3,970	6,000	74,000	36,000	36,000	7,700	8,000	91,000	53,000	36,000
4,000	6,000	74,000	36,000	36,000	7,800	8,000	91,000	53,000	36,000
4,100	6,000	74,000	36,000	36,000	7,900	8,000	91,000	53,000	36,000
4,200	6,000	74,000	36,000	36,000	7,940	8,000	91,000	53,000	36,000
4,300	6,000	74,000	36,000	36,000	8,000	8,000	91,000	53,000	36,000
4,370	6,000	74,000	36,000	36,000	8,100	10,000	103,000	61,000	40,000
4,400	6,000	74,000	36,000	36,000	8,200	10,000	103,000	61,000	40,000
4,500	6,000	74,000	36,000	36,000	8,300	10,000	103,000	61,000	40,000
4,600	6,000	74,000	36,000	36,000	8,330	10,000	103,000	61,000	40,000
4,650	6,000	74,000	36,000	36,000	8,400	10,000	103,000	61,000	40,000
4,700	6,000	74,000	36,000	36,000	8,500	10,000	103,000	61,000	40,000
4,760	6,000	82,000	44,000	36,000	8,600	10,000	103,000	61,000	40,000
4,800	6,000	82,000	44,000	36,000	8,700	10,000	103,000	61,000	40,000
4,900	6,000	82,000	44,000	36,000	8,730	10,000	103,000	61,000	40,000
5,000	6,000	82,000	44,000	36,000	8,800	10,000	103,000	61,000	40,000
5,100	6,000	82,000	44,000	36,000	8,900	10,000	103,000	61,000	40,000
5,160	6,000	82,000	44,000	36,000	9,000	10,000	103,000	61,000	40,000
5,200	6,000	82,000	44,000	36,000	9,100	10,000	103,000	61,000	40,000
5,300	6,000	82,000	44,000	36,000	9,130	10,000	103,000	61,000	40,000
5,400	6,000	82,000	44,000	36,000	9,200	10,000	103,000	61,000	40,000
5,500	6,000	82,000	44,000	36,000	9,250	10,000	103,000	61,000	40,000
5,560	6,000	82,000	44,000	36,000	9,300	10,000	103,000	61,000	40,000
5,600	6,000	82,000	44,000	36,000	9,400	10,000	103,000	61,000	40,000
5,700	6,000	82,000	44,000	36,000	9,500	10,000	103,000	61,000	40,000
5,800	6,000	82,000	44,000	36,000	9,520	10,000	103,000	61,000	40,000
5,900	6,000	82,000	44,000	36,000	9,600	10,000	103,000	61,000	40,000
5,950	6,000	82,000	44,000	36,000	9,700	10,000	103,000	61,000	40,000
6,000	6,000	82,000	44,000	36,000	9,800	10,000	103,000	61,000	40,000
6,100	8,000	91,000	53,000	36,000	9,900	10,000	103,000	61,000	40,000
6,200	8,000	91,000	53,000	36,000	9,920	10,000	103,000	61,000	40,000
6,300	8,000	91,000	53,000	36,000	10,000	10,000	103,000	61,000	40,000
6,350	8,000	91,000	53,000	36,000	10,100	12,000	118,000	71,000	45,000
6,400	8,000	91,000	53,000	36,000	10,200	12,000	118,000	71,000	45,000
6,500	8,000	91,000	53,000	36,000	10,300	12,000	118,000	71,000	45,000
6,600	8,000	91,000	53,000	36,000	10,320	12,000	118,000	71,000	45,000

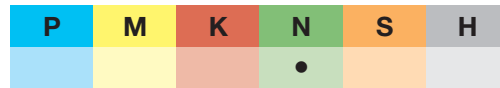
d1 mm	d2 mm	l1 mm	l2 mm	l3 mm	d1 mm	d2 mm	l1 mm	l2 mm	l3 mm
10,400	12,000	118,000	71,000	45,000	13,700	14,000	124,000	77,000	45,000
10,500	12,000	118,000	71,000	45,000	14,000	14,000	124,000	77,000	45,000
10,600	12,000	118,000	71,000	45,000	14,200	16,000	133,000	83,000	48,000
10,700	12,000	118,000	71,000	45,000	14,290	16,000	133,000	83,000	48,000
10,800	12,000	118,000	71,000	45,000	14,500	16,000	133,000	83,000	48,000
10,900	12,000	118,000	71,000	45,000	14,700	16,000	133,000	83,000	48,000
11,000	12,000	118,000	71,000	45,000	15,000	16,000	133,000	83,000	48,000
11,100	12,000	118,000	71,000	45,000	15,200	16,000	133,000	83,000	48,000
11,110	12,000	118,000	71,000	45,000	15,500	16,000	133,000	83,000	48,000
11,200	12,000	118,000	71,000	45,000	15,700	16,000	133,000	83,000	48,000
11,300	12,000	118,000	71,000	45,000	16,000	16,000	133,000	83,000	48,000
11,400	12,000	118,000	71,000	45,000	16,500	18,000	143,000	93,000	48,000
11,500	12,000	118,000	71,000	45,000	17,000	18,000	143,000	93,000	48,000
11,600	12,000	118,000	71,000	45,000	17,500	18,000	143,000	93,000	48,000
11,700	12,000	118,000	71,000	45,000	18,000	18,000	143,000	93,000	48,000
11,800	12,000	118,000	71,000	45,000	18,500	20,000	153,000	101,000	50,000
11,900	12,000	118,000	71,000	45,000	19,000	20,000	153,000	101,000	50,000
11,910	12,000	118,000	71,000	45,000	19,050	20,000	153,000	101,000	50,000
12,000	12,000	118,000	71,000	45,000	19,500	20,000	153,000	101,000	50,000
12,200	14,000	124,000	77,000	45,000	20,000	20,000	153,000	101,000	50,000
12,500	14,000	124,000	77,000	45,000					
12,700	14,000	124,000	77,000	45,000					
13,000	14,000	124,000	77,000	45,000					
13,500	14,000	124,000	77,000	45,000					

SuperV-Bohrer

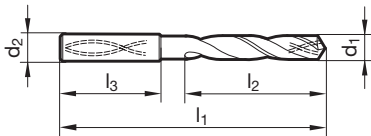
SuperV-Bohrer mit Innenkühlung



Katalog-Nr. 71791



- Kegelmantelanschliff
- Hauptschneidenform leicht konkav
- optimierte Schneidengeometrie
- scharfes Schnittverhalten



d1 mm	d2 mm	l1 mm	l2 mm	l3 mm	d1 mm	d2 mm	l1 mm	l2 mm	l3 mm
3,000	6,000	66,000	28,000	36,000	6,600	8,000	91,000	53,000	36,000
3,100	6,000	66,000	28,000	36,000	6,700	8,000	91,000	53,000	36,000
3,170	6,000	66,000	28,000	36,000	6,750	8,000	91,000	53,000	36,000
3,200	6,000	66,000	28,000	36,000	6,800	8,000	91,000	53,000	36,000
3,250	6,000	66,000	28,000	36,000	6,900	8,000	91,000	53,000	36,000
3,300	6,000	66,000	28,000	36,000	7,000	8,000	91,000	53,000	36,000
3,400	6,000	66,000	28,000	36,000	7,100	8,000	91,000	53,000	36,000
3,500	6,000	66,000	28,000	36,000	7,140	8,000	91,000	53,000	36,000
3,570	6,000	66,000	28,000	36,000	7,200	8,000	91,000	53,000	36,000
3,600	6,000	66,000	28,000	36,000	7,300	8,000	91,000	53,000	36,000
3,700	6,000	66,000	28,000	36,000	7,400	8,000	91,000	53,000	36,000
3,800	6,000	74,000	36,000	36,000	7,500	8,000	91,000	53,000	36,000
3,900	6,000	74,000	36,000	36,000	7,540	8,000	91,000	53,000	36,000
3,970	6,000	74,000	36,000	36,000	7,600	8,000	91,000	53,000	36,000
4,000	6,000	74,000	36,000	36,000	7,700	8,000	91,000	53,000	36,000
4,100	6,000	74,000	36,000	36,000	7,800	8,000	91,000	53,000	36,000
4,200	6,000	74,000	36,000	36,000	7,900	8,000	91,000	53,000	36,000
4,300	6,000	74,000	36,000	36,000	7,940	8,000	91,000	53,000	36,000
4,370	6,000	74,000	36,000	36,000	8,000	8,000	91,000	53,000	36,000
4,400	6,000	74,000	36,000	36,000	8,100	10,000	103,000	61,000	40,000
4,500	6,000	74,000	36,000	36,000	8,200	10,000	103,000	61,000	40,000
4,600	6,000	74,000	36,000	36,000	8,300	10,000	103,000	61,000	40,000
4,650	6,000	74,000	36,000	36,000	8,330	10,000	103,000	61,000	40,000
4,700	6,000	74,000	36,000	36,000	8,400	10,000	103,000	61,000	40,000
4,760	6,000	82,000	44,000	36,000	8,500	10,000	103,000	61,000	40,000
4,800	6,000	82,000	44,000	36,000	8,600	10,000	103,000	61,000	40,000
4,900	6,000	82,000	44,000	36,000	8,700	10,000	103,000	61,000	40,000
5,000	6,000	82,000	44,000	36,000	8,730	10,000	103,000	61,000	40,000
5,100	6,000	82,000	44,000	36,000	8,800	10,000	103,000	61,000	40,000
5,160	6,000	82,000	44,000	36,000	8,900	10,000	103,000	61,000	40,000
5,200	6,000	82,000	44,000	36,000	9,000	10,000	103,000	61,000	40,000
5,300	6,000	82,000	44,000	36,000	9,100	10,000	103,000	61,000	40,000
5,400	6,000	82,000	44,000	36,000	9,130	10,000	103,000	61,000	40,000
5,500	6,000	82,000	44,000	36,000	9,200	10,000	103,000	61,000	40,000
5,550	6,000	82,000	44,000	36,000	9,250	10,000	103,000	61,000	40,000
5,560	6,000	82,000	44,000	36,000	9,300	10,000	103,000	61,000	40,000
5,600	6,000	82,000	44,000	36,000	9,340	10,000	103,000	61,000	40,000
5,700	6,000	82,000	44,000	36,000	9,400	10,000	103,000	61,000	40,000
5,800	6,000	82,000	44,000	36,000	9,500	10,000	103,000	61,000	40,000
5,900	6,000	82,000	44,000	36,000	9,520	10,000	103,000	61,000	40,000
5,950	6,000	82,000	44,000	36,000	9,600	10,000	103,000	61,000	40,000
6,000	6,000	82,000	44,000	36,000	9,700	10,000	103,000	61,000	40,000
6,100	8,000	91,000	53,000	36,000	9,800	10,000	103,000	61,000	40,000
6,200	8,000	91,000	53,000	36,000	9,900	10,000	103,000	61,000	40,000
6,300	8,000	91,000	53,000	36,000	9,920	10,000	103,000	61,000	40,000
6,350	8,000	91,000	53,000	36,000	10,000	10,000	103,000	61,000	40,000
6,400	8,000	91,000	53,000	36,000	10,100	12,000	118,000	71,000	45,000
6,500	8,000	91,000	53,000	36,000	10,200	12,000	118,000	71,000	45,000

d1 mm	d2 mm	l1 mm	l2 mm	l3 mm	d1 mm	d2 mm	l1 mm	l2 mm	l3 mm
10,300	12,000	118,000	71,000	45,000	14,100	16,000	133,000	83,000	48,000
10,320	12,000	118,000	71,000	45,000	14,200	16,000	133,000	83,000	48,000
10,400	12,000	118,000	71,000	45,000	14,290	16,000	133,000	83,000	48,000
10,500	12,000	118,000	71,000	45,000	14,300	16,000	133,000	83,000	48,000
10,600	12,000	118,000	71,000	45,000	14,400	16,000	133,000	83,000	48,000
10,700	12,000	118,000	71,000	45,000	14,500	16,000	133,000	83,000	48,000
10,800	12,000	118,000	71,000	45,000	14,700	16,000	133,000	83,000	48,000
10,900	12,000	118,000	71,000	45,000	14,800	16,000	133,000	83,000	48,000
11,000	12,000	118,000	71,000	45,000	15,000	16,000	133,000	83,000	48,000
11,100	12,000	118,000	71,000	45,000	15,100	16,000	133,000	83,000	48,000
11,110	12,000	118,000	71,000	45,000	15,200	16,000	133,000	83,000	48,000
11,200	12,000	118,000	71,000	45,000	15,300	16,000	133,000	83,000	48,000
11,300	12,000	118,000	71,000	45,000	15,500	16,000	133,000	83,000	48,000
11,400	12,000	118,000	71,000	45,000	15,700	16,000	133,000	83,000	48,000
11,500	12,000	118,000	71,000	45,000	15,800	16,000	133,000	83,000	48,000
11,600	12,000	118,000	71,000	45,000	16,000	16,000	133,000	83,000	48,000
11,700	12,000	118,000	71,000	45,000	16,500	18,000	143,000	93,000	48,000
11,800	12,000	118,000	71,000	45,000	16,700	18,000	143,000	93,000	48,000
11,900	12,000	118,000	71,000	45,000	16,900	18,000	143,000	93,000	48,000
11,910	12,000	118,000	71,000	45,000	17,000	18,000	143,000	93,000	48,000
12,000	12,000	118,000	71,000	45,000	17,500	18,000	143,000	93,000	48,000
12,100	14,000	124,000	77,000	45,000	17,700	18,000	143,000	93,000	48,000
12,200	14,000	124,000	77,000	45,000	18,000	18,000	143,000	93,000	48,000
12,500	14,000	124,000	77,000	45,000	18,500	20,000	153,000	101,000	50,000
12,600	14,000	124,000	77,000	45,000	18,900	20,000	153,000	101,000	50,000
12,700	14,000	124,000	77,000	45,000	19,000	20,000	153,000	101,000	50,000
12,800	14,000	124,000	77,000	45,000	19,050	20,000	153,000	101,000	50,000
12,900	14,000	124,000	77,000	45,000	19,300	20,000	153,000	101,000	50,000
13,000	14,000	124,000	77,000	45,000	19,500	20,000	153,000	101,000	50,000
13,100	14,000	124,000	77,000	45,000	20,000	20,000	153,000	101,000	50,000
13,300	14,000	124,000	77,000	45,000					
13,400	14,000	124,000	77,000	45,000					
13,500	14,000	124,000	77,000	45,000					
13,700	14,000	124,000	77,000	45,000					
13,800	14,000	124,000	77,000	45,000					
14,000	14,000	124,000	77,000	45,000					

SuperV-Bohrer

SuperV-Bohrer mit Innenkühlung

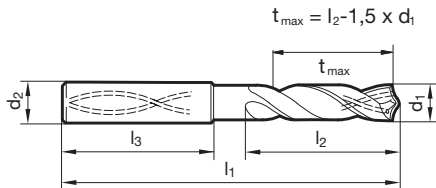


Katalog-Nr. 51785



P	M	K	N	S	H
●	○	○	○	○	○

- Ausspitzung $\geq \varnothing 3,000$
- spezielle Mikrogeometrie
- Flächenanschliff
- Hauptschneidenform gerade
- Kopfbeschichtung
- polierte Spanntuten
- hohe konstante Standzeiten
- hohe Schnittparameter möglich



d1 mm	d2 mm	l1 mm	l2 mm	l3 mm
3,000	6,000	66,000	28,000	36,000
3,100	6,000	66,000	28,000	36,000
3,170	6,000	66,000	28,000	36,000
3,200	6,000	66,000	28,000	36,000
3,250	6,000	66,000	28,000	36,000
3,300	6,000	66,000	28,000	36,000
3,400	6,000	66,000	28,000	36,000
3,500	6,000	66,000	28,000	36,000
3,570	6,000	66,000	28,000	36,000
3,600	6,000	66,000	28,000	36,000
3,700	6,000	66,000	28,000	36,000
3,800	6,000	74,000	36,000	36,000
3,900	6,000	74,000	36,000	36,000
3,970	6,000	74,000	36,000	36,000
4,000	6,000	74,000	36,000	36,000
4,040	6,000	74,000	36,000	36,000
4,100	6,000	74,000	36,000	36,000
4,200	6,000	74,000	36,000	36,000
4,300	6,000	74,000	36,000	36,000
4,370	6,000	74,000	36,000	36,000
4,400	6,000	74,000	36,000	36,000
4,500	6,000	74,000	36,000	36,000
4,600	6,000	74,000	36,000	36,000
4,650	6,000	74,000	36,000	36,000
4,700	6,000	74,000	36,000	36,000
4,760	6,000	82,000	44,000	36,000
4,800	6,000	82,000	44,000	36,000
4,900	6,000	82,000	44,000	36,000
5,000	6,000	82,000	44,000	36,000
5,100	6,000	82,000	44,000	36,000
5,110	6,000	82,000	44,000	36,000
5,160	6,000	82,000	44,000	36,000
5,200	6,000	82,000	44,000	36,000
5,300	6,000	82,000	44,000	36,000
5,400	6,000	82,000	44,000	36,000
5,410	6,000	82,000	44,000	36,000
5,500	6,000	82,000	44,000	36,000
5,550	6,000	82,000	44,000	36,000
5,560	6,000	82,000	44,000	36,000
5,600	6,000	82,000	44,000	36,000
5,650	6,000	82,000	44,000	36,000
5,700	6,000	82,000	44,000	36,000
5,800	6,000	82,000	44,000	36,000
5,900	6,000	82,000	44,000	36,000
5,950	6,000	82,000	44,000	36,000
6,000	6,000	82,000	44,000	36,000
6,100	8,000	91,000	53,000	36,000
6,200	8,000	91,000	53,000	36,000

d1 mm	d2 mm	l1 mm	l2 mm	l3 mm
6,300	8,000	91,000	53,000	36,000
6,350	8,000	91,000	53,000	36,000
6,400	8,000	91,000	53,000	36,000
6,500	8,000	91,000	53,000	36,000
6,530	8,000	91,000	53,000	36,000
6,600	8,000	91,000	53,000	36,000
6,700	8,000	91,000	53,000	36,000
6,750	8,000	91,000	53,000	36,000
6,800	8,000	91,000	53,000	36,000
6,900	8,000	91,000	53,000	36,000
7,000	8,000	91,000	53,000	36,000
7,100	8,000	91,000	53,000	36,000
7,140	8,000	91,000	53,000	36,000
7,200	8,000	91,000	53,000	36,000
7,300	8,000	91,000	53,000	36,000
7,400	8,000	91,000	53,000	36,000
7,500	8,000	91,000	53,000	36,000
7,540	8,000	91,000	53,000	36,000
7,550	8,000	91,000	53,000	36,000
7,600	8,000	91,000	53,000	36,000
7,650	8,000	91,000	53,000	36,000
7,700	8,000	91,000	53,000	36,000
7,800	8,000	91,000	53,000	36,000
7,900	8,000	91,000	53,000	36,000
7,940	8,000	91,000	53,000	36,000
8,000	8,000	91,000	53,000	36,000
8,100	10,000	103,000	61,000	40,000
8,200	10,000	103,000	61,000	40,000
8,300	10,000	103,000	61,000	40,000
8,330	10,000	103,000	61,000	40,000
8,400	10,000	103,000	61,000	40,000
8,500	10,000	103,000	61,000	40,000
8,600	10,000	103,000	61,000	40,000
8,700	10,000	103,000	61,000	40,000
8,730	10,000	103,000	61,000	40,000
8,800	10,000	103,000	61,000	40,000
8,900	10,000	103,000	61,000	40,000
9,000	10,000	103,000	61,000	40,000
9,100	10,000	103,000	61,000	40,000
9,130	10,000	103,000	61,000	40,000
9,200	10,000	103,000	61,000	40,000
9,250	10,000	103,000	61,000	40,000
9,300	10,000	103,000	61,000	40,000
9,340	10,000	103,000	61,000	40,000
9,400	10,000	103,000	61,000	40,000
9,500	10,000	103,000	61,000	40,000
9,520	10,000	103,000	61,000	40,000
9,550	10,000	103,000	61,000	40,000

SuperV-Bohrer

SuperV-Bohrer mit Innenkühlung

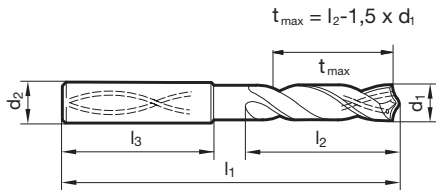


Katalog-Nr. 51790



P	M	K	N	S	H
●	○	○	○	○	○

- Ausspitzung $\geq \varnothing 3,000$
- spezielle Mikrogeometrie
- Flächenanschliff
- Hauptschneidenform gerade
- Kopfbeschichtung
- polierte Spanntuten
- hohe konstante Standzeiten
- hohe Schnittparameter möglich



d1 mm	d2 mm	l1 mm	l2 mm	l3 mm
3,000	6,000	70,000	30,000	36,000
3,170	6,000	70,000	30,000	36,000
3,200	6,000	70,000	30,000	36,000
3,250	6,000	70,000	30,000	36,000
3,300	6,000	70,000	30,000	36,000
3,400	6,000	75,000	35,500	36,000
3,500	6,000	75,000	35,500	36,000
3,570	6,000	75,000	35,500	36,000
3,600	6,000	75,000	35,500	36,000
3,700	6,000	75,000	35,500	36,000
3,800	6,000	75,000	37,500	36,000
3,900	6,000	75,000	37,500	36,000
3,970	6,000	75,000	37,500	36,000
4,000	6,000	75,000	37,500	36,000
4,040	6,000	75,000	37,500	36,000
4,100	6,000	75,000	37,500	36,000
4,200	6,000	75,000	37,500	36,000
4,300	6,000	85,000	45,000	36,000
4,370	6,000	85,000	45,000	36,000
4,400	6,000	85,000	45,000	36,000
4,500	6,000	85,000	45,000	36,000
4,600	6,000	85,000	45,000	36,000
4,650	6,000	85,000	45,000	36,000
4,700	6,000	85,000	45,000	36,000
4,760	6,000	90,000	50,000	36,000
4,800	6,000	90,000	50,000	36,000
4,900	6,000	90,000	50,000	36,000
5,000	6,000	90,000	50,000	36,000
5,100	6,000	90,000	50,000	36,000
5,110	6,000	90,000	50,000	36,000
5,160	6,000	90,000	50,000	36,000
5,200	6,000	90,000	50,000	36,000
5,300	6,000	90,000	50,000	36,000
5,400	6,000	97,000	57,000	36,000
5,410	6,000	97,000	57,000	36,000
5,500	6,000	97,000	57,000	36,000
5,550	6,000	97,000	57,000	36,000
5,560	6,000	97,000	57,000	36,000
5,600	6,000	97,000	57,000	36,000
5,700	6,000	97,000	57,000	36,000
5,800	6,000	97,000	57,000	36,000
5,900	6,000	97,000	57,000	36,000
5,950	6,000	97,000	57,000	36,000
6,000	6,000	97,000	57,000	36,000
6,100	8,000	106,000	66,000	36,000
6,200	8,000	106,000	66,000	36,000
6,300	8,000	106,000	66,000	36,000
6,350	8,000	106,000	66,000	36,000

d1 mm	d2 mm	l1 mm	l2 mm	l3 mm
6,400	8,000	106,000	66,000	36,000
6,500	8,000	106,000	66,000	36,000
6,530	8,000	106,000	66,000	36,000
6,600	8,000	106,000	66,000	36,000
6,700	8,000	106,000	66,000	36,000
6,750	8,000	106,000	66,000	36,000
6,800	8,000	106,000	66,000	36,000
6,900	8,000	116,000	76,000	36,000
7,000	8,000	116,000	76,000	36,000
7,100	8,000	116,000	76,000	36,000
7,140	8,000	116,000	76,000	36,000
7,200	8,000	116,000	76,000	36,000
7,300	8,000	116,000	76,000	36,000
7,400	8,000	116,000	76,000	36,000
7,500	8,000	116,000	76,000	36,000
7,540	8,000	116,000	76,000	36,000
7,600	8,000	116,000	76,000	36,000
7,700	8,000	116,000	76,000	36,000
7,800	8,000	116,000	76,000	36,000
7,900	8,000	116,000	76,000	36,000
7,940	8,000	116,000	76,000	36,000
8,000	8,000	116,000	76,000	36,000
8,100	10,000	131,000	87,000	40,000
8,200	10,000	131,000	87,000	40,000
8,300	10,000	131,000	87,000	40,000
8,330	10,000	131,000	87,000	40,000
8,400	10,000	131,000	87,000	40,000
8,500	10,000	131,000	87,000	40,000
8,600	10,000	131,000	87,000	40,000
8,700	10,000	131,000	87,000	40,000
8,730	10,000	131,000	87,000	40,000
8,800	10,000	131,000	87,000	40,000
8,900	10,000	131,000	87,000	40,000
9,000	10,000	131,000	87,000	40,000
9,100	10,000	139,000	95,000	40,000
9,130	10,000	139,000	95,000	40,000
9,200	10,000	139,000	95,000	40,000
9,250	10,000	139,000	95,000	40,000
9,300	10,000	139,000	95,000	40,000
9,340	10,000	139,000	95,000	40,000
9,400	10,000	139,000	95,000	40,000
9,500	10,000	139,000	95,000	40,000
9,520	10,000	139,000	95,000	40,000
9,600	10,000	139,000	95,000	40,000
9,700	10,000	139,000	95,000	40,000
9,800	10,000	139,000	95,000	40,000
9,900	10,000	139,000	95,000	40,000
9,920	10,000	139,000	95,000	40,000

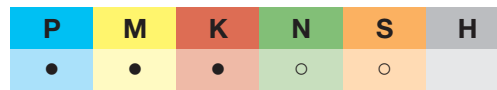
d1 mm	d2 mm	l1 mm	l2 mm	l3 mm	d1 mm	d2 mm	l1 mm	l2 mm	l3 mm
10,000	10,000	139,000	95,000	40,000	13,890	14,000	182,000	133,000	45,000
10,100	12,000	155,000	106,000	45,000	14,000	14,000	182,000	133,000	45,000
10,200	12,000	155,000	106,000	45,000	14,100	16,000	204,000	152,000	48,000
10,300	12,000	155,000	106,000	45,000	14,200	16,000	204,000	152,000	48,000
10,320	12,000	155,000	106,000	45,000	14,290	16,000	204,000	152,000	48,000
10,400	12,000	155,000	106,000	45,000	14,500	16,000	204,000	152,000	48,000
10,500	12,000	155,000	106,000	45,000	14,700	16,000	204,000	152,000	48,000
10,600	12,000	155,000	106,000	45,000	15,000	16,000	204,000	152,000	48,000
10,700	12,000	155,000	106,000	45,000	15,100	16,000	204,000	152,000	48,000
10,720	12,000	155,000	106,000	45,000	15,480	16,000	204,000	152,000	48,000
10,800	12,000	155,000	106,000	45,000	15,500	16,000	204,000	152,000	48,000
10,900	12,000	155,000	106,000	45,000	15,700	16,000	204,000	152,000	48,000
11,000	12,000	155,000	106,000	45,000	15,870	16,000	204,000	152,000	48,000
11,100	12,000	163,000	114,000	45,000	16,000	16,000	204,000	152,000	48,000
11,110	12,000	163,000	114,000	45,000	16,500	18,000	223,000	171,000	48,000
11,200	12,000	163,000	114,000	45,000	16,900	18,000	223,000	171,000	48,000
11,300	12,000	163,000	114,000	45,000	17,000	18,000	223,000	171,000	48,000
11,400	12,000	163,000	114,000	45,000	17,500	18,000	223,000	171,000	48,000
11,500	12,000	163,000	114,000	45,000	17,700	18,000	223,000	171,000	48,000
11,510	12,000	163,000	114,000	45,000	18,000	18,000	223,000	171,000	48,000
11,600	12,000	163,000	114,000	45,000	18,500	20,000	244,000	190,000	50,000
11,700	12,000	163,000	114,000	45,000	18,900	20,000	244,000	190,000	50,000
11,800	12,000	163,000	114,000	45,000	19,000	20,000	244,000	190,000	50,000
11,900	12,000	163,000	114,000	45,000	19,050	20,000	244,000	190,000	50,000
11,910	12,000	163,000	114,000	45,000	19,500	20,000	244,000	190,000	50,000
12,000	12,000	163,000	114,000	45,000	20,000	20,000	244,000	190,000	50,000
12,100	14,000	182,000	133,000	45,000					
12,200	14,000	182,000	133,000	45,000					
12,300	14,000	182,000	133,000	45,000					
12,500	14,000	182,000	133,000	45,000					
12,700	14,000	182,000	133,000	45,000					
13,000	14,000	182,000	133,000	45,000					
13,100	14,000	182,000	133,000	45,000					
13,490	14,000	182,000	133,000	45,000					
13,500	14,000	182,000	133,000	45,000					
13,700	14,000	182,000	133,000	45,000					

SuperV-Bohrer

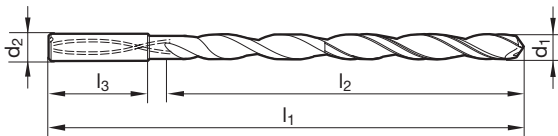
SuperV-Bohrer mit Innenkühlung



Katalog-Nr. 51764



- Ausspitzung $\geq \varnothing 3,000$
- Kopfbeschichtung
- Kegelmantelschliff
- Hauptschneidenform konkav
- optimierter Nutquerschnitt
- maximaler Kühlkanalquerschnitt
- Einsatz im Hydraulik-Dehnspannfutter
- vier Führungsfasen
- Kühlmitteldruck beachten (s. Diagramm „Kühlmittlempfehlungen“)



d1 mm	d2 mm	l1 mm	l2 mm	l3 mm
3,000	6,000	95,000	55,000	36,000
3,100	6,000	106,000	66,000	36,000
3,170	6,000	106,000	66,000	36,000
3,200	6,000	106,000	66,000	36,000
3,300	6,000	106,000	66,000	36,000
3,500	6,000	116,000	76,000	36,000
3,570	6,000	116,000	76,000	36,000
3,700	6,000	116,000	76,000	36,000
3,800	6,000	116,000	76,000	36,000
3,970	6,000	116,000	76,000	36,000
4,000	6,000	116,000	76,000	36,000
4,200	6,000	133,000	93,000	36,000
4,300	6,000	133,000	93,000	36,000
4,370	6,000	133,000	93,000	36,000
4,500	6,000	133,000	93,000	36,000
4,600	6,000	133,000	93,000	36,000
4,760	6,000	133,000	93,000	36,000
4,800	6,000	133,000	93,000	36,000
5,000	6,000	133,000	93,000	36,000
5,100	6,000	150,000	110,000	36,000
5,160	6,000	150,000	110,000	36,000
5,410	6,000	150,000	110,000	36,000
5,500	6,000	150,000	110,000	36,000
5,560	6,000	150,000	110,000	36,000
5,800	6,000	150,000	110,000	36,000
5,950	6,000	150,000	110,000	36,000
6,000	6,000	150,000	110,000	36,000
6,300	8,000	167,000	127,000	36,000
6,350	8,000	167,000	127,000	36,000
6,500	8,000	167,000	127,000	36,000
6,750	8,000	167,000	127,000	36,000
6,800	8,000	167,000	127,000	36,000
7,000	8,000	167,000	127,000	36,000
7,140	8,000	183,000	143,000	36,000
7,500	8,000	183,000	143,000	36,000
7,540	8,000	183,000	143,000	36,000

d1 mm	d2 mm	l1 mm	l2 mm	l3 mm
7,800	8,000	183,000	143,000	36,000
7,940	8,000	183,000	143,000	36,000
8,000	8,000	183,000	143,000	36,000
8,330	10,000	204,000	160,000	40,000
8,500	10,000	204,000	160,000	40,000
8,730	10,000	204,000	160,000	40,000
8,800	10,000	204,000	160,000	40,000
9,000	10,000	204,000	160,000	40,000
9,130	10,000	221,000	177,000	40,000
9,520	10,000	221,000	177,000	40,000
9,800	10,000	221,000	177,000	40,000
9,920	10,000	221,000	177,000	40,000
10,000	10,000	221,000	177,000	40,000
10,320	12,000	247,000	198,000	45,000
10,500	12,000	247,000	198,000	45,000
10,720	12,000	247,000	198,000	45,000
11,000	12,000	247,000	198,000	45,000
11,110	12,000	263,000	214,000	45,000
11,510	12,000	263,000	214,000	45,000
11,800	12,000	263,000	214,000	45,000
11,910	12,000	263,000	214,000	45,000
12,000	12,000	263,000	214,000	45,000
12,300	14,000	297,000	248,000	45,000
12,500	14,000	297,000	248,000	45,000
12,700	14,000	297,000	248,000	45,000
13,000	14,000	297,000	248,000	45,000
13,100	14,000	297,000	248,000	45,000
13,490	14,000	297,000	248,000	45,000
13,890	14,000	297,000	248,000	45,000
14,000	14,000	297,000	248,000	45,000
14,290	16,000	333,000	281,000	48,000
15,000	16,000	333,000	281,000	48,000
15,870	16,000	333,000	281,000	48,000
16,000	16,000	333,000	281,000	48,000

SuperV-Bohrer

SuperV-Bohrer mit Innenkühlung

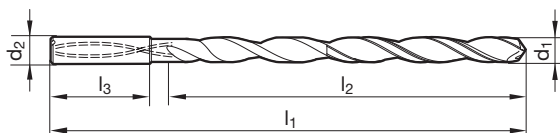


Katalog-Nr. 51765



P	M	K	N	S	H
●	●	●	○	○	

- Ausspitzung $\geq \varnothing 3,000$
- Kegelmantelschliff
- Kopfbeschichtung
- Hauptschneidenform konkav
- optimierter Nutquerschnitt
- maximaler Kühlkanalquerschnitt
- Einsatz im Hydraulik-Dehnspannfutter
- vier Führungsfasen
- Kühlmitteldruck beachten (s. Diagramm „Kühlmittlempfehlungen“)



d1 mm	d2 mm	l1 mm	l2 mm	l3 mm
3,000	6,000	110,000	70,000	36,000
3,100	6,000	123,000	83,000	36,000
3,200	6,000	123,000	83,000	36,000
3,300	6,000	123,000	83,000	36,000
3,500	6,000	136,000	96,000	36,000
3,570	6,000	136,000	96,000	36,000
3,700	6,000	136,000	96,000	36,000
3,800	6,000	136,000	96,000	36,000
3,970	6,000	136,000	96,000	36,000
4,000	6,000	136,000	96,000	36,000
4,200	6,000	158,000	118,000	36,000
4,300	6,000	158,000	118,000	36,000
4,370	6,000	158,000	118,000	36,000
4,500	6,000	158,000	118,000	36,000
4,600	6,000	158,000	118,000	36,000
4,760	6,000	158,000	118,000	36,000
4,800	6,000	158,000	118,000	36,000
5,000	6,000	158,000	118,000	36,000
5,100	6,000	180,000	140,000	36,000
5,160	6,000	180,000	140,000	36,000
5,410	6,000	180,000	140,000	36,000
5,500	6,000	180,000	140,000	36,000
5,560	6,000	180,000	140,000	36,000
5,800	6,000	180,000	140,000	36,000
5,950	6,000	180,000	140,000	36,000
6,000	6,000	180,000	140,000	36,000
6,350	8,000	202,000	162,000	36,000
6,500	8,000	202,000	162,000	36,000
6,750	8,000	202,000	162,000	36,000
6,800	8,000	202,000	162,000	36,000
7,000	8,000	202,000	162,000	36,000
7,140	8,000	223,000	183,000	36,000
7,500	8,000	223,000	183,000	36,000
7,540	8,000	223,000	183,000	36,000
7,800	8,000	223,000	183,000	36,000
7,940	8,000	223,000	183,000	36,000

d1 mm	d2 mm	l1 mm	l2 mm	l3 mm
8,000	8,000	223,000	183,000	36,000
8,330	10,000	249,000	205,000	40,000
8,500	10,000	249,000	205,000	40,000
8,730	10,000	249,000	205,000	40,000
8,800	10,000	249,000	205,000	40,000
9,000	10,000	249,000	205,000	40,000
9,130	10,000	271,000	227,000	40,000
9,520	10,000	271,000	227,000	40,000
10,000	10,000	271,000	227,000	40,000
10,200	12,000	302,000	253,000	45,000
10,320	12,000	302,000	253,000	45,000
10,500	12,000	302,000	253,000	45,000
10,720	12,000	302,000	253,000	45,000
11,000	12,000	302,000	253,000	45,000
11,110	12,000	323,000	274,000	45,000
11,510	12,000	323,000	274,000	45,000
11,800	12,000	323,000	274,000	45,000
11,910	12,000	323,000	274,000	45,000
12,000	12,000	323,000	274,000	45,000
12,500	14,000	367,000	318,000	45,000
12,700	14,000	367,000	318,000	45,000
13,000	14,000	367,000	318,000	45,000
13,490	14,000	367,000	318,000	45,000
14,000	14,000	367,000	318,000	45,000
14,290	16,000	413,000	361,000	48,000
15,000	16,000	413,000	361,000	48,000
15,870	16,000	413,000	361,000	48,000
16,000	16,000	413,000	361,000	48,000

SuperV-Bohrer

SuperV-Bohrer mit Innenkühlung

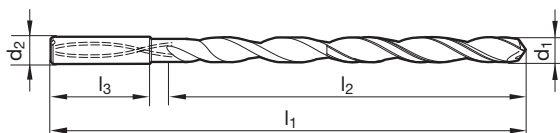


Katalog-Nr. 51766



P	M	K	N	S	H
●	●	●	○	○	

- Ausspitzung $\geq \varnothing 3,000$
- Kegelmantelanschliff
- Kopfbeschichtung
- Hauptschneidenform konkav
- optimierter Nutquerschnitt
- maximaler Kühlkanalquerschnitt
- Einsatz im Hydraulik-Dehnspannfutter
- vier Führungsfasen
- Kühlmitteldruck beachten (s. Diagramm „Kühlmittlempfehlungen“)



d1 mm	d2 mm	l1 mm	l2 mm	l3 mm
3,000	6,000	125,000	85,000	36,000
3,100	6,000	141,000	101,000	36,000
3,200	6,000	141,000	101,000	36,000
3,300	6,000	141,000	101,000	36,000
3,500	6,000	156,000	116,000	36,000
3,570	6,000	156,000	116,000	36,000
3,700	6,000	156,000	116,000	36,000
3,800	6,000	156,000	116,000	36,000
3,970	6,000	156,000	116,000	36,000
4,000	6,000	156,000	116,000	36,000
4,200	6,000	183,000	143,000	36,000
4,300	6,000	183,000	143,000	36,000
4,370	6,000	183,000	143,000	36,000
4,500	6,000	183,000	143,000	36,000
4,600	6,000	183,000	143,000	36,000
4,760	6,000	183,000	143,000	36,000
4,800	6,000	183,000	143,000	36,000
5,000	6,000	183,000	143,000	36,000
5,100	6,000	210,000	170,000	36,000
5,160	6,000	210,000	170,000	36,000
5,410	6,000	210,000	170,000	36,000
5,500	6,000	210,000	170,000	36,000
5,560	6,000	210,000	170,000	36,000
5,800	6,000	210,000	170,000	36,000
5,950	6,000	210,000	170,000	36,000
6,000	6,000	210,000	170,000	36,000
6,300	8,000	237,000	197,000	36,000
6,350	8,000	237,000	197,000	36,000
6,500	8,000	237,000	197,000	36,000
6,750	8,000	237,000	197,000	36,000

d1 mm	d2 mm	l1 mm	l2 mm	l3 mm
6,800	8,000	237,000	197,000	36,000
7,000	8,000	237,000	197,000	36,000
7,140	8,000	263,000	223,000	36,000
7,500	8,000	263,000	223,000	36,000
7,540	8,000	263,000	223,000	36,000
7,940	8,000	263,000	223,000	36,000
8,000	8,000	263,000	223,000	36,000
8,330	10,000	294,000	250,000	40,000
8,500	10,000	294,000	250,000	40,000
8,730	10,000	294,000	250,000	40,000
8,800	10,000	294,000	250,000	40,000
9,000	10,000	294,000	250,000	40,000
9,130	10,000	321,000	277,000	40,000
9,520	10,000	321,000	277,000	40,000
10,000	10,000	321,000	277,000	40,000
10,720	12,000	359,000	310,000	45,000
11,000	12,000	359,000	310,000	45,000
11,110	12,000	386,000	337,000	45,000
12,000	12,000	386,000	337,000	45,000
12,300	14,000	437,000	388,000	45,000
12,700	14,000	437,000	388,000	45,000
13,000	14,000	437,000	388,000	45,000
13,100	14,000	437,000	388,000	45,000
13,490	14,000	437,000	388,000	45,000
13,890	14,000	437,000	388,000	45,000
14,000	14,000	437,000	388,000	45,000
14,290	16,000	493,000	441,000	48,000
15,000	16,000	493,000	441,000	48,000
15,870	16,000	493,000	441,000	48,000
16,000	16,000	493,000	441,000	48,000

SuperV-Bohrer

SuperV-Bohrer mit Innenkühlung

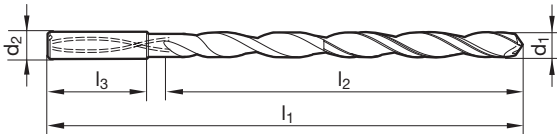


Katalog-Nr. 51767



P	M	K	N	S	H
●	●	●	○	○	

- Ausspitzung $\geq \varnothing 3,000$
- Kegelmantelanschliff
- Kopfbeschichtung
- Hauptschneidenform konkav
- optimierter Nutquerschnitt
- maximaler Kühlkanalquerschnitt
- Einsatz im Hydraulik-Dehnspannfutter
- vier Führungsfasen
- Kühlmitteldruck beachten (s. Diagramm „Kühlmittlempfehlungen“)



d1 mm	d2 mm	l1 mm	l2 mm	l3 mm
3,000	6,000	140,000	100,000	36,000
3,100	6,000	158,000	118,000	36,000
3,200	6,000	158,000	118,000	36,000
3,300	6,000	158,000	118,000	36,000
3,500	6,000	176,000	136,000	36,000
3,570	6,000	176,000	136,000	36,000
3,700	6,000	176,000	136,000	36,000
3,800	6,000	176,000	136,000	36,000
3,970	6,000	176,000	136,000	36,000
4,000	6,000	176,000	136,000	36,000
4,200	6,000	208,000	168,000	36,000
4,370	6,000	208,000	168,000	36,000
4,500	6,000	208,000	168,000	36,000
4,760	6,000	208,000	168,000	36,000
5,000	6,000	208,000	168,000	36,000
5,100	6,000	240,000	200,000	36,000
5,160	6,000	240,000	200,000	36,000
5,410	6,000	240,000	200,000	36,000
5,500	6,000	240,000	200,000	36,000
5,560	6,000	240,000	200,000	36,000
5,950	6,000	240,000	200,000	36,000
6,000	6,000	240,000	200,000	36,000
6,300	8,000	272,000	232,000	36,000
6,350	8,000	272,000	232,000	36,000
6,500	8,000	272,000	232,000	36,000
6,750	8,000	272,000	232,000	36,000
6,800	8,000	272,000	232,000	36,000
7,000	8,000	272,000	232,000	36,000
7,140	8,000	303,000	263,000	36,000
7,500	8,000	303,000	263,000	36,000

d1 mm	d2 mm	l1 mm	l2 mm	l3 mm
7,540	8,000	303,000	263,000	36,000
7,940	8,000	303,000	263,000	36,000
8,000	8,000	303,000	263,000	36,000
8,330	10,000	339,000	295,000	40,000
8,500	10,000	339,000	295,000	40,000
8,730	10,000	339,000	295,000	40,000
8,800	10,000	339,000	295,000	40,000
9,000	10,000	339,000	295,000	40,000
9,130	10,000	371,000	327,000	40,000
9,520	10,000	371,000	327,000	40,000
10,000	10,000	371,000	327,000	40,000
10,320	12,000	412,000	363,000	45,000
10,720	12,000	412,000	363,000	45,000
11,000	12,000	412,000	363,000	45,000
11,110	12,000	443,000	394,000	45,000
11,510	12,000	443,000	394,000	45,000
11,910	12,000	443,000	394,000	45,000
12,000	12,000	443,000	394,000	45,000
12,300	14,000	507,000	458,000	45,000
12,700	14,000	507,000	458,000	45,000
13,000	14,000	507,000	458,000	45,000
13,100	14,000	507,000	458,000	45,000
13,490	14,000	507,000	458,000	45,000
13,890	14,000	507,000	458,000	45,000
14,000	14,000	507,000	458,000	45,000

SuperV-Bohrer

SuperV-Bohrer mit Innenkühlung

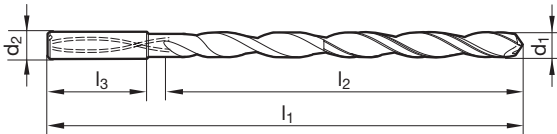


Katalog-Nr. 51768



P	M	K	N	S	H
●	●	●	○	○	

- Ausspitzung $\geq \varnothing 3,000$
- Kegelmantelanschliff
- Kopfbeschichtung
- Hauptschneidenform konkav
- optimierter Nutquerschnitt
- maximaler Kühlkanalquerschnitt
- Einsatz im Hydraulik-Dehnspannfutter
- vier Führungsfasen
- Kühlmitteldruck beachten (s. Diagramm „Kühlmittlempfehlungen“)



d1 mm	d2 mm	l1 mm	l2 mm	l3 mm
3,000	6,000	170,000	130,000	36,000
3,100	6,000	193,000	153,000	36,000
3,170	6,000	193,000	153,000	36,000
3,200	6,000	193,000	153,000	36,000
3,300	6,000	193,000	153,000	36,000
3,500	6,000	193,000	153,000	36,000
3,800	6,000	216,000	176,000	36,000
3,970	6,000	216,000	176,000	36,000
4,000	6,000	216,000	176,000	36,000
4,200	6,000	238,000	198,000	36,000
4,500	6,000	238,000	198,000	36,000
4,760	6,000	258,000	218,000	36,000
5,000	6,000	258,000	218,000	36,000
5,100	6,000	280,000	240,000	36,000
5,500	6,000	280,000	240,000	36,000
5,560	6,000	300,000	260,000	36,000
6,000	6,000	300,000	260,000	36,000
6,300	8,000	322,000	282,000	36,000

d1 mm	d2 mm	l1 mm	l2 mm	l3 mm
6,350	8,000	322,000	282,000	36,000
6,500	8,000	322,000	282,000	36,000
6,800	8,000	342,000	302,000	36,000
7,000	8,000	342,000	302,000	36,000
7,140	8,000	363,000	323,000	36,000
7,500	8,000	363,000	323,000	36,000
8,000	8,000	383,000	343,000	36,000
8,500	10,000	409,000	365,000	40,000
9,000	10,000	429,000	386,000	40,000
10,000	10,000	471,000	427,000	40,000

Spiralbohrer mit Zylinderschaft

Spiralbohrer mit verst. Zylinderschaft

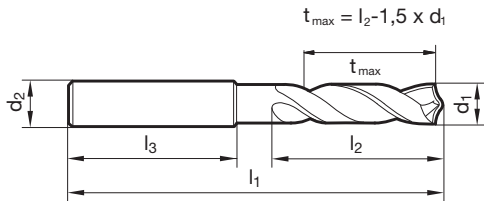


Katalog-Nr. 51146



P	M	K	N	S	H
○		○			●

- Hauptschneidenform gerade (durch Korrektur)
- Flächenanschliff



d1 mm	d2 mm	l1 mm	l2 mm	l3 mm
2,600	6,000	62,000	20,000	36,000
3,000	6,000	62,000	20,000	36,000
3,400	6,000	62,000	20,000	36,000
4,000	6,000	66,000	24,000	36,000
4,300	6,000	66,000	24,000	36,000
5,000	6,000	66,000	28,000	36,000
5,100	6,000	66,000	28,000	36,000
5,600	6,000	66,000	28,000	36,000
6,000	6,000	66,000	28,000	36,000
6,900	8,000	79,000	34,000	36,000
7,100	8,000	79,000	41,000	36,000
8,000	8,000	79,000	41,000	36,000

d1 mm	d2 mm	l1 mm	l2 mm	l3 mm
8,600	10,000	89,000	47,000	40,000
9,100	10,000	89,000	47,000	40,000
10,000	10,000	89,000	47,000	40,000
10,400	12,000	102,000	55,000	45,000
10,600	12,000	102,000	55,000	45,000
11,100	12,000	102,000	55,000	45,000
12,000	12,000	102,000	55,000	45,000
14,100	16,000	115,000	65,000	48,000

Einlippenbohrer

Einlippenbohrer SuperT-NXL

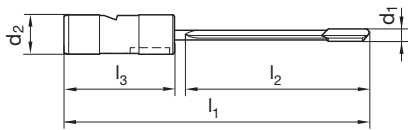


Katalog-Nr. 65030



P	M	K	N	S	H
●	○	●	●	○	○

- fixe Gesamtlänge 800 mm
- Umfangsform G
- blanke Spanfläche für bessere Spanbildung
- universell einsetzbar
- nur auf Tiefbohrmaschinen verwendbar



d1 mm	d2 mm	l1 mm	l2 mm	l3 mm	Code-Nr.
5,000	25,000	800,000	700,000	70,000	5,000
6,000	25,000	800,000	700,000	70,000	6,000
7,000	25,000	800,000	700,000	70,000	7,000
8,000	25,000	800,000	700,000	70,000	8,000
9,000	25,000	800,000	700,000	70,000	9,000
10,000	25,000	800,000	700,000	70,000	10,000
11,500	25,000	800,000	700,000	70,000	11,500
12,000	25,000	800,000	700,000	70,000	12,000
15,000	25,000	800,000	700,000	70,000	15,000
16,000	25,000	800,000	700,000	70,000	16,000
18,000	25,000	800,000	700,000	70,000	18,000
19,000	25,000	800,000	700,000	70,000	19,000
20,000	25,000	800,000	700,000	70,000	20,000
21,000	25,000	800,000	700,000	70,000	21,000
22,000	25,000	800,000	700,000	70,000	22,000
25,000	25,000	800,000	700,000	70,000	25,000

Einlippenbohrer

Einlippenbohrer SuperT-NXL

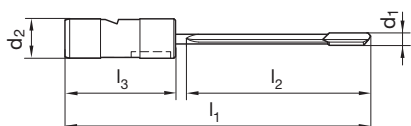


Katalog-Nr. 65031



P	M	K	N	S	H
●	○	●	●	○	○

- fixe Gesamtlänge 1200 mm
- Umfangsform G
- blanke Spanfläche für bessere Spanbildung
- universell einsetzbar
- nur auf Tiefbohrmaschinen verwendbar



d1 mm	d2 mm	l1 mm	l2 mm	l3 mm	Code-Nr.
5,000	25,000	1200,000	1100,000	70,000	5,000
6,000	25,000	1200,000	1100,000	70,000	6,000
7,000	25,000	1200,000	1100,000	70,000	7,000
8,000	25,000	1200,000	1100,000	70,000	8,000
9,000	25,000	1200,000	1100,000	70,000	9,000
10,000	25,000	1200,000	1100,000	70,000	10,000
11,500	25,000	1200,000	1100,000	70,000	11,500
12,000	25,000	1200,000	1100,000	70,000	12,000
15,000	25,000	1200,000	1100,000	70,000	15,000
16,000	25,000	1200,000	1100,000	70,000	16,000
18,000	25,000	1200,000	1100,000	70,000	18,000
19,000	25,000	1200,000	1100,000	70,000	19,000
20,000	25,000	1200,000	1100,000	70,000	20,000
22,000	25,000	1200,000	1100,000	70,000	22,000

Einlippenbohrer

Einlippenbohrer SuperT-NXL

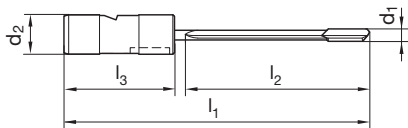


Katalog-Nr. 65032



P	M	K	N	S	H
●	○	●	●	○	○

- fixe Gesamtlänge 1600 mm
- Umfangsform G
- blanke Spanfläche für bessere Spanbildung
- universell einsetzbar
- nur auf Tiefbohrmaschinen verwendbar



d1 mm	d2 mm	l1 mm	l2 mm	l3 mm	Code-Nr.
4,000	25,000	1600,000	1500,000	70,000	4,000
5,000	25,000	1600,000	1500,000	70,000	5,000
5,500	25,000	1600,000	1500,000	70,000	5,500
6,000	25,000	1600,000	1500,000	70,000	6,000
6,500	25,000	1600,000	1500,000	70,000	6,500
7,000	25,000	1600,000	1500,000	70,000	7,000
7,500	25,000	1600,000	1500,000	70,000	7,500
8,000	25,000	1600,000	1500,000	70,000	8,000
9,000	25,000	1600,000	1500,000	70,000	9,000
9,500	25,000	1600,000	1500,000	70,000	9,500
10,000	25,000	1600,000	1500,000	70,000	10,000
11,000	25,000	1600,000	1500,000	70,000	11,000
11,500	25,000	1600,000	1500,000	70,000	11,500
12,000	25,000	1600,000	1500,000	70,000	12,000
13,000	25,000	1600,000	1500,000	70,000	13,000
14,000	25,000	1600,000	1500,000	70,000	14,000
15,000	25,000	1600,000	1500,000	70,000	15,000
16,000	25,000	1600,000	1500,000	70,000	16,000
17,000	25,000	1600,000	1500,000	70,000	17,000
18,000	25,000	1600,000	1500,000	70,000	18,000
19,000	25,000	1600,000	1500,000	70,000	19,000
20,000	25,000	1600,000	1500,000	70,000	20,000
22,000	25,000	1600,000	1500,000	70,000	22,000

Einlippenbohrer

Einlippenbohrer SuperT-NXL

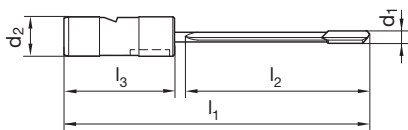


Katalog-Nr. 65033



P	M	K	N	S	H
●	○	●	●	○	○

- fixe Gesamtlänge 2000 mm
- Umfangsform G
- blanke Spanfläche für bessere Spanbildung
- universell einsetzbar
- nur auf Tiefbohrmaschinen verwendbar



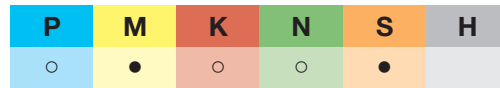
d1 mm	d2 mm	l1 mm	l2 mm	l3 mm	Code-Nr.
5,000	25,000	2000,000	1900,000	70,000	5,000
6,000	25,000	2000,000	1900,000	70,000	6,000
7,000	25,000	2000,000	1900,000	70,000	7,000
8,000	25,000	2000,000	1900,000	70,000	8,000
9,000	25,000	2000,000	1900,000	70,000	9,000
10,000	25,000	2000,000	1900,000	70,000	10,000
11,500	25,000	2000,000	1900,000	70,000	11,500
12,000	25,000	2000,000	1900,000	70,000	12,000
15,000	25,000	2000,000	1900,000	70,000	15,000
16,000	25,000	2000,000	1900,000	70,000	16,000
18,000	25,000	2000,000	1900,000	70,000	18,000
19,000	25,000	2000,000	1900,000	70,000	19,000
20,000	25,000	2000,000	1900,000	70,000	20,000
22,000	25,000	2000,000	1900,000	70,000	22,000

Spiralbohrer mit Zylinderschaft

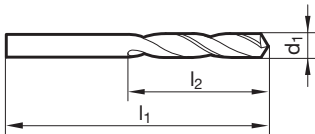
Spiralbohrer extra kurz



Katalog-Nr. 61131



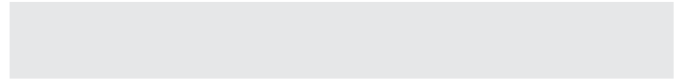
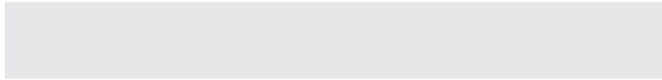
- Ausspitzung $\geq \varnothing 1,000$
- Kegelmantelschliff
- weite Spannuten
- besonders hohe Verschleißfestigkeit
- besonders hohe Stabilität



d1 mm	inch	l1 mm	l2 mm	d1 mm	inch	l1 mm	l2 mm
1,000		26,000	6,000	6,000		66,000	28,000
1,100		28,000	7,000	6,100		70,000	31,000
1,200		30,000	8,000	6,200		70,000	31,000
1,300		30,000	8,000	6,300		70,000	31,000
1,400		32,000	9,000	6,400		70,000	31,000
1,500		32,000	9,000	6,500		70,000	31,000
1,600		34,000	10,000	6,600		70,000	31,000
1,700		34,000	10,000	6,700		70,000	31,000
1,800		36,000	11,000	6,800		74,000	34,000
1,900		36,000	11,000	6,900		74,000	34,000
2,000		38,000	12,000	7,000		74,000	34,000
2,100		38,000	12,000	7,100		74,000	34,000
2,200		40,000	13,000	7,200		74,000	34,000
2,300		40,000	13,000	7,300		74,000	34,000
2,400		43,000	14,000	7,400		74,000	34,000
2,500		43,000	14,000	7,500		74,000	34,000
2,700		46,000	16,000	7,600		79,000	37,000
2,800		46,000	16,000	7,700		79,000	37,000
2,900		46,000	16,000	7,800		79,000	37,000
3,000		46,000	16,000	7,900		79,000	37,000
3,100		49,000	18,000	8,000		79,000	37,000
3,200		49,000	18,000	8,100		79,000	37,000
3,300		49,000	18,000	8,200		79,000	37,000
3,400		52,000	20,000	8,300		79,000	37,000
3,500		52,000	20,000	8,400		79,000	37,000
3,600		52,000	20,000	8,500		79,000	37,000
3,700		52,000	20,000	8,600		84,000	40,000
3,800		55,000	22,000	8,700		84,000	40,000
3,900		55,000	22,000	8,800		84,000	40,000
4,000		55,000	22,000	8,900		84,000	40,000
4,100		55,000	22,000	9,000		84,000	40,000
4,200		55,000	22,000	9,100		84,000	40,000
4,300		58,000	24,000	9,200		84,000	40,000
4,400		58,000	24,000	9,300		84,000	40,000
4,500		58,000	24,000	9,400		84,000	40,000
4,600		58,000	24,000	9,500		84,000	40,000
4,700		58,000	24,000	9,600		89,000	43,000
4,800		62,000	26,000	9,700		89,000	43,000
4,900		62,000	26,000	9,800		89,000	43,000
5,000		62,000	26,000	9,900		89,000	43,000
5,100		62,000	26,000	10,000		89,000	43,000
5,300		62,000	26,000	10,200		89,000	43,000
5,400		66,000	28,000	10,500		89,000	43,000
5,500		66,000	28,000	11,000		95,000	47,000
5,600		66,000	28,000	11,200		95,000	47,000
5,700		66,000	28,000	11,500		95,000	47,000
5,800		66,000	28,000	11,800		95,000	47,000
5,900		66,000	28,000	12,000		102,000	51,000

d1 mm	inch	l1 mm	l2 mm
12,500		102,000	51,000
13,000		102,000	51,000

d1 mm	inch	l1 mm	l2 mm



Spiralbohrer mit Zylinderschaft

Spiralbohrer kurz

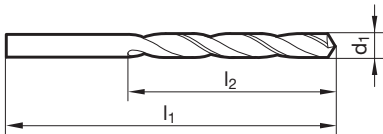


Katalog-Nr. 61232



P	M	K	N	S	H
○	●	○	○	●	

- Ausspitzung $\geq \varnothing 1,000$
- Kegelmantelanschliff
- weite Spannuten
- besonders hohe Stabilität
- besonders hohe Verschleißfestigkeit



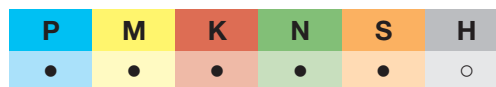
d1 mm	inch	l1 mm	l2 mm	d1 mm	inch	l1 mm	l2 mm
1,000		34,000	12,000	6,200		101,000	63,000
1,100		36,000	14,000	6,300		101,000	63,000
1,200		38,000	16,000	6,400		101,000	63,000
1,300		38,000	16,000	6,500		101,000	63,000
1,400		40,000	18,000	6,700		101,000	63,000
1,500		40,000	18,000	6,800		109,000	69,000
1,600		43,000	20,000	6,900		109,000	69,000
1,700		43,000	20,000	7,000		109,000	69,000
1,800		46,000	22,000	7,100		109,000	69,000
1,900		46,000	22,000	7,200		109,000	69,000
2,000		49,000	24,000	7,300		109,000	69,000
2,100		49,000	24,000	7,400		109,000	69,000
2,200		53,000	27,000	7,500		109,000	69,000
2,300		53,000	27,000	7,600		117,000	75,000
2,400		57,000	30,000	7,700		117,000	75,000
2,500		57,000	30,000	7,800		117,000	75,000
2,700		61,000	33,000	7,900		117,000	75,000
2,800		61,000	33,000	8,000		117,000	75,000
2,900		61,000	33,000	8,100		117,000	75,000
3,000		61,000	33,000	8,200		117,000	75,000
3,100		65,000	36,000	8,300		117,000	75,000
3,200		65,000	36,000	8,400		117,000	75,000
3,300		65,000	36,000	8,500		117,000	75,000
3,400		70,000	39,000	8,600		125,000	81,000
3,500		70,000	39,000	8,700		125,000	81,000
3,600		70,000	39,000	8,800		125,000	81,000
3,700		70,000	39,000	8,900		125,000	81,000
3,800		75,000	43,000	9,000		125,000	81,000
4,000		75,000	43,000	9,100		125,000	81,000
4,100		75,000	43,000	9,200		125,000	81,000
4,200		75,000	43,000	9,300		125,000	81,000
4,300		80,000	47,000	9,400		125,000	81,000
4,400		80,000	47,000	9,500		125,000	81,000
4,500		80,000	47,000	9,600		133,000	87,000
4,600		80,000	47,000	9,700		133,000	87,000
4,700		80,000	47,000	9,800		133,000	87,000
4,800		86,000	52,000	9,900		133,000	87,000
4,900		86,000	52,000	10,000		133,000	87,000
5,000		86,000	52,000	10,200		133,000	87,000
5,100		86,000	52,000	10,500		133,000	87,000
5,200		86,000	52,000	11,000		142,000	94,000
5,300		86,000	52,000	11,200		142,000	94,000
5,500		93,000	57,000	11,500		142,000	94,000
5,700		93,000	57,000	11,800		142,000	94,000
5,800		93,000	57,000	12,000		151,000	101,000
5,900		93,000	57,000	12,500		151,000	101,000
6,000		93,000	57,000	13,000		151,000	101,000
6,100		101,000	63,000				

Spiralbohrer mit Zylinderschaft

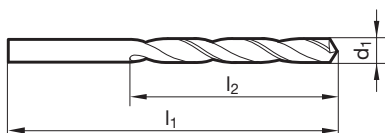
V16-Spiralbohrer



Katalog-Nr. 71018



- Ausspitzung $\geq \varnothing 1,000$
- optimierter Kreuzanschliff
- 8%-kobaltlegierter HSCO-Schnellarbeitsstahl für längere Werkzeuglebensdauer, höhere Warmhärte und Wärmefestigkeit
- für stationären und mobilen Einsatz
- unlegierte- und höherlegierte Stahlwerkstoffe
- Gusswerkstoffe
- NE-Metalle
- Titan und Titanlegierungen



d1 mm	inch	l1 mm	l2 mm
1,000		34,000	12,000
1,100		36,000	14,000
1,200		38,000	16,000
1,300		38,000	16,000
1,400		40,000	18,000
1,500		40,000	18,000
1,590	1/16	43,000	20,000
1,600		43,000	20,000
1,700		43,000	20,000
1,800		46,000	22,000
1,900		46,000	22,000
1,980	5/64	49,000	24,000
2,000		49,000	24,000
2,100		49,000	24,000
2,200		53,000	27,000
2,300		53,000	27,000
2,380	3/32	57,000	30,000
2,400		57,000	30,000
2,500		57,000	30,000
2,600		57,000	30,000
2,700		61,000	33,000
2,780	7/64	61,000	33,000
2,800		61,000	33,000
2,900		61,000	33,000
3,000		61,000	33,000
3,100		65,000	36,000
3,170	1/8	65,000	36,000
3,200		65,000	36,000
3,250		65,000	36,000
3,300		65,000	36,000
3,400		70,000	39,000
3,500		70,000	39,000
3,570	9/64	70,000	39,000
3,600		70,000	39,000
3,700		70,000	39,000
3,800		75,000	43,000
3,900		75,000	43,000
3,970	5/32	75,000	43,000
4,000		75,000	43,000
4,100		75,000	43,000
4,200		75,000	43,000
4,300		80,000	47,000
4,400		80,000	47,000
4,500		80,000	47,000
4,600		80,000	47,000
4,700		80,000	47,000
4,760	3/16	86,000	52,000
4,800		86,000	52,000

d1 mm	inch	l1 mm	l2 mm
4,900		86,000	52,000
5,000		86,000	52,000
5,100		86,000	52,000
5,160	13/64	86,000	52,000
5,200		86,000	52,000
5,300		86,000	52,000
5,400		93,000	57,000
5,500		93,000	57,000
5,560	7/32	93,000	57,000
5,600		93,000	57,000
5,700		93,000	57,000
5,800		93,000	57,000
5,900		93,000	57,000
5,950	15/64	93,000	57,000
6,000		93,000	57,000
6,100		101,000	63,000
6,200		101,000	63,000
6,300		101,000	63,000
6,350	1/4	101,000	63,000
6,400		101,000	63,000
6,500		101,000	63,000
6,600		101,000	63,000
6,700		101,000	63,000
6,800		109,000	69,000
6,900		109,000	69,000
7,000		109,000	69,000
7,100		109,000	69,000
7,140	9/32	109,000	69,000
7,200		109,000	69,000
7,300		109,000	69,000
7,400		109,000	69,000
7,500		109,000	69,000
7,540	19/64	117,000	75,000
7,600		117,000	75,000
7,700		117,000	75,000
7,800		117,000	75,000
7,900		117,000	75,000
7,940	5/16	117,000	75,000
8,000		117,000	75,000
8,100		117,000	75,000
8,200		117,000	75,000
8,300		117,000	75,000
8,330	21/64	117,000	75,000
8,400		117,000	75,000
8,500		117,000	75,000
8,600		125,000	81,000
8,700		125,000	81,000
8,730	11/32	125,000	81,000

d1 mm	inch	l1 mm	l2 mm	d1 mm	inch	l1 mm	l2 mm
8,800		125,000	81,000	10,320	13/32	133,000	87,000
8,900		125,000	81,000	10,500		133,000	87,000
9,000		125,000	81,000	10,720	27/64	142,000	94,000
9,100		125,000	81,000	10,800		142,000	94,000
9,130	23/64	125,000	81,000	11,000		142,000	94,000
9,200		125,000	81,000	11,110	7/16	142,000	94,000
9,300		125,000	81,000	11,500		142,000	94,000
9,500		125,000	81,000	11,510	29/64	142,000	94,000
9,520	3/8	133,000	87,000	11,910	15/32	151,000	101,000
9,600		133,000	87,000	12,000		151,000	101,000
9,700		133,000	87,000	12,200		151,000	101,000
9,800		133,000	87,000	12,300	31/64	151,000	101,000
9,900		133,000	87,000	12,500		151,000	101,000
9,920	25/64	133,000	87,000	12,700	1/2	151,000	101,000
10,000		133,000	87,000	12,800		151,000	101,000
10,100		133,000	87,000	13,000		151,000	101,000
10,200		133,000	87,000				
10,300		133,000	87,000				

Spiralbohrer mit Zylinderschaft

V16-Spiralbohrer-Sätze



V16	~5xD	DIN 338	M42	Bronze-VAP	135°	h8	R	Cyl
P	M	K	N	S	H			
●	●	●	●	●	○			

- optimierter Kreuzanschliff
- 8%-kobaltlegierter HSCO-Schnellarbeitsstahl
- für stationären und mobilen Einsatz
- Für Monteure und Handwerker stehen Sätze mit den gebräuchlichsten Bohrerabmessungen zur Verfügung, die mit Kassetten geliefert werden können. Auf Wunsch sind andere Satz-Zusammenstellungen möglich.

Katalog-Nr. 71019

Code-Nr.	d1 mm	steigend um mm	Stück/Satz
0,013	1,0-10,0	0,5	19
0,014	1,0-13,0	0,5	25

Maschinen-Gewindebohrer**V16-Pocket-Satz (Spiralbohrer, Gewindebohrer und Senker)**

- bestehend aus Gewindebohrer Katalog-Nr. 73046 (M3 / M4 / M5 / M6 / M8 / M10), Spiralbohrer Katalog-Nr. 71018 (Ø 2,5 / 3,3 / 4,2 / 5,0 / 6,8 / 8,5) und Kegelsenker 90° Katalog-Nr. 72346 (Ø 6,3 / 12,4)

Katalog-Nr. 71020

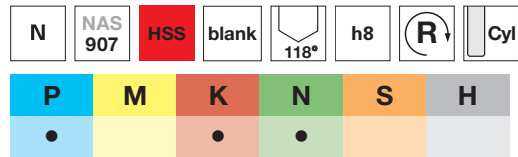
Code-Nr.	Stück/Satz
1,000	14

Spiralbohrer mit Zylinderschaft

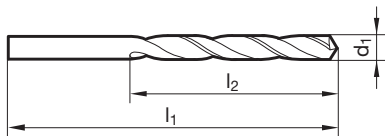
Stangenbohrer, Länge 6 inches



Katalog-Nr. 71140



- Kegelmantelschliff
- Bleche aus Al-Legierungen
- geschichtete Platten (Sandwich-Pakete)
- Stahl und Guss



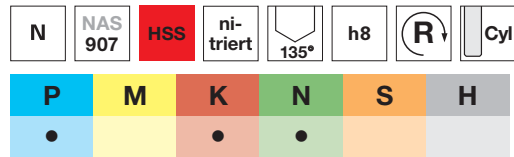
d1 mm	inch	l1 mm	l2 mm	d1 mm	inch	l1 mm	l2 mm
1,500		153,000	23,000	4,000		154,000	55,000
1,590	1/16	153,000	26,000	4,040		154,000	55,000
1,610		153,000	26,000	4,090		154,000	55,000
1,650		153,000	26,000	4,220		154,000	55,000
1,750		153,000	26,000	4,300		154,000	60,000
1,780		153,000	26,000	4,370	11/64	154,000	60,000
1,850		153,000	26,000	4,390		154,000	60,000
1,900		153,000	26,000	4,500		154,000	60,000
1,930		153,000	29,000	4,570		154,000	60,000
1,980	5/64	153,000	29,000	4,700		154,000	60,000
1,990		153,000	29,000	4,760	3/16	154,000	63,500
2,000		153,000	29,000	4,800		154,000	63,500
2,080		153,000	29,000	4,850		154,000	63,500
2,100		153,000	29,000	4,920		154,000	63,500
2,180		153,000	32,500	4,980		154,000	63,500
2,260		153,000	32,500	5,000		154,000	63,500
2,300		153,000	32,500	5,110		154,000	63,500
2,370		153,000	37,000	5,160	13/64	154,000	63,500
2,380	3/32	153,000	37,000	5,500		154,000	68,500
2,400		153,000	37,000	5,560	7/32	154,000	68,500
2,490		153,000	37,000	5,610		154,000	68,500
2,500		153,000	37,000	5,790		154,000	68,500
2,530		153,000	37,000	5,800		154,000	68,500
2,580		153,000	37,000	5,940		154,000	68,500
2,640		153,000	37,000	5,950	15/64	154,000	68,500
2,710		153,000	42,000	6,040		154,000	75,000
2,780	7/64	153,000	42,000	6,150		154,000	75,000
2,790		153,000	42,000	6,200		154,000	75,000
2,820		153,000	42,000	6,250		154,000	75,000
2,870		153,000	42,000	6,350	1/4	154,000	75,000
2,950		153,000	42,000	6,400		154,000	75,000
3,000		153,000	42,000	6,530		154,000	75,000
3,050		153,000	42,000	6,630		154,000	75,000
3,170	1/8	153,000	42,000	6,750	17/64	155,000	80,000
3,200		153,000	42,000	6,800		155,000	80,000
3,260		153,000	42,000	7,000		155,000	80,000
3,450		154,000	49,000	7,500		155,000	80,000
3,500		154,000	49,000	7,700		155,000	90,000
3,570	9/64	154,000	49,000	7,940	5/16	155,000	90,000
3,600		154,000	49,000	8,000		155,000	90,000
3,660		154,000	49,000	8,500		155,000	90,000
3,700		154,000	49,000				
3,730		154,000	49,000				
3,800		154,000	55,000				
3,860		154,000	55,000				
3,910		154,000	55,000				
3,970	5/32	154,000	55,000				
3,990		154,000	55,000				

Spiralbohrer mit Zylinderschaft

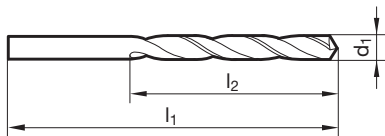
Stangenbohrer, Länge 6 inches



Katalog-Nr. 71142



- Kegelmantelschliff
- Bleche aus Al-Legierungen
- geschichtete Platten (Sandwich-Pakete)
- Stahl und Guss



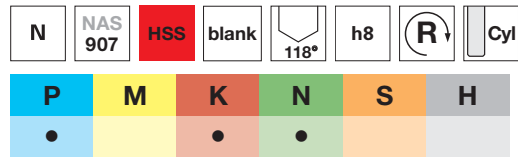
d1 mm	inch	l1 mm	l2 mm	d1 mm	inch	l1 mm	l2 mm
1,500		153,000	23,000	4,390		154,000	60,000
1,590	1/16	153,000	26,000	4,500		154,000	60,000
1,700		153,000	26,000	4,570		154,000	60,000
1,750		153,000	26,000	4,620		154,000	60,000
1,780		153,000	26,000	4,700		154,000	60,000
1,900		153,000	26,000	4,760	3/16	154,000	63,500
1,980	5/64	153,000	29,000	4,800		154,000	63,500
2,000		153,000	29,000	4,850		154,000	63,500
2,300		153,000	32,500	4,920		154,000	63,500
2,380	3/32	153,000	37,000	4,980		154,000	63,500
2,400		153,000	37,000	5,000		154,000	63,500
2,490		153,000	37,000	5,060		154,000	63,500
2,500		153,000	37,000	5,110		154,000	63,500
2,530		153,000	37,000	5,160	13/64	154,000	63,500
2,580		153,000	37,000	5,410		154,000	68,500
2,640		153,000	37,000	5,500		154,000	68,500
2,710		153,000	42,000	5,560	7/32	154,000	68,500
2,780	7/64	153,000	42,000	5,610		154,000	68,500
2,790		153,000	42,000	5,790		154,000	68,500
2,820		153,000	42,000	5,800		154,000	68,500
2,870		153,000	42,000	5,940		154,000	68,500
2,950		153,000	42,000	5,950	15/64	154,000	68,500
3,000		153,000	42,000	6,040		154,000	75,000
3,050		153,000	42,000	6,150		154,000	75,000
3,170	1/8	153,000	42,000	6,200		154,000	75,000
3,200		153,000	42,000	6,250		154,000	75,000
3,260		153,000	42,000	6,350	1/4	154,000	75,000
3,450		154,000	49,000	6,450		154,000	75,000
3,500		154,000	49,000	6,530		154,000	75,000
3,570	9/64	154,000	49,000	6,750	17/64	155,000	80,000
3,600		154,000	49,000	6,800		155,000	80,000
3,660		154,000	49,000	7,000		155,000	80,000
3,700		154,000	49,000	7,700		155,000	90,000
3,800		154,000	55,000	7,940	5/16	155,000	90,000
3,970	5/32	154,000	55,000	8,000		155,000	90,000
3,990		154,000	55,000				
4,000		154,000	55,000				
4,040		154,000	55,000				
4,090		154,000	55,000				
4,220		154,000	55,000				
4,300		154,000	60,000				
4,370	11/64	154,000	60,000				

Spiralbohrer mit Zylinderschaft

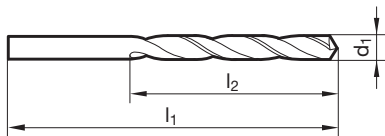
Stangenbohrer, Länge 12 inches



Katalog-Nr. 71141



- Kegelmantelschliff
- Bleche aus Al-Legierungen
- geschichtete Platten (Sandwich-Pakete)
- Stahl und Guss



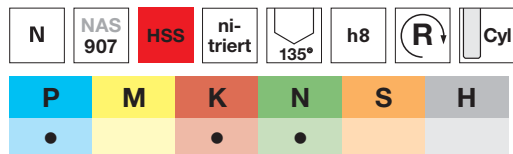
d1 mm	inch	l1 mm	l2 mm	d1 mm	inch	l1 mm	l2 mm
1,500		306,000	23,000	4,300		308,000	60,000
1,590	1/16	306,000	26,000	4,370	11/64	308,000	60,000
1,780		306,000	26,000	4,390		308,000	60,000
1,850		306,000	26,000	4,500		308,000	60,000
1,900		306,000	26,000	4,570		308,000	60,000
1,930		306,000	29,000	4,620		308,000	60,000
1,980	5/64	306,000	29,000	4,700		308,000	60,000
1,990		306,000	29,000	4,760	3/16	308,000	63,500
2,000		306,000	29,000	4,800		308,000	63,500
2,060		306,000	29,000	4,850		308,000	63,500
2,080		306,000	29,000	4,920		308,000	63,500
2,100		306,000	29,000	4,980		308,000	63,500
2,180		306,000	32,500	5,000		308,000	63,500
2,260		306,000	32,500	5,160	13/64	308,000	63,500
2,380	3/32	306,000	37,000	5,220		308,000	63,500
2,440		306,000	37,000	5,410		308,000	68,500
2,490		306,000	37,000	5,500		308,000	68,500
2,500		306,000	37,000	5,560	7/32	308,000	68,500
2,530		306,000	37,000	5,790		308,000	68,500
2,580		306,000	37,000	5,800		308,000	68,500
2,640		306,000	37,000	5,950	15/64	308,000	68,500
2,780	7/64	306,000	42,000	6,000		308,000	68,500
2,790		306,000	42,000	6,040		308,000	75,000
2,820		306,000	42,000	6,150		308,000	75,000
2,950		306,000	42,000	6,200		308,000	75,000
3,000		306,000	42,000	6,250		308,000	75,000
3,050		306,000	42,000	6,350	1/4	308,000	75,000
3,170	1/8	306,000	42,000	6,530		308,000	75,000
3,200		306,000	42,000	7,000		310,000	80,000
3,260		306,000	42,000	7,700		310,000	90,000
3,450		308,000	49,000	7,940	5/16	310,000	90,000
3,500		308,000	49,000	8,000		310,000	90,000
3,570	9/64	308,000	49,000	8,500		310,000	90,000
3,600		308,000	49,000				
3,660		308,000	49,000				
3,700		308,000	49,000				
3,800		308,000	55,000				
3,970	5/32	308,000	55,000				
4,000		308,000	55,000				
4,040		308,000	55,000				
4,090		308,000	55,000				
4,220		308,000	55,000				

Spiralbohrer mit Zylinderschaft

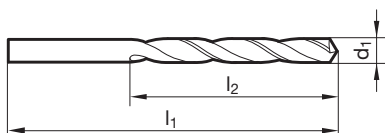
Stangenbohrer, Länge 12 inches



Katalog-Nr. 71143



- Kegelmantelschliff
- Bleche aus Al-Legierungen
- geschichtete Platten (Sandwich-Pakete)
- Stahl und Guss



d1 mm	inch	l1 mm	l2 mm
1,500		306,000	23,000
1,590	1/16	306,000	26,000
1,780		306,000	26,000
1,900		306,000	26,000
1,980	5/64	306,000	29,000
2,000		306,000	29,000
2,300		306,000	32,500
2,380	3/32	306,000	37,000
2,490		306,000	37,000
2,500		306,000	37,000
2,530		306,000	37,000
2,580		306,000	37,000
2,640		306,000	37,000
2,710		306,000	42,000
2,780	7/64	306,000	42,000
2,790		306,000	42,000
2,820		306,000	42,000
2,870		306,000	42,000
2,950		306,000	42,000
3,000		306,000	42,000
3,050		306,000	42,000
3,170	1/8	306,000	42,000
3,200		306,000	42,000
3,260		306,000	42,000
3,450		308,000	49,000
3,500		308,000	49,000
3,600		308,000	49,000
3,660		308,000	49,000
3,700		308,000	49,000
3,730		308,000	49,000
3,800		308,000	55,000
3,970	5/32	308,000	55,000
3,990		308,000	55,000
4,000		308,000	55,000
4,040		308,000	55,000
4,090		308,000	55,000

d1 mm	inch	l1 mm	l2 mm
4,220		308,000	55,000
4,290		308,000	60,000
4,300		308,000	60,000
4,370	11/64	308,000	60,000
4,390		308,000	60,000
4,500		308,000	60,000
4,570		308,000	60,000
4,620		308,000	60,000
4,700		308,000	60,000
4,760	3/16	308,000	63,500
4,800		308,000	63,500
4,850		308,000	63,500
4,920		308,000	63,500
4,980		308,000	63,500
5,000		308,000	63,500
5,060		308,000	63,500
5,110		308,000	63,500
5,160	13/64	308,000	63,500
5,500		308,000	68,500
5,560	7/32	308,000	68,500
5,790		308,000	68,500
5,940		308,000	68,500
5,950	15/64	308,000	68,500
6,000		308,000	68,500
6,040		308,000	75,000
6,150		308,000	75,000
6,200		308,000	75,000
6,250		308,000	75,000
6,350	1/4	308,000	75,000
6,530		308,000	75,000
6,800		310,000	80,000
7,000		310,000	80,000
7,700		310,000	90,000
7,940	5/16	310,000	90,000
8,000		310,000	90,000

Maschinen-Gewindebohrer

Gewindebohrer für Metrische ISO-Gewinde

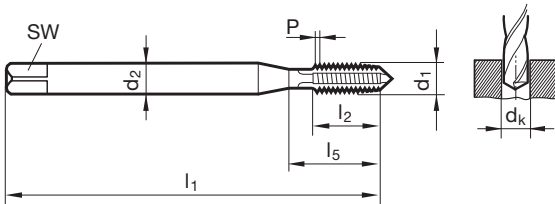


Katalog-Nr. 53737

Produktiv N-X	DIN 371/376	B	HSS-E	AlTiZrN	R	6H +0,1
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P	M	K	N	S	H
●	●	○	○	○	

- für Durchgangsgewinde
- mit Schälanschnitt
- Spanförderung in Vorschubrichtung
- universell einsetzbar
- Stahlwerkstoffe bis 1200 N/mm²
- rost-/säurebest. Stähle
- NE-Metalle
- Gusswerkstoffe



d1	P	d2	SW	dk	l1	l2	l5
	mm	mm	mm	mm	mm	mm	mm
M2	0,400	2,800	2,100	1,60	45,000	8,000	13,500
M2,5	0,450	2,800	2,100	2,05	50,000	9,000	14,500
M3	0,500	3,500	2,700	2,50	56,000	10,000	18,000
M4	0,700	4,500	3,400	3,30	63,000	12,000	21,000
M5	0,800	6,000	4,900	4,20	70,000	14,000	25,000
M6	1,000	6,000	4,900	5,00	80,000	16,000	30,000
M8	1,250	8,000	6,200	6,80	90,000	17,000	35,000
M10	1,500	10,000	8,000	8,50	100,000	20,000	39,000
M12	1,750	9,000	7,000	10,20	110,000	24,000	49,000
M14	2,000	11,000	9,000	12,00	110,000	26,000	53,000
M16	2,000	12,000	9,000	14,00	110,000	26,000	54,000
M18	2,500	14,000	11,000	15,50	125,000	30,000	62,000
M20	2,500	16,000	12,000	17,50	140,000	32,000	62,000
M24	3,000	18,000	14,500	21,00	160,000	36,000	73,000
M30	3,500	22,000	18,000	26,50	180,000	40,000	85,000

Maschinen-Gewindebohrer

Gewindebohrer für Metrische ISO-Gewinde

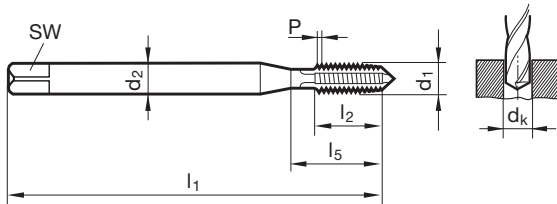


Katalog-Nr. 53738



P	M	K	N	S	H
●	●	○	○	○	

- für Durchgangsgewinde
- mit Schälanschnitt
- Spanförderung in Vorschubrichtung
- universell einsetzbar
- Stahlwerkstoffe bis 1200 N/mm²
- rost-/säurebest. Stähle
- NE-Metalle
- Gusswerkstoffe



d1	P	d2	SW	dk	l1	l2	l5
	mm	mm	mm	mm	mm	mm	mm
M2	0,400	2,800	2,100	1,60	45,000	8,000	13,500
M2,5	0,450	2,800	2,100	2,05	50,000	9,000	14,500
M3	0,500	3,500	2,700	2,50	56,000	10,000	18,000
M4	0,700	4,500	3,400	3,30	63,000	12,000	21,000
M5	0,800	6,000	4,900	4,20	70,000	14,000	25,000
M6	1,000	6,000	4,900	5,00	80,000	16,000	30,000
M8	1,250	8,000	6,200	6,80	90,000	17,000	35,000
M10	1,500	10,000	8,000	8,50	100,000	20,000	39,000
M12	1,750	9,000	7,000	10,20	110,000	24,000	49,000
M14	2,000	11,000	9,000	12,00	110,000	26,000	53,000
M16	2,000	12,000	9,000	14,00	110,000	26,000	54,000
M18	2,500	14,000	11,000	15,50	125,000	30,000	62,000
M20	2,500	16,000	12,000	17,50	140,000	32,000	62,000
M24	3,000	18,000	14,500	21,00	160,000	36,000	73,000
M30	3,500	22,000	18,000	26,50	180,000	40,000	85,000

Maschinen-Gewindebohrer

Gewindebohrer für Metrische ISO-Gewinde

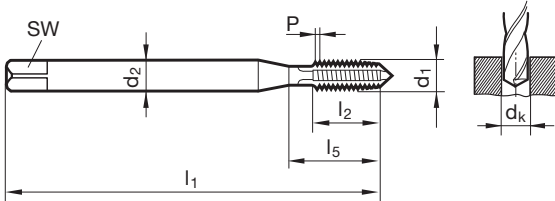


Katalog-Nr. 53739



P	M	K	N	S	H
●	●	○	○	○	

- für Durchgangsgewinde
- mit Schälanschnitt
- Spanförderung in Vorschubrichtung
- überlang
- universell einsetzbar
- Stahlwerkstoffe bis 1200 N/mm²
- rost-/säurebest. Stähle
- NE-Metalle
- Gusswerkstoffe



d1	P	d2	SW	dk	l1	l2	l5
	mm	mm	mm	mm	mm	mm	mm
M3	0,500	3,500	2,700	2,50	90,000	10,000	18,000
M4	0,700	4,500	3,400	3,30	125,000	12,000	21,000
M5	0,800	6,000	4,900	4,20	140,000	14,000	25,000
M6	1,000	6,000	4,900	5,00	160,000	16,000	30,000
M8	1,250	8,000	6,200	6,80	180,000	17,000	35,000
M10	1,500	10,000	8,000	8,50	200,000	20,000	39,000
M12	1,750	9,000	7,000	10,20	220,000	24,000	158,000
M14	2,000	11,000	9,000	12,00	220,000	26,000	160,000
M16	2,000	12,000	9,000	14,00	220,000	26,000	160,000
M20	2,500	16,000	12,000	17,50	280,000	32,000	217,000

Maschinen-Gewindebohrer

Gewindebohrer für Metrische ISO-Gewinde

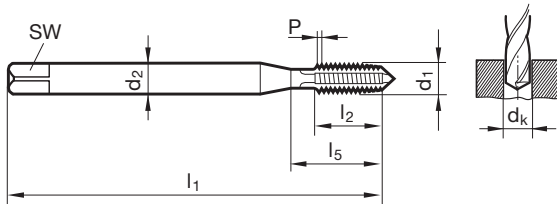


Katalog-Nr. 53735



P	M	K	N	S	H
●	●	○	○	○	

- für Durchgangsgewinde
- mit Schälanschnitt
- Spanförderung in Vorschubrichtung
- universell einsetzbar
- Stahlwerkstoffe bis 1200 N/mm²
- rost-/säurebest. Stähle
- NE-Metalle
- Gusswerkstoffe



d1	P	d2	SW	dk	l1	l2	l5
	mm	mm	mm	mm	mm	mm	mm
M3	0,500	3,500	2,700	2,50	56,000	10,000	18,000
M4	0,700	4,500	3,400	3,30	63,000	12,000	21,000
M5	0,800	6,000	4,900	4,20	70,000	14,000	25,000
M6	1,000	6,000	4,900	5,00	80,000	16,000	30,000
M8	1,250	8,000	6,200	6,80	90,000	17,000	35,000
M10	1,500	10,000	8,000	8,50	100,000	20,000	39,000
M12	1,750	9,000	7,000	10,20	110,000	24,000	49,000
M14	2,000	11,000	9,000	12,00	110,000	26,000	53,000
M16	2,000	12,000	9,000	14,00	110,000	26,000	54,000
M20	2,500	16,000	12,000	17,50	140,000	32,000	62,000

Maschinen-Gewindebohrer

Gewindebohrer für Metrische ISO-Gewinde

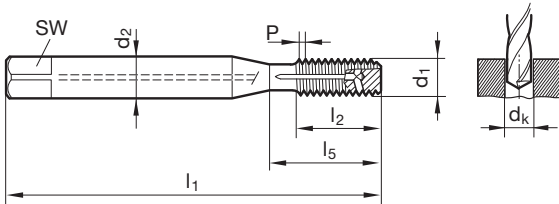


Katalog-Nr. 53736

Produktiv N-X	DIN 371/376	B	HSS-E- PM	AlTiZrN	R	6HX
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P	M	K	N	S	H
●	●	○	○	○	

- für Durchgangsgewinde
- mit Schälanschnitt
- radialer Kühlmittelaustritt
- Spanförderung in Vorschubrichtung
- universell einsetzbar
- Stahlwerkstoffe bis 1200 N/mm²
- rost-/säurebest. Stähle
- NE-Metalle
- Gusswerkstoffe



d1	P	d2	SW	dk	l1	l2	l5
	mm	mm	mm	mm	mm	mm	mm
M5	0,800	6,000	4,900	4,20	70,000	14,000	25,000
M6	1,000	6,000	4,900	5,00	80,000	16,000	30,000
M8	1,250	8,000	6,200	6,80	90,000	17,000	35,000
M10	1,500	10,000	8,000	8,50	100,000	20,000	39,000
M12	1,750	9,000	7,000	10,20	110,000	24,000	49,000
M14	2,000	11,000	9,000	12,00	110,000	26,000	53,000
M16	2,000	12,000	9,000	14,00	110,000	26,000	54,000
M20	2,500	16,000	12,000	17,50	140,000	32,000	62,000
M24	3,000	18,000	14,500	21,00	160,000	36,000	73,000
M30	3,500	22,000	18,000	26,50	180,000	40,000	85,000

Maschinen-Gewindebohrer

Gewindebohrer für Metrische ISO-Gewinde

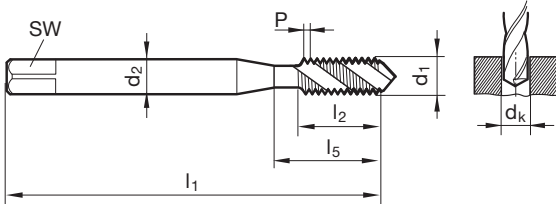


Katalog-Nr. 53750



P	M	K	N	S	H
●	●	○	○	○	

- für Grundgewinde
- Nuten mit ca. 45° Rechtsdrall
- Spanförderung in Schafrichtung
- universell einsetzbar
- Stahlwerkstoffe bis 1200 N/mm²
- rost-/säurebest. Stähle
- NE-Metalle
- Gusswerkstoffe



d1	P	d2	SW	dk	l1	l2	l5
	mm	mm	mm	mm	mm	mm	mm
M2	0,400	2,800	2,100	1,60	45,000	4,500	13,500
M2,5	0,450	2,800	2,100	2,05	50,000	5,000	14,500
M3	0,500	3,500	2,700	2,50	56,000	6,000	18,000
M4	0,700	4,500	3,400	3,30	63,000	7,500	21,000
M5	0,800	6,000	4,900	4,20	70,000	8,500	25,000
M6	1,000	6,000	4,900	5,00	80,000	11,000	30,000
M8	1,250	8,000	6,200	6,80	90,000	14,000	35,000
M10	1,500	10,000	8,000	8,50	100,000	16,000	39,000
M12	1,750	9,000	7,000	10,20	110,000	18,500	49,000
M14	2,000	11,000	9,000	12,00	110,000	20,000	53,000
M16	2,000	12,000	9,000	14,00	110,000	20,000	54,000
M18	2,500	14,000	11,000	15,50	125,000	25,000	62,000
M20	2,500	16,000	12,000	17,50	140,000	25,000	62,000
M24	3,000	18,000	14,500	21,00	160,000	30,000	73,000
M30	3,500	22,000	18,000	26,50	180,000	35,000	85,000

Maschinen-Gewindebohrer

Gewindebohrer für Metrische ISO-Gewinde

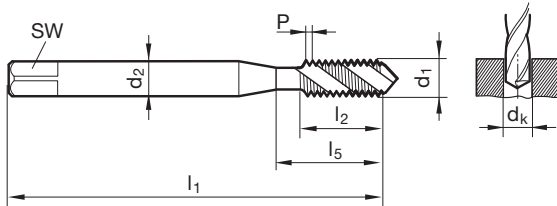


Katalog-Nr. 53751



P	M	K	N	S	H
●	●	○	○	○	

- für Grundgewinde
- Nuten mit ca. 45° Rechtsdrall
- Spanförderung in Schafrichtung
- universell einsetzbar
- Stahlwerkstoffe bis 1200 N/mm²
- rost-/säurebest. Stähle
- NE-Metalle
- Gusswerkstoffe



d1	P mm	d2 mm	SW mm	dk mm	l1 mm	l2 mm	l5 mm
M2	0,400	2,800	2,100	1,60	45,000	4,500	13,500
M2,5	0,450	2,800	2,100	2,05	50,000	5,000	14,500
M3	0,500	3,500	2,700	2,50	56,000	6,000	18,000
M4	0,700	4,500	3,400	3,30	63,000	7,500	21,000
M5	0,800	6,000	4,900	4,20	70,000	8,500	25,000
M6	1,000	6,000	4,900	5,00	80,000	11,000	30,000
M8	1,250	8,000	6,200	6,80	90,000	14,000	35,000
M10	1,500	10,000	8,000	8,50	100,000	16,000	39,000
M12	1,750	9,000	7,000	10,20	110,000	18,500	49,000
M14	2,000	11,000	9,000	12,00	110,000	20,000	53,000
M16	2,000	12,000	9,000	14,00	110,000	20,000	54,000
M18	2,500	14,000	11,000	15,50	125,000	25,000	62,000
M20	2,500	16,000	12,000	17,50	140,000	25,000	62,000
M24	3,000	18,000	14,500	21,00	160,000	30,000	73,000
M30	3,500	22,000	18,000	26,50	180,000	35,000	85,000

Maschinen-Gewindebohrer

Gewindebohrer für Metrische ISO-Gewinde

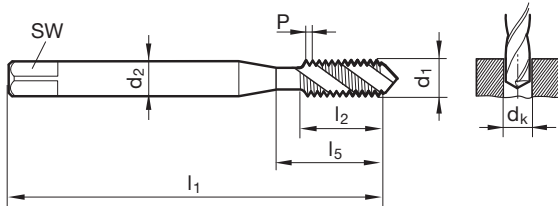


Katalog-Nr. 53752



P	M	K	N	S	H
●	●	○	○	○	

- für Grundgewinde
- Nuten mit ca. 45° Rechtsdrall
- Spanförderung in Schafrichtung
- überlang
- universell einsetzbar
- Stahlwerkstoffe bis 1200 N/mm²
- rost-/säurebest. Stähle
- NE-Metalle
- Gusswerkstoffe



d1	P	d2	SW	dk	l1	l2	l5
	mm	mm	mm	mm	mm	mm	mm
M3	0,500	3,500	2,700	2,50	90,000	6,000	18,000
M4	0,700	4,500	3,400	3,30	125,000	7,500	21,000
M5	0,800	6,000	4,900	4,20	140,000	8,500	25,000
M6	1,000	6,000	4,900	5,00	160,000	11,000	30,000
M8	1,250	8,000	6,200	6,80	180,000	14,000	35,000
M10	1,500	10,000	8,000	8,50	200,000	16,000	39,000
M12	1,750	9,000	7,000	10,20	220,000	18,500	158,000
M14	2,000	11,000	9,000	12,00	220,000	20,000	160,000
M16	2,000	12,000	9,000	14,00	220,000	20,000	160,000
M20	2,500	16,000	12,000	17,50	280,000	25,000	217,000

Maschinen-Gewindebohrer

Gewindebohrer für Metrische ISO-Gewinde

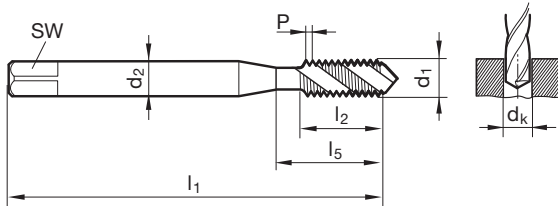


Katalog-Nr. 53760



P	M	K	N	S	H
●	●	○	○	○	

- für Grundgewinde
- Nuten mit ca. 45° Rechtsdrall
- Spanförderung in Schafrichtung
- kurzer Anschnitt für Gewindetiefen nahe Bohrungsgrund
- universell einsetzbar
- Stahlwerkstoffe bis 1200 N/mm²
- rost-/säurebest. Stähle
- NE-Metalle
- Gusswerkstoffe



d1	P mm	d2 mm	SW mm	dk mm	l1 mm	l2 mm	l5 mm
M2	0,400	2,800	2,100	1,60	45,000	4,500	13,500
M2,5	0,450	2,800	2,100	2,05	50,000	5,000	14,500
M3	0,500	3,500	2,700	2,50	56,000	6,000	18,000
M4	0,700	4,500	3,400	3,30	63,000	7,500	21,000
M5	0,800	6,000	4,900	4,20	70,000	8,500	25,000
M6	1,000	6,000	4,900	5,00	80,000	11,000	30,000
M8	1,250	8,000	6,200	6,80	90,000	14,000	35,000
M10	1,500	10,000	8,000	8,50	100,000	16,000	39,000
M12	1,750	9,000	7,000	10,20	110,000	18,500	49,000
M14	2,000	11,000	9,000	12,00	110,000	20,000	53,000
M16	2,000	12,000	9,000	14,00	110,000	20,000	54,000
M18	2,500	14,000	11,000	15,50	125,000	25,000	62,000
M20	2,500	16,000	12,000	17,50	140,000	25,000	62,000
M24	3,000	18,000	14,500	21,00	160,000	30,000	73,000
M30	3,500	22,000	18,000	26,50	180,000	35,000	85,000

Maschinen-Gewindebohrer

Gewindebohrer für Metrische ISO-Gewinde

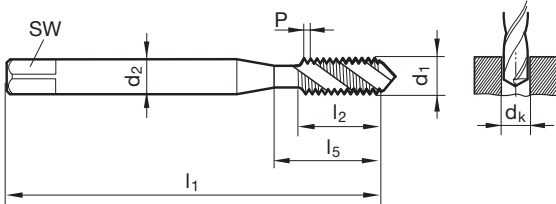


Katalog-Nr. 53748



P	M	K	N	S	H
●	●	○	○	○	

- für Grundgewinde
- Nuten mit ca. 45° Rechtsdrall
- Spanförderung in Schafrichtung
- universell einsetzbar
- Stahlwerkstoffe bis 1200 N/mm²
- rost-/säurebest. Stähle
- NE-Metalle
- Gusswerkstoffe



d1	P	d2	SW	dk	l1	l2	l5
	mm	mm	mm	mm	mm	mm	mm
M3	0,500	3,500	2,700	2,50	56,000	6,000	18,000
M4	0,700	4,500	3,400	3,30	63,000	7,500	21,000
M5	0,800	6,000	4,900	4,20	70,000	8,500	25,000
M6	1,000	6,000	4,900	5,00	80,000	11,000	30,000
M8	1,250	8,000	6,200	6,80	90,000	14,000	35,000
M10	1,500	10,000	8,000	8,50	100,000	16,000	39,000
M12	1,750	9,000	7,000	10,20	110,000	18,500	49,000
M14	2,000	11,000	9,000	12,00	110,000	20,000	53,000
M16	2,000	12,000	9,000	14,00	110,000	20,000	54,000
M20	2,500	16,000	12,000	17,50	140,000	25,000	62,000

Maschinen-Gewindebohrer

Gewindebohrer für Metrische ISO-Gewinde

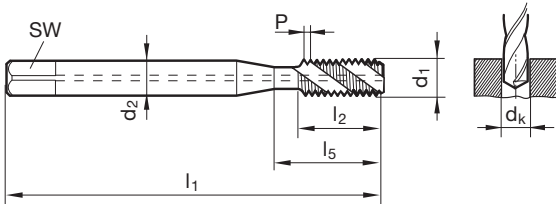


Katalog-Nr. 53749



P	M	K	N	S	H
●	●	○	○	○	

- für Grundgewinde
- Nuten mit ca. 45° Rechtsdrall
- Spanförderung in Schafrichtung
- mit axialem Kühlkanal
- universell einsetzbar
- Stahlwerkstoffe bis 1200 N/mm²
- rost-/säurebest. Stähle
- NE-Metalle
- Gusswerkstoffe



d1	P	d2	SW	dk	l1	l2	l5
	mm	mm	mm	mm	mm	mm	mm
M5	0,800	6,000	4,900	4,20	70,000	8,500	25,000
M6	1,000	6,000	4,900	5,00	80,000	11,000	30,000
M8	1,250	8,000	6,200	6,80	90,000	14,000	35,000
M10	1,500	10,000	8,000	8,50	100,000	16,000	39,000
M12	1,750	9,000	7,000	10,20	110,000	18,500	49,000
M14	2,000	11,000	9,000	12,00	110,000	20,000	53,000
M16	2,000	12,000	9,000	14,00	110,000	20,000	54,000
M20	2,500	16,000	12,000	17,50	140,000	25,000	62,000

Maschinen-Gewindebohrer

Gewindebohrer für Metrische ISO-Gewinde

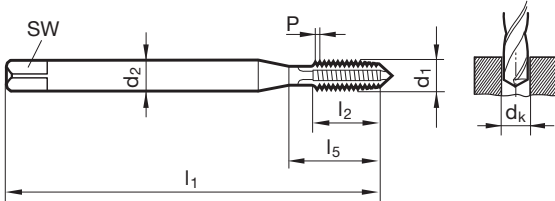


Katalog-Nr. 53734



P	M	K	N	S	H
●	●	○	○	○	

- für Durchgangsgewinde
- mit Schälanschnitt
- Spanförderung in Vorschubrichtung
- universell einsetzbar
- Stahlwerkstoffe bis 1200 N/mm²
- rost-/säurebest. Stähle
- NE-Metalle
- Gusswerkstoffe



d1	P	d2	SW	dk	l1	l2	l5
	mm	mm	mm	mm	mm	mm	mm
M2	0,400	2,800	2,100	1,60	45,000	8,000	13,500
M2,5	0,450	2,800	2,100	2,05	50,000	9,000	14,500
M3	0,500	3,500	2,700	2,50	56,000	10,000	18,000
M4	0,700	4,500	3,400	3,30	63,000	12,000	21,000
M5	0,800	6,000	4,900	4,20	70,000	14,000	25,000
M6	1,000	6,000	4,900	5,00	80,000	16,000	30,000
M8	1,250	8,000	6,200	6,80	90,000	17,000	35,000
M10	1,500	10,000	8,000	8,50	100,000	20,000	39,000
M12	1,750	9,000	7,000	10,20	110,000	24,000	49,000
M14	2,000	11,000	9,000	12,00	110,000	26,000	53,000
M16	2,000	12,000	9,000	14,00	110,000	26,000	54,000
M18	2,500	14,000	11,000	15,50	125,000	30,000	62,000
M20	2,500	16,000	12,000	17,50	140,000	32,000	62,000
M24	3,000	18,000	14,500	21,00	160,000	36,000	73,000
M30	3,500	22,000	18,000	26,50	180,000	40,000	85,000

Maschinen-Gewindebohrer

Gewindebohrer für Metrische ISO-Gewinde

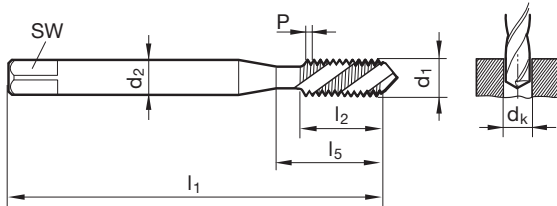


Katalog-Nr. 53747



P	M	K	N	S	H
●	●	○	○	○	

- für Grundgewinde
- Nuten mit ca. 45° Rechtsdrall
- Spanförderung in Schafrichtung
- universell einsetzbar
- Stahlwerkstoffe bis 1200 N/mm²
- rost-/säurebest. Stähle
- NE-Metalle
- Gusswerkstoffe



d1	P	d2	SW	dk	l1	l2	l5
	mm	mm	mm	mm	mm	mm	mm
M2	0,400	2,800	2,100	1,60	45,000	4,500	13,500
M2,5	0,450	2,800	2,100	2,05	50,000	5,000	14,500
M3	0,500	3,500	2,700	2,50	56,000	6,000	18,000
M4	0,700	4,500	3,400	3,30	63,000	7,500	21,000
M5	0,800	6,000	4,900	4,20	70,000	8,500	25,000
M6	1,000	6,000	4,900	5,00	80,000	11,000	30,000
M8	1,250	8,000	6,200	6,80	90,000	14,000	35,000
M10	1,500	10,000	8,000	8,50	100,000	16,000	39,000
M12	1,750	9,000	7,000	10,20	110,000	18,500	49,000
M14	2,000	11,000	9,000	12,00	110,000	20,000	53,000
M16	2,000	12,000	9,000	14,00	110,000	20,000	54,000
M18	2,500	14,000	11,000	15,50	125,000	25,000	62,000
M20	2,500	16,000	12,000	17,50	140,000	25,000	62,000
M24	3,000	18,000	14,500	21,00	160,000	30,000	73,000
M30	3,500	22,000	18,000	26,50	180,000	35,000	85,000

Maschinen-Gewindebohrer

Gewindebohrer für Metrische ISO-Gewinde

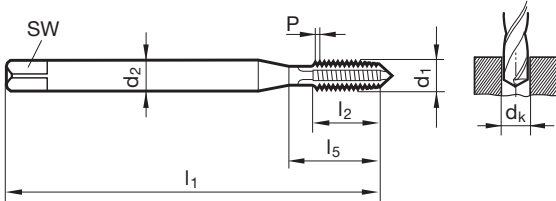


Katalog-Nr. 63033

Produktiv N	DIN 371/376	B	HSS-E	TiN	R	ISO2/6H
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P	M	K	N	S	H
●	○	○	○		

- für Durchgangsgewinde
- mit Schälanschnitt
- Spanförderung in Vorschubrichtung
- universell einsetzbar
- Stahlwerkstoffe bis 1100 N/mm²



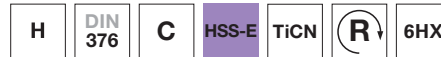
d1	P mm	d2 mm	SW mm	dk mm	l1 mm	l2 mm	l5 mm
M3	0,500	3,500	2,700	2,50	56,000	10,000	18,000
M4	0,700	4,500	3,400	3,30	63,000	12,000	21,000
M5	0,800	6,000	4,900	4,20	70,000	14,000	25,000
M6	1,000	6,000	4,900	5,00	80,000	16,000	30,000
M8	1,250	8,000	6,200	6,80	90,000	17,000	35,000
M10	1,500	10,000	8,000	8,50	100,000	20,000	39,000
M12	1,750	9,000	7,000	10,20	110,000	24,000	49,000
M16	2,000	12,000	9,000	14,00	110,000	26,000	54,000
M20	2,500	16,000	12,000	17,50	140,000	32,000	62,000

Maschinen-Gewindebohrer

Gewindebohrer für Metrische ISO-Gewinde

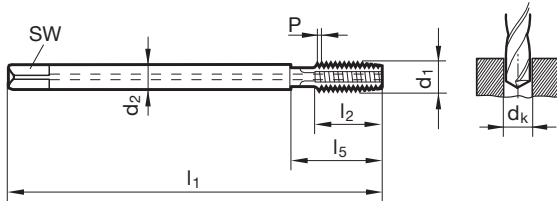


Katalog-Nr. 53646



P	M	K	N	S	H
●		●	○		

- für große Gewinde
- für Durchgangs- und Grundgewinde
- für Stahlwerkstoffe bis 1200 N/mm²
- für Gusswerkstoffe
- für Al-Legierungen ab 7% Si-Gehalt
- mit axialem Kühlkanal



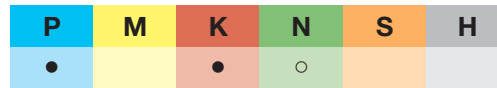
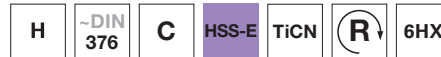
d1	P	d2	SW	dk	l1	l2	l5
	mm	mm	mm	mm	mm	mm	mm
M16	2,000	12,000	9,000	14,00	110,000	26,000	54,000
M20	2,500	16,000	12,000	17,50	140,000	32,000	62,000
M24	3,000	18,000	14,500	21,00	160,000	36,000	73,000
M27	3,000	20,000	16,000	24,00	160,000	36,000	73,000
M30	3,500	22,000	18,000	26,50	180,000	40,000	85,000
M33	3,500	25,000	20,000	29,50	180,000	40,000	91,000
M36	4,000	28,000	22,000	32,00	200,000	50,000	102,000
M39	4,000	32,000	24,000	35,00	200,000	50,000	107,000

Maschinen-Gewindebohrer

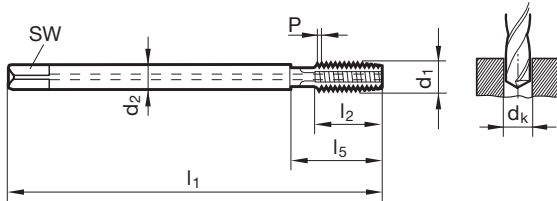
Gewindebohrer für Metrische ISO-Gewinde



Katalog-Nr. 53647



- für große Gewinde
- für Durchgangs- und Grundgewinde
- für Stahlwerkstoffe bis 1200 N/mm²
- für Gusswerkstoffe
- für Al-Legierungen ab 7% Si-Gehalt
- mit axialem Kühlkanal
- für große Gewindetiefen



d1	P	d2	SW	dk	l1	l2	l5
	mm	mm	mm	mm	mm	mm	mm
M16	2,000	12,000	9,000	14,00	160,000	26,000	54,000
M20	2,500	16,000	12,000	17,50	180,000	32,000	62,000
M24	3,000	18,000	14,500	21,00	200,000	36,000	73,000
M27	3,000	20,000	16,000	24,00	225,000	36,000	73,000
M30	3,500	22,000	18,000	26,50	250,000	40,000	85,000
M33	3,500	25,000	20,000	29,50	275,000	40,000	91,000
M36	4,000	28,000	22,000	32,00	300,000	50,000	102,000
M39	4,000	32,000	24,000	35,00	325,000	50,000	107,000

Maschinen-Gewindebohrer

Gewindebohrer für Metrische ISO-Gewinde

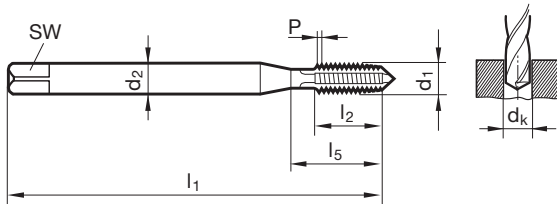


Katalog-Nr. 53640

Produktiv H	DIN 371/376	B	HSS-E- PM	TiCN	R	ISO2/6H
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P	M	K	N	S	H
●		○			

- für Durchgangsgewinde
- mit Schälanschnitt
- Spanförderung in Vorschubrichtung
- hochfeste Werkstoffe
- Stähle 1100 bis 1600 N/mm²



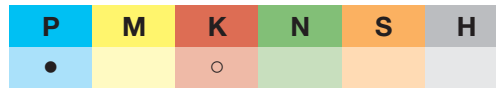
d1	P	d2	SW	dk	l1	l2	l5
	mm	mm	mm	mm	mm	mm	mm
M3	0,500	3,500	2,700	2,50	56,000	10,000	18,000
M4	0,700	4,500	3,400	3,30	63,000	12,000	21,000
M5	0,800	6,000	4,900	4,20	70,000	14,000	25,000
M6	1,000	6,000	4,900	5,00	80,000	16,000	30,000
M8	1,250	8,000	6,200	6,80	90,000	17,000	35,000
M10	1,500	10,000	8,000	8,50	100,000	20,000	39,000
M12	1,750	9,000	7,000	10,20	110,000	24,000	49,000
M14	2,000	11,000	9,000	12,00	110,000	26,000	53,000
M16	2,000	12,000	9,000	14,00	110,000	26,000	54,000

Maschinen-Gewindebohrer

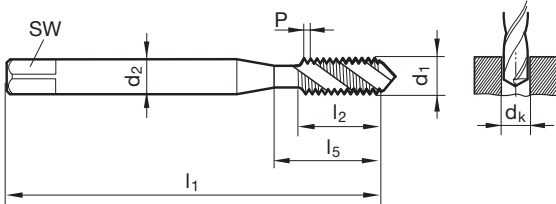
Gewindebohrer für Metrische ISO-Gewinde



Katalog-Nr. 53661



- für Grundgewinde
- Nuten mit ca. 40° Rechtsdrall
- Spanförderung in Schafrichtung
- hochfeste Werkstoffe
- Stähle 1100 bis 1600 N/mm²



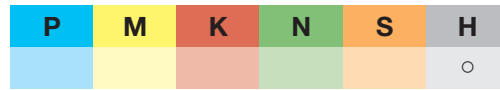
d1	P	d2	SW	dk	l1	l2	l5
	mm	mm	mm	mm	mm	mm	mm
M2	0,400	2,800	2,100	1,60	45,000	4,500	13,500
M3	0,500	3,500	2,700	2,50	56,000	6,000	18,000
M4	0,700	4,500	3,400	3,30	63,000	7,500	21,000
M5	0,800	6,000	4,900	4,20	70,000	8,500	25,000
M6	1,000	6,000	4,900	5,00	80,000	11,000	30,000
M8	1,250	8,000	6,200	6,80	90,000	14,000	35,000
M10	1,500	10,000	8,000	8,50	100,000	16,000	39,000
M12	1,750	9,000	7,000	10,20	110,000	18,500	49,000
M14	2,000	11,000	9,000	12,00	110,000	20,000	53,000
M16	2,000	12,000	9,000	14,00	110,000	20,000	54,000

Maschinen-Gewindebohrer

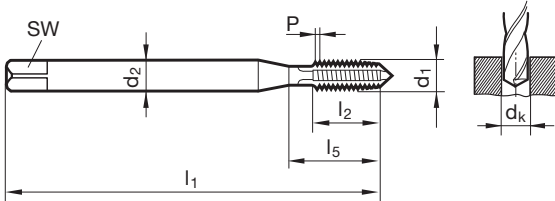
Gewindebohrer für Metrische ISO-Gewinde



Katalog-Nr. 53676



- für Durchgangs- und Grundgewinde
- für Gewindetiefen bis 1,5xD
- für Materialien zwischen 45 - 55 HRC



d1	P mm	d2 mm	SW mm	dk mm	l1 mm	l2 mm	l5 mm
M3	0,500	3,500	2,700	2,60	56,000	10,000	18,000
M4	0,700	4,500	3,400	3,40	63,000	12,000	21,000
M5	0,800	6,000	4,900	4,30	70,000	14,000	25,000
M6	1,000	6,000	4,900	5,10	80,000	16,000	30,000
M8	1,250	8,000	6,200	6,90	90,000	17,000	35,000
M10	1,500	10,000	8,000	8,60	100,000	20,000	39,000
M12	1,750	12,000	9,000	10,40	110,000	24,000	49,000
M14	2,000	14,000	11,000	12,10	110,000	26,000	53,000
M16	2,000	16,000	12,000	14,10	110,000	26,000	54,000

Maschinen-Gewindebohrer

Gewindebohrer für Metrische ISO-Feingewinde

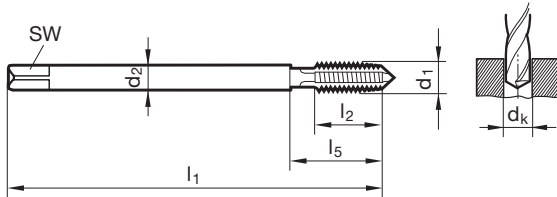


Katalog-Nr. 53779

Produktiv N-X	DIN 374	B	HSS-E	AlTiZrN	R	6GX
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P	M	K	N	S	H
●	●	○	○	○	

- für Durchgangsgewinde
- mit Schälanschnitt
- Spanförderung in Vorschubrichtung
- universell einsetzbar
- Stahlwerkstoffe bis 1200 N/mm²
- rost-/säurebest. Stähle
- NE-Metalle
- Gusswerkstoffe



Code-Nr.	d1	d2	SW	dk	l1	l2	l5
		mm	mm	mm	mm	mm	mm
6,004	M6 x 0,75	4,500	3,400	5,20	80,000	13,000	
8,004	M8 x 0,75	6,000	4,900	7,20	80,000	14,000	
8,005	M8 x 1	6,000	4,900	7,00	90,000	17,000	
10,005	M10 x 1	7,000	5,500	9,00	90,000	16,000	
10,006	M10 x 1,25	7,000	5,500	8,80	100,000	20,000	
12,005	M12 x 1	9,000	7,000	11,00	100,000	20,000	40,000
12,006	M12 x 1,25	9,000	7,000	10,80	100,000	20,000	40,000
12,007	M12 x 1,5	9,000	7,000	10,50	100,000	20,000	40,000
14,007	M14 x 1,5	11,000	9,000	12,50	100,000	20,000	40,000
16,007	M16 x 1,5	12,000	9,000	14,50	100,000	22,000	44,000
18,007	M18 x 1,5	14,000	11,000	16,50	110,000	25,000	44,000
20,007	M20 x 1,5	16,000	12,000	18,50	125,000	25,000	44,000
24,007	M24 x 1,5	18,000	14,500	22,50	140,000	28,000	48,000

Maschinen-Gewindebohrer

Gewindebohrer für Metrische ISO-Feingewinde

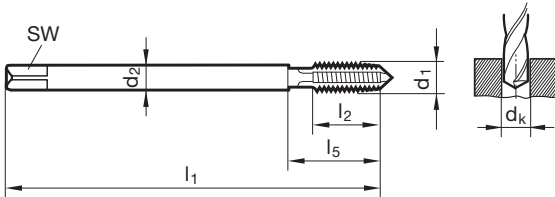


Katalog-Nr. 53789

Produktiv N-X	DIN 374	B	HSS-E-PM	AlTiZrN	R	6HX
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P	M	K	N	S	H
●	●	○	○	○	

- für Durchgangsgewinde
- mit Schälanschnitt
- Spanförderung in Vorschubrichtung
- Stahlwerkstoffe bis 1200 N/mm²
- rost-/säurebest. Stähle
- NE-Metalle
- Gusswerkstoffe



Code-Nr.	d1	d2 mm	SW mm	dk mm	l1 mm	l2 mm	l5 mm
8,005	M8 x 1	6,000	4,900	7,00	90,000	17,000	
10,005	M10 x 1	7,000	5,500	9,00	90,000	16,000	
10,006	M10 x 1,25	7,000	5,500	8,80	100,000	20,000	
12,005	M12 x 1	9,000	7,000	11,00	100,000	20,000	40,000
12,006	M12 x 1,25	9,000	7,000	10,80	100,000	20,000	40,000
12,007	M12 x 1,5	9,000	7,000	10,50	100,000	20,000	40,000
14,007	M14 x 1,5	11,000	9,000	12,50	100,000	20,000	40,000
16,007	M16 x 1,5	12,000	9,000	14,50	100,000	22,000	44,000
18,007	M18 x 1,5	14,000	11,000	16,50	110,000	25,000	44,000
20,007	M20 x 1,5	16,000	12,000	18,50	125,000	25,000	44,000
24,007	M24 x 1,5	18,000	14,500	22,50	140,000	28,000	48,000

Maschinen-Gewindebohrer

Gewindebohrer für Metrische ISO-Feingewinde

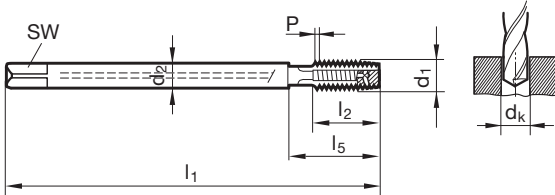


Katalog-Nr. 53790

Produktiv N-X	DIN 374	B	HSS-E-PM	AlTiZrN	R	6HX
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P	M	K	N	S	H
●	●	○	○	○	

- für Durchgangsgewinde
- mit Schälanschnitt
- Spanförderung in Vorschubrichtung
- radialer Kühlmittelaustritt
- universell einsetzbar
- Stahlwerkstoffe bis 1200 N/mm²
- rost-/säurebest. Stähle
- NE-Metalle
- Gusswerkstoffe



Code-Nr.	d1	d2	SW	dk	l1	l2	l5
		mm	mm	mm	mm	mm	mm
8,005	M8 x 1	6,000	4,900	7,00	90,000	17,000	
10,005	M10 x 1	7,000	5,500	9,00	90,000	16,000	
10,006	M10 x 1,25	7,000	5,500	8,80	100,000	20,000	
12,005	M12 x 1	9,000	7,000	11,00	100,000	20,000	40,000
12,006	M12 x 1,25	9,000	7,000	10,80	100,000	20,000	40,000
12,007	M12 x 1,5	9,000	7,000	10,50	100,000	20,000	40,000
14,007	M14 x 1,5	11,000	9,000	12,50	100,000	20,000	40,000
16,007	M16 x 1,5	12,000	9,000	14,50	100,000	22,000	44,000
18,007	M18 x 1,5	14,000	11,000	16,50	110,000	25,000	44,000
20,007	M20 x 1,5	16,000	12,000	18,50	125,000	25,000	44,000
24,007	M24 x 1,5	18,000	14,500	22,50	140,000	28,000	48,000

Maschinen-Gewindebohrer

Gewindebohrer für Metrische ISO-Feingewinde

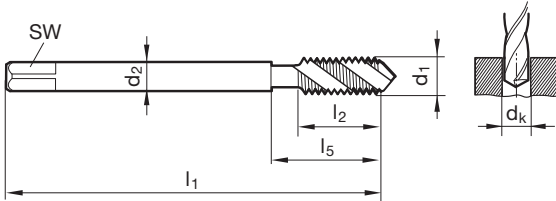


Katalog-Nr. 53781



P	M	K	N	S	H
●	●	○	○	○	

- für Grundgewinde
- Nuten mit ca. 45° Rechtsdrall
- Spanförderung in Schafrichtung
- universell einsetzbar
- Stahlwerkstoffe bis 1200 N/mm²
- rost-/säurebest. Stähle
- NE-Metalle
- Gusswerkstoffe



Code-Nr.	d1	d2	SW	dk	l1	l2	l5
		mm	mm	mm	mm	mm	mm
6,004	M6 x 0,75	4,500	3,400	5,20	80,000	8,000	
8,004	M8 x 0,75	6,000	4,900	7,20	80,000	8,000	
8,005	M8 x 1	6,000	4,900	7,00	90,000	11,000	
10,005	M10 x 1	7,000	5,500	9,00	90,000	11,000	
10,006	M10 x 1,25	7,000	5,500	8,80	100,000	14,000	
12,005	M12 x 1	9,000	7,000	11,00	100,000	11,000	40,000
12,006	M12 x 1,25	9,000	7,000	10,80	100,000	16,000	40,000
12,007	M12 x 1,5	9,000	7,000	10,50	100,000	16,000	40,000
14,007	M14 x 1,5	11,000	9,000	12,50	100,000	15,000	40,000
16,007	M16 x 1,5	12,000	9,000	14,50	100,000	15,000	44,000
18,007	M18 x 1,5	14,000	11,000	16,50	110,000	16,000	44,000
20,007	M20 x 1,5	16,000	12,000	18,50	125,000	16,000	44,000
24,007	M24 x 1,5	18,000	14,500	22,50	140,000	16,000	48,000

Maschinen-Gewindebohrer

Gewindebohrer für Metrische ISO-Feingewinde

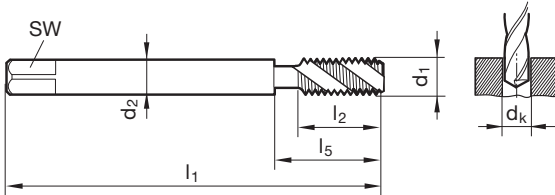


Katalog-Nr. 53770



P	M	K	N	S	H
●	●	○	○	○	

- für Grundgewinde
- Nuten mit ca. 45° Rechtsdrall
- Spanförderung in Schafrichtung
- kurzer Anschnitt für Gewindetiefen nahe Bohrungsgrund
- universell einsetzbar
- Stahlwerkstoffe bis 1200 N/mm²
- rost-/säurebest. Stähle
- NE-Metalle
- Gusswerkstoffe



Code-Nr.	d1	d2	SW	dk	l1	l2	l5
		mm	mm	mm	mm	mm	mm
6,004	M6 x 0,75	4,500	3,400	5,20	80,000	8,000	
8,004	M8 x 0,75	6,000	4,900	7,20	80,000	8,000	
8,005	M8 x 1	6,000	4,900	7,00	90,000	11,000	
10,005	M10 x 1	7,000	5,500	9,00	90,000	11,000	
10,006	M10 x 1,25	7,000	5,500	8,80	100,000	14,000	
12,005	M12 x 1	9,000	7,000	11,00	100,000	11,000	40,000
12,006	M12 x 1,25	9,000	7,000	10,80	100,000	16,000	40,000
12,007	M12 x 1,5	9,000	7,000	10,50	100,000	16,000	40,000
14,007	M14 x 1,5	11,000	9,000	12,50	100,000	15,000	40,000
16,007	M16 x 1,5	12,000	9,000	14,50	100,000	15,000	44,000
18,007	M18 x 1,5	14,000	11,000	16,50	110,000	16,000	44,000
20,007	M20 x 1,5	16,000	12,000	18,50	125,000	16,000	44,000
24,007	M24 x 1,5	18,000	14,500	22,50	140,000	16,000	48,000

Maschinen-Gewindebohrer

Gewindebohrer für Metrische ISO-Feingewinde

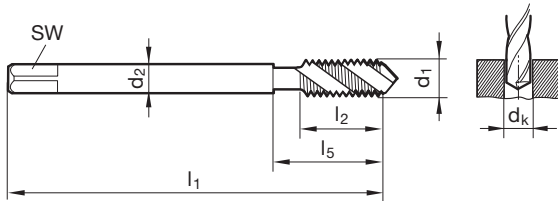


Katalog-Nr. 53791



P	M	K	N	S	H
•	•	○	○	○	

- für Grundgewinde
- Nuten mit ca. 45° Rechtsdrall
- Spanförderung in Schafrichtung
- universell einsetzbar
- Stahlwerkstoffe bis 1200 N/mm²
- rost-/säurebest. Stähle
- NE-Metalle
- Gusswerkstoffe



Code-Nr.	d1	d2	SW	dk	l1	l2	l5
		mm	mm	mm	mm	mm	mm
8,005	M8 x 1	6,000	4,900	7,00	90,000	11,000	
10,005	M10 x 1	7,000	5,500	9,00	90,000	11,000	
10,006	M10 x 1,25	7,000	5,500	8,80	100,000	14,000	
12,005	M12 x 1	9,000	7,000	11,00	100,000	11,000	40,000
12,006	M12 x 1,25	9,000	7,000	10,80	100,000	16,000	40,000
12,007	M12 x 1,5	9,000	7,000	10,50	100,000	16,000	40,000
14,007	M14 x 1,5	11,000	9,000	12,50	100,000	15,000	40,000
16,007	M16 x 1,5	12,000	9,000	14,50	100,000	15,000	44,000
18,007	M18 x 1,5	14,000	11,000	16,50	110,000	16,000	44,000
20,007	M20 x 1,5	16,000	12,000	18,50	125,000	16,000	44,000
24,007	M24 x 1,5	18,000	14,500	22,50	140,000	16,000	48,000

Maschinen-Gewindebohrer

Gewindebohrer für Metrische ISO-Feingewinde

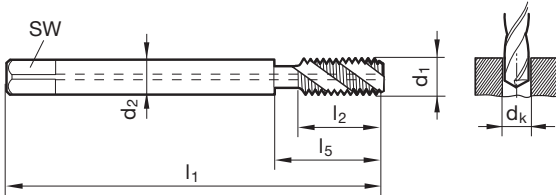


Katalog-Nr. 53792



P	M	K	N	S	H
●	●	○	○	○	

- für Grundgewinde
- Nuten mit ca. 45° Rechtsdrall
- Spanförderung in Schafrichtung
- mit axialem Kühlkanal
- universell einsetzbar
- Stahlwerkstoffe bis 1200 N/mm²
- rost-/säurebest. Stähle
- NE-Metalle
- Gusswerkstoffe



Code-Nr.	d1	d2	SW	dk	l1	l2	l5
		mm	mm	mm	mm	mm	mm
8,005	M8 x 1	6,000	4,900	7,00	90,000	11,000	
10,005	M10 x 1	7,000	5,500	9,00	90,000	11,000	
10,006	M10 x 1,25	7,000	5,500	8,80	100,000	14,000	
12,005	M12 x 1	9,000	7,000	11,00	100,000	11,000	40,000
12,006	M12 x 1,25	9,000	7,000	10,80	100,000	16,000	40,000
12,007	M12 x 1,5	9,000	7,000	10,50	100,000	16,000	40,000
14,007	M14 x 1,5	11,000	9,000	12,50	100,000	15,000	40,000
16,007	M16 x 1,5	12,000	9,000	14,50	100,000	15,000	44,000
18,007	M18 x 1,5	14,000	11,000	16,50	110,000	16,000	44,000
20,007	M20 x 1,5	16,000	12,000	18,50	125,000	16,000	44,000
24,007	M24 x 1,5	18,000	14,500	22,50	140,000	16,000	48,000

Maschinen-Gewindebohrer

Gewindebohrer für UNC-Gewinde

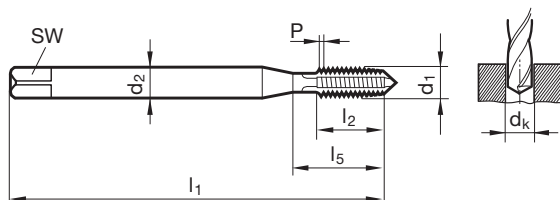


Katalog-Nr. 53782



P	M	K	N	S	H
●	●	○	○	○	

- für Durchgangsgewinde
- mit Schälanschnitt
- Spanförderung in Vorschubrichtung
- universell einsetzbar
- Stahlwerkstoffe bis 1200 N/mm²
- rost-/säurebest. Stähle
- NE-Metalle
- Gusswerkstoffe



Code-Nr.	d1	d2	SW	dk	l1	l2	l5
		mm	mm	mm	mm	mm	mm
2,184	2 - 56	2,800	2,100	1,85	45,000	9,000	14,500
2,845	4 - 40	3,500	2,700	2,35	56,000	11,000	18,000
3,505	6 - 32	4,000	3,000	2,85	56,000	12,000	20,000
4,166	8 - 32	4,500	3,400	3,50	63,000	12,000	21,000
4,826	10 - 24	6,000	4,900	3,90	70,000	14,000	25,000
5,486	12 - 24	6,000	4,900	4,50	80,000	16,000	30,000
6,350	1/4 - 20	7,000	5,500	5,10	80,000	16,000	30,000
7,938	5/16 - 18	8,000	6,200	6,60	90,000	18,000	35,000
9,525	3/8 - 16	10,000	8,000	8,00	100,000	20,000	39,000
11,113	7/16 - 14	8,000	6,200	9,40	100,000	22,000	42,000
12,700	1/2 - 13	9,000	7,000	10,80	110,000	25,000	49,000
14,288	9/16 - 12	11,000	9,000	12,20	110,000	28,000	53,000
15,875	5/8 - 11	12,000	9,000	13,50	110,000	30,000	53,000
19,050	3/4 - 10	14,000	11,000	16,50	125,000	33,000	62,000
22,225	7/8 - 9	18,000	14,500	19,50	140,000	35,000	62,000
25,400	1 - 8	18,000	14,500	22,25	160,000	38,000	73,000

Maschinen-Gewindebohrer

Gewindebohrer für UNC-Gewinde

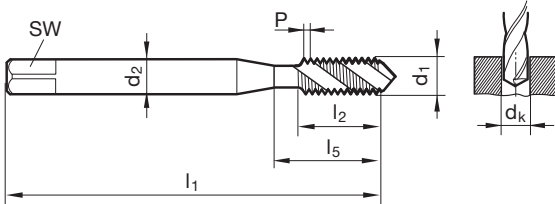


Katalog-Nr. 53783



P	M	K	N	S	H
●	●	○	○	○	

- für Grundgewinde
- Nuten mit ca. 45° Rechtsdrall
- Spanförderung in Schafrichtung
- universell einsetzbar
- Stahlwerkstoffe bis 1200 N/mm²
- rost-/säurebest. Stähle
- NE-Metalle
- Gusswerkstoffe



Code-Nr.	d1	d2	SW	dk	l1	l2	l5
		mm	mm	mm	mm	mm	mm
2,184	2 - 56	2,800	2,100	1,85	45,000	5,000	14,500
2,845	4 - 40	3,500	2,700	2,35	56,000	7,000	18,000
3,505	6 - 32	4,000	3,000	2,85	56,000	8,000	20,000
4,166	8 - 32	4,500	3,400	3,50	63,000	8,000	21,000
4,826	10 - 24	6,000	4,900	3,90	70,000	11,000	25,000
5,486	12 - 24	6,000	4,900	4,50	80,000	11,000	30,000
6,350	1/4 - 20	7,000	5,500	5,10	80,000	13,000	30,000
7,938	5/16 - 18	8,000	6,200	6,60	90,000	14,000	35,000
9,525	3/8 - 16	10,000	8,000	8,00	100,000	16,000	39,000
11,113	7/16 - 14	8,000	6,200	9,40	100,000	18,000	42,000
12,700	1/2 - 13	9,000	7,000	10,80	110,000	20,000	49,000
14,288	9/16 - 12	11,000	9,000	12,20	110,000	21,000	53,000
15,875	5/8 - 11	12,000	9,000	13,50	110,000	24,000	53,000
19,050	3/4 - 10	14,000	11,000	16,50	125,000	25,000	62,000
22,225	7/8 - 9	18,000	14,500	19,50	140,000	28,000	62,000
25,400	1 - 8	18,000	14,500	22,25	160,000	32,000	73,000

Maschinen-Gewindebohrer

Gewindebohrer für UNF-Gewinde

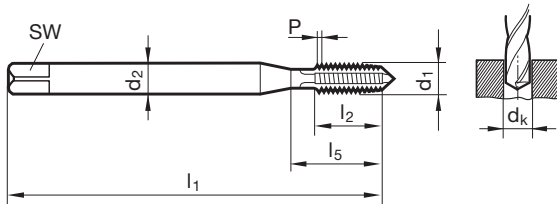


Katalog-Nr. 53784



P	M	K	N	S	H
●	●	○	○	○	

- für Durchgangsgewinde
- mit Schälanschnitt
- Spanförderung in Vorschubrichtung
- universell einsetzbar
- Stahlwerkstoffe bis 1200 N/mm²
- rost-/säurebest. Stähle
- NE-Metalle
- Gusswerkstoffe



Code-Nr.	d1	d2	SW	dk	l1	l2	l5
		mm	mm	mm	mm	mm	mm
2,184	2 - 64	2,800	2,100	1,85	45,000	9,000	14,500
2,845	4 - 48	3,500	2,700	2,40	56,000	10,000	18,000
3,505	6 - 40	4,000	3,000	2,95	56,000	11,000	20,000
4,166	8 - 36	4,500	3,400	3,50	63,000	12,000	21,000
4,826	10 - 32	6,000	4,900	4,10	70,000	14,000	25,000
5,486	12 - 28	6,000	4,900	4,60	80,000	16,000	30,000
6,350	1/4 - 28	7,000	5,500	5,50	80,000	16,000	30,000
7,938	5/16 - 24	8,000	6,200	6,90	90,000	17,000	35,000
9,525	3/8 - 24	10,000	8,000	8,50	90,000	18,000	35,000
11,113	7/16 - 20	8,000	6,200	9,90	100,000	22,000	42,000
12,700	1/2 - 20	9,000	7,000	11,50	100,000	20,000	40,000
14,288	9/16 - 18	11,000	9,000	12,90	100,000	22,000	40,000
15,875	5/8 - 18	12,000	9,000	14,50	100,000	22,000	44,000
19,050	3/4 - 16	14,000	11,000	17,50	110,000	25,000	44,000
22,225	7/8 - 14	18,000	14,500	20,40	125,000	25,000	44,000
25,400	1 - 12	18,000	14,500	23,25	140,000	28,000	50,000

Maschinen-Gewindebohrer

Gewindebohrer für UNF-Gewinde

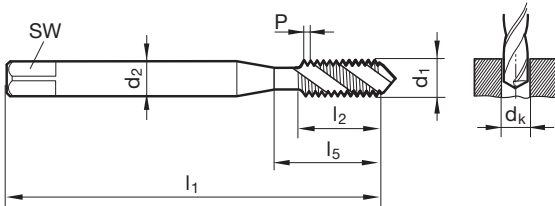


Katalog-Nr. 53785



P	M	K	N	S	H
●	●	○	○	○	

- für Grundgewinde
- Nuten mit ca. 45° Rechtsdrall
- Spanförderung in Schafrichtung
- universell einsetzbar
- Stahlwerkstoffe bis 1200 N/mm²
- rost-/säurebest. Stähle
- NE-Metalle
- Gusswerkstoffe



Code-Nr.	d1	d2	SW	dk	l1	l2	l5
		mm	mm	mm	mm	mm	mm
2,184	2 - 64	2,800	2,100	1,85	45,000	5,000	14,500
2,845	4 - 48	3,500	2,700	2,40	56,000	6,000	18,000
3,505	6 - 40	4,000	3,000	2,95	56,000	6,500	20,000
4,166	8 - 36	4,500	3,400	3,50	63,000	7,000	21,000
4,826	10 - 32	6,000	4,900	4,10	70,000	8,500	25,000
5,486	12 - 28	6,000	4,900	4,60	80,000	9,500	30,000
6,350	1/4 - 28	7,000	5,500	5,50	80,000	9,500	30,000
7,938	5/16 - 24	8,000	6,200	6,90	90,000	11,500	35,000
9,525	3/8 - 24	10,000	8,000	8,50	90,000	11,500	35,000
11,113	7/16 - 20	8,000	6,200	9,90	100,000	13,000	42,000
12,700	1/2 - 20	9,000	7,000	11,50	100,000	13,000	40,000
14,288	9/16 - 18	11,000	9,000	12,90	100,000	14,000	40,000
15,875	5/8 - 18	12,000	9,000	14,50	100,000	15,000	44,000
19,050	3/4 - 16	14,000	11,000	17,50	110,000	16,000	44,000
22,225	7/8 - 14	18,000	14,500	20,40	125,000	19,000	44,000
25,400	1 - 12	18,000	14,500	23,25	140,000	22,000	50,000

Maschinen-Gewindebohrer

Gewindebohrer für Whitworth-Rohrgewinde

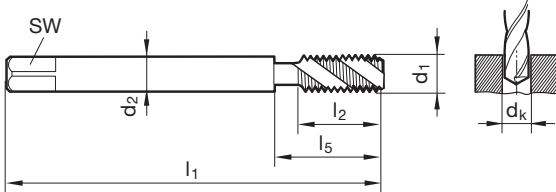


Katalog-Nr. 53775



P	M	K	N	S	H
●	●	○	○	○	

- für Grundgewinde
- Nuten mit ca. 45° Rechtsdrall
- Spanförderung in Schafrichtung
- kurzer Anschnitt für Gewindetiefen nahe Bohrungsgrund
- universell einsetzbar
- Stahlwerkstoffe bis 1200 N/mm²
- rost-/säurebest. Stähle
- NE-Metalle
- Gusswerkstoffe



Code-Nr.	d1	P	d2	SW	dk	l1	l2	l5
		inch	mm	mm	mm	mm	mm	mm
7,723	G1/16	28,000	6,000	4,900	6,80	90,000	11,000	
9,728	G1/8	28,000	7,000	5,500	8,80	90,000	11,000	
13,157	G1/4	19,000	11,000	9,000	11,80	100,000	14,000	40,000
16,662	G3/8	19,000	12,000	9,000	15,25	100,000	14,000	44,000
20,955	G1/2	14,000	16,000	12,000	19,00	125,000	18,000	44,000
22,911	G5/8	14,000	18,000	14,500	21,00	125,000	18,000	48,000
26,441	G3/4	14,000	20,000	16,000	24,50	140,000	20,000	53,000
30,201	G7/8	14,000	22,000	18,000	28,25	150,000	22,000	53,000
33,249	G1	11,000	25,000	20,000	30,75	160,000	24,000	56,000

Gewindeformer mit Schmiernuten

Gewindeformer für Metrische ISO-Gewinde

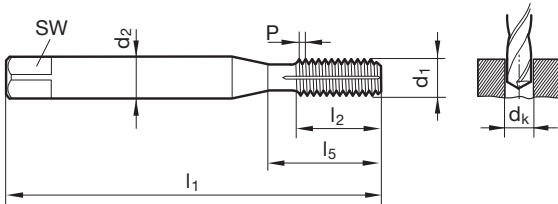


Katalog-Nr. 53630



P	M	K	N	S	H
•	•	•	○	•	

- für Durchgangs- und Grundgewinde
- für Stahlwerkstoffe bis 1200 N/mm²
- für rost-/säurebeständige Stähle
- für formbare Gusswerkstoffe
- für formbare Nichteisenmetalle
- für Sonderlegierungen



d1	P	d2	SW	dk	l1	l2	l5
	mm	mm	mm	mm	mm	mm	mm
M1	0,250	2,500	2,100	0,90	40,000	4,000	
M1,2	0,250	2,500	2,100	1,10	40,000	4,800	
M1,4	0,300	2,500	2,100	1,25	40,000	5,600	
M1,6	0,350	2,500	2,100	1,45	40,000	6,400	
M1,7	0,350	2,500	2,100	1,55	40,000	6,800	
M1,8	0,350	2,500	2,100	1,65	40,000	7,300	
M2	0,400	2,800	2,100	1,85	45,000	8,000	13,500
M2,5	0,450	2,800	2,100	2,30	50,000	9,000	14,500
M3	0,500	3,500	2,700	2,80	56,000	10,000	18,000
M4	0,700	4,500	3,400	3,70	63,000	12,000	21,000
M5	0,800	6,000	4,900	4,65	70,000	14,000	25,000
M6	1,000	6,000	4,900	5,55	80,000	16,000	30,000
M8	1,250	8,000	6,200	7,40	90,000	17,000	35,000
M10	1,500	10,000	8,000	9,30	100,000	20,000	39,000
M12	1,750	9,000	7,000	11,20	110,000	24,000	49,000
M14	2,000	11,000	9,000	13,10	110,000	26,000	53,000
M16	2,000	12,000	9,000	15,10	110,000	26,000	54,000
M20	2,500	16,000	12,000	18,90	140,000	32,000	62,000

Gewindeformer mit Schmiernuten

Gewindeformer für Metrische ISO-Gewinde

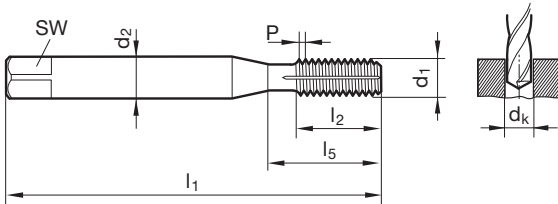


Katalog-Nr. 53631



P	M	K	N	S	H
•	•	•	○	•	

- für Durchgangs- und Grundgewinde
- für Stahlwerkstoffe bis 1200 N/mm²
- für rost-/säurebeständige Stähle
- für formbare Gusswerkstoffe
- für formbare Nichteisenmetalle
- für Sonderlegierungen



d1	P mm	d2 mm	SW mm	dk mm	l1 mm	l2 mm	l5 mm
M2	0,400	2,800	2,100	1,85	45,000	8,000	13,500
M2,5	0,450	2,800	2,100	2,30	50,000	9,000	14,500
M3	0,500	3,500	2,700	2,80	56,000	10,000	18,000
M4	0,700	4,500	3,400	3,70	63,000	12,000	21,000
M5	0,800	6,000	4,900	4,65	70,000	14,000	25,000
M6	1,000	6,000	4,900	5,55	80,000	16,000	30,000
M8	1,250	8,000	6,200	7,40	90,000	17,000	35,000
M10	1,500	10,000	8,000	9,30	100,000	20,000	39,000
M12	1,750	9,000	7,000	11,20	110,000	24,000	49,000
M14	2,000	11,000	9,000	13,10	110,000	26,000	53,000
M16	2,000	12,000	9,000	15,10	110,000	26,000	54,000
M20	2,500	16,000	12,000	18,90	140,000	32,000	62,000

Gewindeformer mit Schmiernuten

Gewindeformer für Metrische ISO-Feingewinde

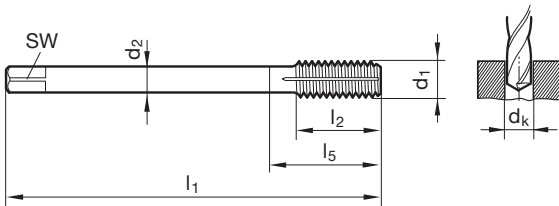


Katalog-Nr. 53632

Durativ N-X	~DIN 374	C	HSS-E- PM	TiCN	R	6HX
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P	M	K	N	S	H
•	•	•	○	•	

- für Durchgangs- und Grundgewinde
- für Stahlwerkstoffe bis 1200 N/mm²
- für rost-/säurebeständige Stähle
- für formbare Gusswerkstoffe
- für formbare Nichteisenmetalle
- für Sonderlegierungen



Code-Nr.	d1	d2	SW	dk	l1	l2	l5
		mm	mm	mm	mm	mm	mm
8,005	M8 x 1	6,000	4,900	7,55	90,000	16,000	
10,005	M10 x 1	7,000	5,500	9,55	90,000	16,000	
10,006	M10 x 1,25	7,000	5,500	9,40	100,000	20,000	
12,006	M12 x 1,25	9,000	7,000	11,40	100,000	20,000	40,000
12,007	M12 x 1,5	9,000	7,000	11,30	100,000	20,000	40,000
14,006	M14 x 1,25	11,000	9,000	13,40	100,000	20,000	40,000
14,007	M14 x 1,5	11,000	9,000	13,30	100,000	20,000	40,000
16,007	M16 x 1,5	12,000	9,000	15,30	100,000	22,000	44,000
20,007	M20 x 1,5	16,000	12,000	19,30	125,000	25,000	44,000

Gewindeformer mit Schmiernuten

Gewindeformer für UNC-Gewinde

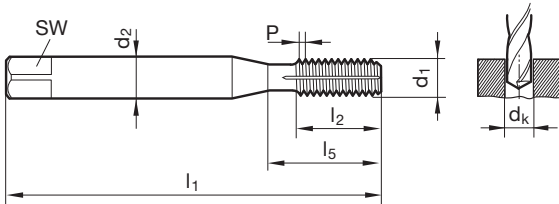


Katalog-Nr. 53633



P	M	K	N	S	H
•	•	•	○	•	

- für Durchgangs- und Grundgewinde
- für Stahlwerkstoffe bis 1200 N/mm²
- für rost-/säurebeständige Stähle
- für formbare Gusswerkstoffe
- für formbare Nichteisenmetalle
- für Sonderlegierungen



Code-Nr.	d1	d2	SW	dk	l1	l2	l5
		mm	mm	mm	mm	mm	mm
2,845	4 - 40	3,500	2,700	2,55	56,000	11,000	18,000
3,505	6 - 32	4,000	3,000	3,15	56,000	12,000	20,000
4,166	8 - 32	4,500	3,400	3,80	63,000	12,000	21,000
4,826	10 - 24	6,000	4,900	4,35	70,000	14,000	25,000
5,486	12 - 24	6,000	4,900	5,00	80,000	16,000	30,000
6,350	1/4 - 20	7,000	5,500	5,75	80,000	16,000	30,000
7,938	5/16 - 18	8,000	6,200	7,30	90,000	18,000	35,000
9,525	3/8 - 16	10,000	8,000	8,80	90,000	20,000	35,000
11,113	7/16 - 14	8,000	6,200	10,30	100,000	22,000	42,000
12,700	1/2 - 13	9,000	7,000	11,80	100,000	25,000	40,000
14,288	9/16 - 12	11,000	9,000	13,30	100,000	28,000	40,000
15,875	5/8 - 11	12,000	9,000	14,80	100,000	30,000	44,000
19,050	3/4 - 10	14,000	11,000	17,90	110,000	33,000	44,000

Gewindeformer mit Schmiernuten

Gewindeformer für UNF-Gewinde

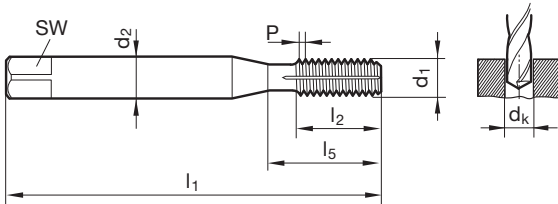


Katalog-Nr. 53634



P	M	K	N	S	H
•	•	•	○	•	

- für Durchgangs- und Grundgewinde
- für Stahlwerkstoffe bis 1200 N/mm²
- für rost-/säurebeständige Stähle
- für formbare Gusswerkstoffe
- für formbare Nichteisenmetalle
- für Sonderlegierungen



Code-Nr.	d1	d2	SW	dk	l1	l2	l5
		mm	mm	mm	mm	mm	mm
2,845	4 - 48	3,500	2,700	2,60	56,000	10,000	18,000
3,505	6 - 40	4,000	3,000	3,20	56,000	11,000	20,000
4,166	8 - 36	4,500	3,400	3,85	63,000	12,000	21,000
4,826	10 - 32	6,000	4,900	4,45	70,000	14,000	25,000
5,486	12 - 28	6,000	4,900	5,10	80,000	16,000	30,000
6,350	1/4 - 28	7,000	5,500	5,95	80,000	16,000	30,000
7,938	5/16 - 24	8,000	6,200	7,45	90,000	18,000	35,000
9,525	3/8 - 24	10,000	8,000	9,05	100,000	18,000	39,000
11,113	7/16 - 20	8,000	6,200	10,55	100,000	22,000	42,000
12,700	1/2 - 20	9,000	7,000	12,10	100,000	20,000	40,000
14,288	9/16 - 18	11,000	9,000	13,65	100,000	22,000	40,000
15,875	5/8 - 18	12,000	9,000	15,25	100,000	22,000	44,000
19,050	3/4 - 16	14,000	11,000	18,35	110,000	25,000	44,000

Gewindeformer ohne Schmiernuten

Gewindeformer für Whitworth-Rohrgewinde

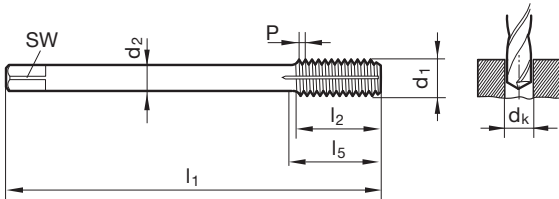


Katalog-Nr. 53635



P	M	K	N	S	H
•	•	•	○	•	

- für Durchgangs- und Grundgewinde
- für Stahlwerkstoffe bis 1200 N/mm²
- für rost-/säurebeständige Stähle
- für formbare Gusswerkstoffe
- für formbare Nichteisenmetalle
- für Sonderlegierungen



Code-Nr.	d1	P inch	d2 mm	SW mm	dk mm	l1 mm	l2 mm	l5 mm
9,728	G1/8	28,000	7,000	5,500	9,30	90,000	18,000	35,000
13,157	G1/4	19,000	11,000	9,000	12,50	100,000	20,000	40,000
16,662	G3/8	19,000	12,000	9,000	16,00	100,000	22,000	44,000
20,955	G1/2	14,000	16,000	12,000	20,00	125,000	25,000	44,000

Gewindeformer mit Schmiernuten

Kühlkanal-Gewindeformer für Metr. ISO-Gewinde

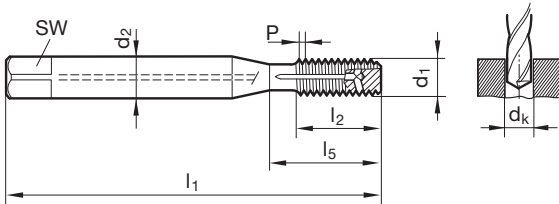


Katalog-Nr. 53610



P	M	K	N	S	H
•	•	•	○	•	•

- für Durchgangs- und Grundgewinde
- für Stahlwerkstoffe bis 1200 N/mm²
- für rost-/säurebeständige Stähle
- für formbare Gusswerkstoffe
- für formbare Nichteisenmetalle
- für Sonderlegierungen
- radialer Kühlmittelaustritt



d1	P	d2	SW	dk	l1	l2	l5
	mm	mm	mm	mm	mm	mm	mm
M5	0,800	6,000	4,900	4,65	70,000	8,500	25,000
M6	1,000	6,000	4,900	5,55	80,000	11,000	30,000
M8	1,250	8,000	6,200	7,40	90,000	14,000	35,000
M10	1,500	10,000	8,000	9,30	100,000	16,000	39,000
M12	1,750	9,000	7,000	11,20	110,000	18,500	49,000
M14	2,000	11,000	9,000	13,10	110,000	20,000	53,000
M16	2,000	12,000	9,000	15,10	110,000	20,000	54,000
M20	2,500	16,000	12,000	18,90	140,000	25,000	62,000

Gewindeformer mit Schmiernuten

Kühlkanal-Gewindeformer für Metr. ISO-Gewinde

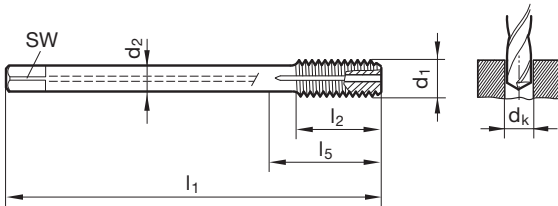


Katalog-Nr. 53618

Durativ N-X	~DIN 371	E	HSS-E- PM	TiCN	R	6HX
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P	M	K	N	S	H
•	•	•	○	•	

- für Durchgangs- und Grundgewinde
- für Stahlwerkstoffe bis 1200 N/mm²
- für rost-/säurebeständige Stähle
- für formbare Gusswerkstoffe
- für formbare Nichteisenmetalle
- für Sonderlegierungen
- mit axialem Kühlkanal
- kurzer Anschnitt für Gewindetiefen nahe Bohrungsgrund



d1	P	d2	SW	dk	l1	l2	l5
	mm	mm	mm	mm	mm	mm	mm
M2	0,400	2,800	2,100	1,85	45,000	8,000	13,500
M2,5	0,450	2,800	2,100	2,30	50,000	9,000	14,500
M3	0,500	3,500	2,700	2,80	56,000	10,000	18,000
M4	0,700	4,500	3,400	3,70	63,000	12,000	21,000
M5	0,800	6,000	4,900	4,65	70,000	8,500	25,000
M6	1,000	6,000	4,900	5,55	80,000	11,000	30,000
M8	1,250	8,000	6,200	7,40	90,000	14,000	35,000
M10	1,500	10,000	8,000	9,30	100,000	16,000	39,000
M12	1,750	9,000	7,000	11,20	110,000	18,500	49,000
M14	2,000	11,000	9,000	13,10	110,000	20,000	53,000
M16	2,000	12,000	9,000	15,10	110,000	20,000	54,000
M20	2,500	16,000	12,000	18,90	140,000	25,000	62,000

Gewindeformer mit Schmiernuten

Kühlkanal-Gewindeformer für Metr. ISO-Feingewinde

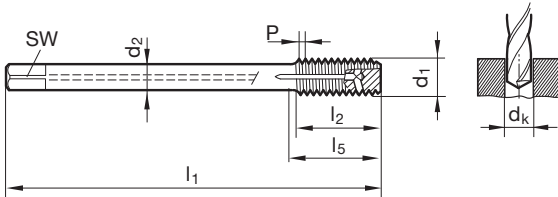


Katalog-Nr. 53612

Durativ N-X	~DIN 374	C	HSS-E- PM	TiCN	R	6HX
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P	M	K	N	S	H
•	•	•	○	•	

- für Durchgangs- und Grundgewinde
- für Stahlwerkstoffe bis 1200 N/mm²
- für rost-/säurebeständige Stähle
- für formbare Gusswerkstoffe
- für formbare Nichteisenmetalle
- für Sonderlegierungen
- radialer Kühlmittelaustritt



Code-Nr.	d1	d2	SW	dk	l1	l2	l5
		mm	mm	mm	mm	mm	mm
8,005	M8 x 1	6,000	4,900	7,55	90,000	11,000	
10,005	M10 x 1	7,000	5,500	9,55	90,000	11,000	
10,006	M10 x 1,25	7,000	5,500	9,40	100,000	14,000	
12,006	M12 x 1,25	9,000	7,000	11,40	100,000	16,000	40,000
12,007	M12 x 1,5	9,000	7,000	11,30	100,000	16,000	40,000
14,006	M14 x 1,25	11,000	9,000	13,40	100,000	15,000	40,000
14,007	M14 x 1,5	11,000	9,000	13,30	100,000	15,000	40,000
16,007	M16 x 1,5	12,000	9,000	15,30	100,000	15,000	44,000
20,007	M20 x 1,5	16,000	12,000	19,30	125,000	16,000	44,000

Gewindeformer mit Schmiernuten

Kühlkanal-Gewindeformer für Metr. ISO-Feingewinde

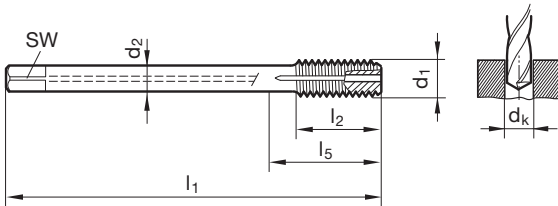


Katalog-Nr. 53619

Durativ N-X	~DIN 374	E	HSS-E- PM	TiCN	R	6HX
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P	M	K	N	S	H
•	•	•	○	•	

- für Durchgangs- und Grundgewinde
- für Stahlwerkstoffe bis 1200 N/mm²
- für rost-/säurebeständige Stähle
- für formbare Gusswerkstoffe
- für formbare Nichteisenmetalle
- für Sonderlegierungen
- mit axialem Kühlkanal



Code-Nr.	d1	d2	SW	dk	l1	l2	l5
		mm	mm	mm	mm	mm	mm
8,005	M8 x 1	6,000	4,900	7,55	90,000	11,000	
10,005	M10 x 1	7,000	5,500	9,55	90,000	11,000	
10,006	M10 x 1,25	7,000	5,500	9,40	100,000	14,000	
12,006	M12 x 1,25	9,000	7,000	11,40	100,000	16,000	40,000
12,007	M12 x 1,5	9,000	7,000	11,30	100,000	16,000	40,000
14,006	M14 x 1,25	11,000	9,000	13,40	100,000	15,000	40,000
14,007	M14 x 1,5	11,000	9,000	13,30	100,000	15,000	40,000
16,007	M16 x 1,5	12,000	9,000	15,30	100,000	15,000	44,000
20,007	M20 x 1,5	16,000	12,000	19,30	125,000	16,000	44,000

Gewindefräser

Gewindefräser ohne Senkfase für Metr. ISO-Gewinde

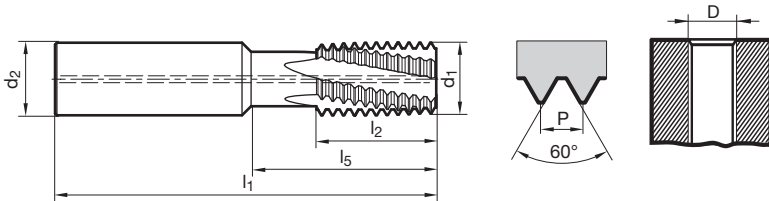


Katalog-Nr. 73830



P	M	K	N	S	H
•	•	•	•	•	≤ 55

- Gewindefräser ohne Senkfase, mit Spiralnut und innerer Kühlmittelzufuhr mit axialem Austritt
- Universalgewindefräser für Innengewinde M / MF



Code-Nr.	D	P mm	d1 mm	d2 mm	l1 mm	l2 mm	l5 mm	Z
8,050	≥ 10	0,500	7,950	8,000	64,000	20,000		4
10,100	≥ 12	1,000	9,950	10,000	70,000	16,000	25,000	4
10,125	≥ 12	1,250	9,950	10,000	70,000	16,000	25,000	4
10,150	≥ 12	1,500	9,950	10,000	70,000	16,000	25,000	4
12,100	≥ 14	1,000	11,950	12,000	80,000	20,000	31,000	4
12,125	≥ 14	1,250	11,950	12,000	80,000	20,000	31,000	4
12,150	≥ 14	1,500	11,950	12,000	80,000	20,000	31,000	4
16,100	≥ 18	1,000	15,950	16,000	90,000	25,000	40,000	5
16,150	≥ 18	1,500	15,950	16,000	90,000	25,000	40,000	5
16,200	≥ 18	2,000	15,950	16,000	90,000	25,000	40,000	5
18,300	≥ 24	3,000	17,950	18,000	102,000	33,000	50,000	5
20,100	≥ 24	1,000	19,950	20,000	105,000	33,000	50,000	5
20,150	≥ 26	1,500	19,950	20,000	105,000	33,000	50,000	5
20,200	≥ 27	2,000	19,950	20,000	105,000	33,000	50,000	5
20,250	≥ 30	2,500	19,950	20,000	105,000	33,000	50,000	5
20,300	≥ 30	3,000	19,950	20,000	105,000	33,000	50,000	5
20,350	≥ 30	3,500	19,950	20,000	105,000	33,000	50,000	5

Gewindefräser

Gewindefräser ohne Senkfase für Metr. ISO-Gewinde

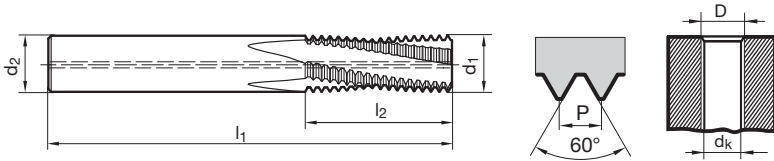


Katalog-Nr. 53860



P	M	K	N	S	H
●	○	●	●	○	≤ 55

- Gewindefräser ohne Senkfase, mit Spiralnut und innerer Kühlmittelzufuhr mit axialem Austritt
- universelle Verwendung
- extralange Ausführung für Gewindetiefen bis 2,5xD



Code-Nr.	D	P mm	d1 mm	d2 mm	dk mm	l1 mm	l2 mm	Z
6,000	M6	1,000	4,800	6,000	5,00	54,000	16,500	3
8,000	M8	1,250	6,400	8,000	6,80	62,000	21,900	3
10,000	M10	1,500	7,950	10,000	8,50	74,000	26,300	3
12,000	M12	1,750	9,950	10,000	10,20	74,000	32,400	4
14,000	M14	2,000	11,200	12,000	12,00	90,000	37,000	4
16,000	M16	2,000	12,800	14,000	14,00	90,000	43,000	4
20,000	M20	2,500	14,950	16,000	17,50	102,000	48,800	4

Gewindefräser

Gewindefräser mit Senkfase für Metrische ISO-Gewinde

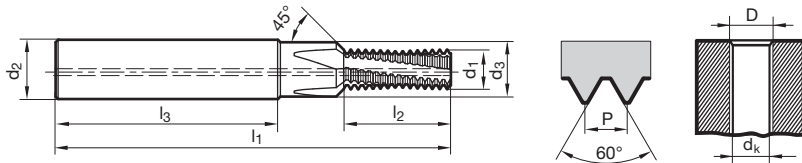


Katalog-Nr. 53890



P	M	K	N	S	H
●	●	●	○	○	

- universelle Verwendung
- mit Innenkühlung ab M4
- erhöhte Schneidenzahl für kürzeste Bearbeitungszeiten
- sehr hohe Prozesssicherheit durch neue Geometrie



Code-Nr.	D	P	d1	d2	d3	dk	l1	l2	l3	Z
		mm	mm	mm	mm	mm	mm	mm	mm	
3,000	M3	0,500	2,300	6,000	3,400	2,50	48,000	6,800	36,000	5
4,000	M4	0,700	3,100	6,000	4,500	3,30	48,000	8,800	36,000	5
4,003	M4 x 0,5	0,500	3,100	6,000	4,500	3,50	48,000	8,800	36,000	5
5,000	M5	0,800	4,000	6,000	5,500	4,20	54,000	10,800	36,000	5
5,003	M5 x 0,5	0,500	4,000	6,000	5,500	4,50	54,000	10,800	36,000	5
6,000	M6	1,000	4,700	8,000	6,600	5,00	62,000	13,500	36,000	6
6,003	M6 x 0,5	0,500	4,700	8,000	6,600	5,50	62,000	12,800	36,000	6
6,004	M6 x 0,75	0,750	4,700	8,000	6,600	5,20	62,000	13,100	36,000	6
8,000	M8	1,250	6,300	10,000	9,000	6,80	74,000	18,100	40,000	7
8,005	M8 x 1	1,000	6,300	10,000	9,000	7,00	74,000	17,500	40,000	7
10,000	M10	1,500	7,800	12,000	11,000	8,50	80,000	21,800	45,000	7
10,005	M10 x 1	1,000	7,800	12,000	11,000	9,00	80,000	21,500	45,000	7
10,006	M10 x 1,25	1,250	7,800	12,000	11,000	8,80	80,000	21,900	45,000	7
12,000	M12	1,750	9,500	14,000	13,500	10,20	90,000	25,400	45,000	7
12,005	M12 x 1	1,000	9,500	14,000	13,500	11,00	90,000	25,500	45,000	7
12,007	M12 x 1,5	1,500	9,500	14,000	13,500	10,50	90,000	26,300	45,000	7
14,000	M14	2,000	10,800	16,000	15,500	12,00	102,000	31,000	48,000	7
14,007	M14 x 1,5	1,500	10,800	16,000	15,500	12,50	102,000	30,800	48,000	7
16,000	M16	2,000	12,700	18,000	17,500	14,00	102,000	35,000	48,000	8
16,007	M16 x 1,5	1,500	12,700	18,000	17,500	14,50	102,000	33,800	48,000	8

Gewindefräser

Mikro-Gewindefräser für Metrische ISO-Gewinde

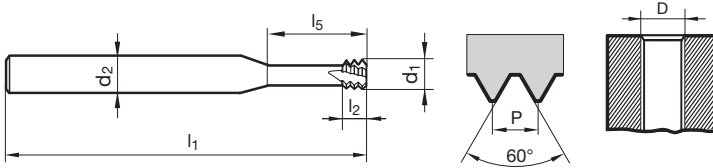


Katalog-Nr. 53840



P	M	K	N	S	H
•	•	•	•	•	

• universelle Verwendung



Code-Nr.	D	P mm	d1 mm	d2 mm	l1 mm	l2 mm	l5 mm	Z
1,600	M1,6	0,350	1,200	3,000	39,000	1,100	4,800	3
1,800	M1,8	0,350	1,400	3,000	39,000	1,100	5,400	3
2,000	M2	0,400	1,550	3,000	39,000	1,200	6,000	4
2,500	M2,5	0,450	1,950	3,000	39,000	1,400	7,500	4
3,000	M3	0,500	2,400	6,000	58,000	1,500	9,500	4
3,500	M3,5	0,600	2,800	6,000	58,000	1,800	11,000	4
4,000	M4	0,700	3,200	6,000	58,000	2,100	12,500	4
5,000	M5	0,800	4,000	6,000	58,000	2,400	16,000	4
6,000	M6	1,000	4,800	6,000	58,000	3,000	20,000	4
8,000	M8	1,250	5,950	6,000	58,000	3,800	24,000	4
10,000	M10	1,500	7,800	8,000	73,000	4,500	33,000	4
12,000	M12	1,750	9,000	10,000	84,000	5,300	38,000	4
16,000	M16	2,000	11,800	12,000	84,000	6,000	35,000	5

Gewindefräser

Mikro-Gewindefräser für Metrische ISO-Gewinde

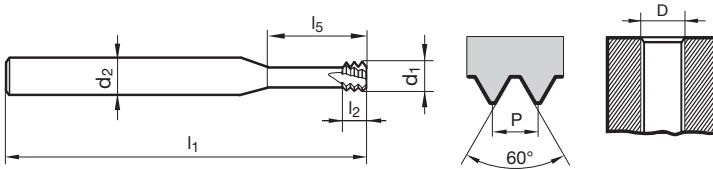


Katalog-Nr. 53850



P	M	K	N	S	H
				○	●

• für die Hartbearbeitung 45-65 HRC



Code-Nr.	D	P mm	d1 mm	d2 mm	l1 mm	l2 mm	l5 mm	Z
2,000	M2	0,400	1,550	3,000	39,000	1,200	6,000	4
2,500	M2,5	0,450	1,950	3,000	39,000	1,400	7,500	4
3,000	M3	0,500	2,350	6,000	58,000	1,500	9,500	4
4,000	M4	0,700	3,100	6,000	58,000	2,100	12,500	4
5,000	M5	0,800	3,800	6,000	58,000	2,400	16,000	4
6,000	M6	1,000	4,800	6,000	58,000	3,000	20,000	4
8,000	M8	1,250	5,950	6,000	58,000	3,800	24,000	4
10,000	M10	1,500	7,800	8,000	64,000	4,500	23,000	4
12,000	M12	1,750	9,000	10,000	73,000	5,300	26,000	5

Gewindefräser

Mikro-Gewindefräser für Metrische ISO-Gewinde

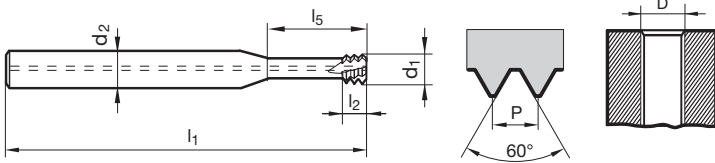


Katalog-Nr. 53892



P	M	K	N	S	H
•	•	•	•	•	≤ 55

- universelle Verwendung
- M1.6 - M3 mit 2 Kühlrillen
- mit Innenkühlung ab M3.5
- linksschneidende Geometrie
- erhöhte Schneidzahl für kürzeste Bearbeitungszeiten



Code-Nr.	D	P mm	d1 mm	d2 mm	l1 mm	l2 mm	l5 mm	Z
1,600	M1,6	0,350	1,200	3,000	39,000	1,100	4,000	3
1,800	M1,8	0,350	1,400	3,000	39,000	1,100	4,500	4
2,000	M2	0,400	1,550	3,000	39,000	1,200	5,000	4
2,500	M2,5	0,450	1,950	3,000	39,000	1,400	6,500	4
3,000	M3	0,500	2,400	3,000	39,000	1,500	8,000	5
3,500	M3,5	0,600	2,800	6,000	58,000	1,800	9,000	5
4,000	M4	0,700	3,200	6,000	58,000	2,100	11,000	5
5,000	M5	0,800	4,000	6,000	58,000	2,400	13,500	6
6,000	M6	1,000	4,800	6,000	58,000	3,000	16,000	6
8,000	M8	1,250	5,950	6,000	58,000	3,800	21,000	7
10,000	M10	1,500	7,800	8,000	73,000	4,500	26,000	7
12,000	M12	1,750	9,000	10,000	84,000	5,300	31,000	7
16,000	M16	2,000	11,800	12,000	90,000	6,000	41,000	8
20,000	M20	2,500	15,000	16,000	105,000	7,500	51,000	8

SuperF-UT-Fräser

SuperF-UT-Fräser N2

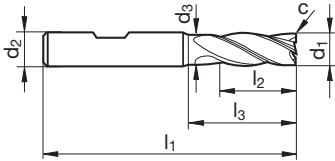


Katalog-Nr. 64552



P	M	K	N	S	H
●	○	●	●	○	○

- sehr großes Materialspektrum = universeller Einsatzbereich
- extrem hohe Standzeiten durch hochharte TiAlZrN-Beschichtung
- bis 1600 N/mm²
- Mikroeckenschutz
- Halsfreischliff
- Zentrumschnitt
- ruhiger, vibrationsfreier Lauf durch ungleiche Drallsteigung
- auch als Satz 78883 1,00 erhältlich



d1 mm	d2 mm	d3 mm	l1 mm	l2 mm	l3 mm	c mm x 45°	Z	Code-Nr.
3,000	6,000	2,700	57,000	8,000	15,000	0,100	4	3,000
4,000	6,000	3,700	57,000	11,000	18,000	0,100	4	4,000
5,000	6,000	4,700	57,000	13,000	18,000	0,100	4	5,000
6,000	6,000	5,500	57,000	13,000	20,000	0,150	4	6,000
8,000	8,000	7,500	63,000	19,000	26,000	0,150	4	8,000
10,000	10,000	9,200	72,000	22,000	30,000	0,200	4	10,000
12,000	12,000	11,200	83,000	26,000	36,000	0,200	4	12,000
16,000	16,000	15,000	92,000	32,000	42,000	0,350	4	16,000
20,000	20,000	19,000	104,000	38,000	52,000	0,450	4	20,000
25,000	25,000	23,500	121,000	45,000	63,000	0,600	4	25,000

SuperF-UT-Fräser

SuperF-UT-Fräser NL

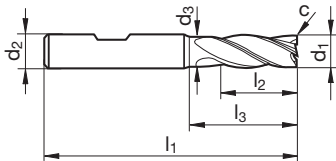


Katalog-Nr. 54553



P	M	K	N	S	H
•		•			

- universell einsetzbar
- bis 1600 N/mm²
- Mikroeckenschutz
- Halsfreischliff
- Zentrumschnitt
- HSC Schichten bis 4xD Schneidenlänge
- ungleiche Teilung



d1 mm	d2 mm	d3 mm	l1 mm	l2 mm	l3 mm	c mm x 45°	Z	Code-Nr.
6,000	6,000	5,500	65,000	24,000	28,000	0,120	4	6,000
8,000	8,000	7,500	75,000	32,000	38,000	0,160	4	8,000
10,000	10,000	9,200	100,000	40,000	58,000	0,200	4	10,000
12,000	12,000	11,200	100,000	48,000	53,000	0,240	4	12,000
16,000	16,000	15,000	125,000	64,000	75,000	0,320	4	16,000
20,000	20,000	19,000	150,000	80,000	98,000	0,400	4	20,000
25,000	25,000	23,500	175,000	100,000	117,000	0,500	4	25,000

SuperF-UT-Fräser

SuperF-UT-Fräser N-r

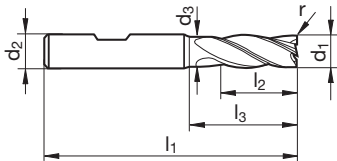


Katalog-Nr. 54550



P	M	K	N	S	H
●	○		●	●	

- sehr großes Materialspektrum = universeller Einsatzbereich
- optimiert für trochoidale Fräsoperationen im HPC und HSC Bereich
- mit definierten Eckradien
- Halsfreischliff
- Zentrumschnitt
- ruhiger, vibrationsfreier Lauf durch ungleiche Drallsteigung



d1 mm	d2 mm	d3 mm	l1 mm	l2 mm	l3 mm	r	Z	Code-Nr.
3,000	6,000	2,700	57,000	8,000	15,000	0,200	4	3,002
3,000	6,000	2,700	57,000	8,000	15,000	0,500	4	3,005
4,000	6,000	3,700	57,000	11,000	18,000	0,200	4	4,002
4,000	6,000	3,700	57,000	11,000	18,000	0,500	4	4,005
4,000	6,000	3,700	57,000	11,000	18,000	1,000	4	4,010
5,000	6,000	4,700	57,000	13,000	18,000	0,200	4	5,002
5,000	6,000	4,700	57,000	13,000	18,000	0,500	4	5,005
5,000	6,000	4,700	57,000	13,000	18,000	1,000	4	5,010
6,000	6,000	5,500	57,000	13,000	20,000	0,200	4	6,002
6,000	6,000	5,500	57,000	13,000	20,000	0,500	4	6,005
6,000	6,000	5,500	57,000	13,000	20,000	1,000	4	6,010
6,000	6,000	5,500	57,000	13,000	20,000	1,500	4	6,015
8,000	8,000	7,500	63,000	19,000	26,000	0,300	4	8,003
8,000	8,000	7,500	63,000	19,000	26,000	0,500	4	8,005
8,000	8,000	7,500	63,000	19,000	26,000	1,000	4	8,010
8,000	8,000	7,500	63,000	19,000	26,000	1,500	4	8,015
8,000	8,000	7,500	63,000	19,000	26,000	2,000	4	8,020
10,000	10,000	9,200	72,000	22,000	30,000	0,300	4	10,003
10,000	10,000	9,200	72,000	22,000	30,000	0,500	4	10,005
10,000	10,000	9,200	72,000	22,000	30,000	1,000	4	10,010
10,000	10,000	9,200	72,000	22,000	30,000	1,500	4	10,015
10,000	10,000	9,200	72,000	22,000	30,000	2,000	4	10,020
10,000	10,000	9,200	72,000	22,000	30,000	2,500	4	10,025
12,000	12,000	11,200	83,000	26,000	36,000	0,300	4	12,003
12,000	12,000	11,200	83,000	26,000	36,000	0,500	4	12,005
12,000	12,000	11,200	83,000	26,000	36,000	1,000	4	12,010
12,000	12,000	11,200	83,000	26,000	36,000	1,500	4	12,015
12,000	12,000	11,200	83,000	26,000	36,000	2,000	4	12,020
12,000	12,000	11,200	83,000	26,000	36,000	2,500	4	12,025
12,000	12,000	11,200	83,000	26,000	36,000	3,000	4	12,030
16,000	16,000	15,000	92,000	32,000	42,000	0,500	4	16,005
16,000	16,000	15,000	92,000	32,000	42,000	1,000	4	16,010
16,000	16,000	15,000	92,000	32,000	42,000	1,500	4	16,015
16,000	16,000	15,000	92,000	32,000	42,000	2,000	4	16,020
16,000	16,000	15,000	92,000	32,000	42,000	2,500	4	16,025
16,000	16,000	15,000	92,000	32,000	42,000	3,000	4	16,030
16,000	16,000	15,000	92,000	32,000	42,000	4,000	4	16,040
20,000	20,000	19,000	104,000	38,000	52,000	0,500	4	20,005
20,000	20,000	19,000	104,000	38,000	52,000	1,000	4	20,010
20,000	20,000	19,000	104,000	38,000	52,000	1,500	4	20,015
20,000	20,000	19,000	104,000	38,000	52,000	2,000	4	20,020
20,000	20,000	19,000	104,000	38,000	52,000	2,500	4	20,025
20,000	20,000	19,000	104,000	38,000	52,000	3,000	4	20,030
20,000	20,000	19,000	104,000	38,000	52,000	4,000	4	20,040

SuperF-UT-Fräser

SuperF-UT-Fräser N-5

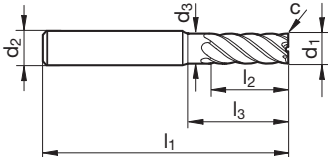


Katalog-Nr. 54583



P	M	K	N	S	H
•	•	•	•	•	

- größtmögliche Vorteile bei Schlicht- und Semischrupp-Operationen speziell unter HPC Bedingungen
- ungleiche Teilung
- bis 1600 N/mm²
- Mikroeckenschutz
- Halsfreischliff
- Zentrumschnitt



d1 mm	d2 mm	d3 mm	l1 mm	l2 mm	l3 mm	c mm x 45°	Z	Code-Nr.
4,000	6,000	3,700	57,000	11,000	18,000	0,050	5	4,000
5,000	6,000	4,700	57,000	13,000	18,000	0,050	5	5,000
6,000	6,000	5,500	57,000	13,000	20,000	0,050	5	6,000
8,000	8,000	7,500	63,000	19,000	26,000	0,100	5	8,000
10,000	10,000	9,200	72,000	22,000	30,000	0,100	5	10,000
12,000	12,000	11,200	83,000	26,000	36,000	0,100	5	12,000
16,000	16,000	15,000	92,000	32,000	42,000	0,150	5	16,000
20,000	20,000	19,000	104,000	38,000	52,000	0,150	5	20,000

SuperF-UT-Fräser

SuperF-UT-Fräser N-5

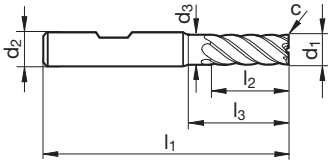


Katalog-Nr. 54584



P	M	K	N	S	H
•	•	•	•	•	

- größtmögliche Vorteile bei Schlicht- und Semischrupp-Operationen speziell unter HPC Bedingungen
- ungleiche Teilung
- bis 1600 N/mm²
- Mikroeckenschutz
- Halsfreischliff
- Zentrumschnitt



d1 mm	d2 mm	d3 mm	l1 mm	l2 mm	l3 mm	c mm x 45°	Z	Code-Nr.
4,000	6,000	3,700	57,000	11,000	18,000	0,050	5	4,000
5,000	6,000	4,700	57,000	13,000	18,000	0,050	5	5,000
6,000	6,000	5,500	57,000	13,000	20,000	0,050	5	6,000
8,000	8,000	7,500	63,000	19,000	26,000	0,100	5	8,000
10,000	10,000	9,200	72,000	22,000	30,000	0,100	5	10,000
12,000	12,000	11,200	83,000	26,000	36,000	0,100	5	12,000
16,000	16,000	15,000	92,000	32,000	42,000	0,150	5	16,000
20,000	20,000	19,000	104,000	38,000	52,000	0,150	5	20,000

SuperF-UT-Fräser

SuperF-UT-Fräser NX-3

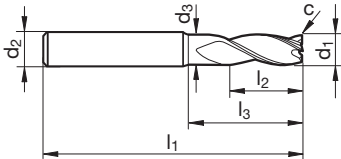


Katalog-Nr. 54586



P	M	K	N	S	H
•	•	•	•	•	

- angepasste Stirn- und Nutengeometrie für höchste Schnittwerte und sehr gute Spanabfuhr
- extrem steile Tauchwinkel bis 45° möglich
- hohe Standzeiten durch hochharte Beschichtung
- 3-Schneider mit vergrößerten Spanräumen
- zur Herstellung von Passfedernuten
- Werkstoffe bis 1400 N/mm²
- Mikroeckenschutz
- Halsfreischliff
- Zentrumschnitt
- ruhiger, vibrationsfreier Lauf durch ungleiche Drallsteigung



d1 mm	d2 mm	d3 mm	l1 mm	l2 mm	l3 mm	c mm x 45°	Z	Code-Nr.
3,000	6,000	2,700	57,000	8,000	15,000	0,050	3	3,000
3,500	6,000	3,200	57,000	10,000	15,000	0,050	3	3,500
3,700	6,000	3,400	57,000	11,000	15,000	0,060	3	3,700
4,000	6,000	3,700	57,000	11,000	18,000	0,060	3	4,000
4,500	6,000	4,200	57,000	11,000	18,000	0,070	3	4,500
4,700	6,000	4,400	57,000	13,000	18,000	0,070	3	4,700
5,000	6,000	4,700	57,000	13,000	18,000	0,080	3	5,000
5,500	6,000	5,200	57,000	13,000	20,000	0,080	3	5,500
5,700	6,000	5,400	57,000	13,000	20,000	0,090	3	5,700
6,000	6,000	5,500	57,000	13,000	20,000	0,090	3	6,000
6,500	8,000	6,000	63,000	16,000	26,000	0,100	3	6,500
7,000	8,000	6,500	63,000	16,000	26,000	0,110	3	7,000
7,500	8,000	7,000	63,000	19,000	26,000	0,110	3	7,500
8,000	8,000	7,500	63,000	19,000	26,000	0,120	3	8,000
8,500	10,000	8,000	72,000	19,000	31,000	0,130	3	8,500
9,000	10,000	8,500	72,000	19,000	31,000	0,140	3	9,000
9,500	10,000	9,000	72,000	22,000	31,000	0,140	3	9,500
10,000	10,000	9,200	72,000	22,000	30,000	0,150	3	10,000
12,000	12,000	11,200	83,000	26,000	36,000	0,180	3	12,000
16,000	16,000	15,000	92,000	32,000	42,000	0,190	3	16,000
20,000	20,000	19,000	104,000	38,000	52,000	0,240	3	20,000

SuperF-UT-Fräser

SuperF-UT-Fräser NX-3

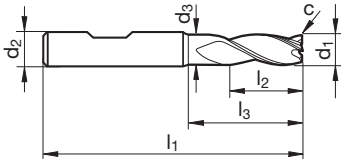


Katalog-Nr. 54587



P	M	K	N	S	H
•	•	•	•	•	

- angepasste Stirn- und Nutengeometrie für höchste Schnittwerte und sehr gute Spanabfuhr
- extrem steile Tauchwinkel bis 45° möglich
- hohe Standzeiten durch hochharte Beschichtung
- 3-Schneider mit vergrößerten Spanräumen
- zur Herstellung von Passfedernuten
- Werkstoffe bis 1400 N/mm²
- Mikroeckenschutz
- Halsfreischliff
- Zentrumschnitt
- ruhiger, vibrationsfreier Lauf durch ungleiche Drallsteigung



d1 mm	d2 mm	d3 mm	l1 mm	l2 mm	l3 mm	c mm x 45°	Z	Code-Nr.
3,000	6,000	2,700	57,000	8,000	15,000	0,050	3	3,000
3,500	6,000	3,200	57,000	10,000	15,000	0,050	3	3,500
3,700	6,000	3,400	57,000	11,000	15,000	0,060	3	3,700
4,000	6,000	3,700	57,000	11,000	18,000	0,060	3	4,000
4,500	6,000	4,200	57,000	11,000	18,000	0,070	3	4,500
4,700	6,000	4,400	57,000	13,000	18,000	0,070	3	4,700
5,000	6,000	4,700	57,000	13,000	18,000	0,080	3	5,000
5,500	6,000	5,200	57,000	13,000	20,000	0,080	3	5,500
5,700	6,000	5,400	57,000	13,000	20,000	0,090	3	5,700
6,000	6,000	5,500	57,000	13,000	20,000	0,090	3	6,000
6,500	8,000	6,000	63,000	16,000	26,000	0,100	3	6,500
7,000	8,000	6,500	63,000	16,000	26,000	0,110	3	7,000
7,500	8,000	7,000	63,000	19,000	26,000	0,110	3	7,500
8,000	8,000	7,500	63,000	19,000	26,000	0,120	3	8,000
8,500	10,000	8,000	72,000	19,000	31,000	0,130	3	8,500
9,000	10,000	8,500	72,000	19,000	31,000	0,140	3	9,000
9,500	10,000	9,000	72,000	22,000	31,000	0,140	3	9,500
10,000	10,000	9,200	72,000	22,000	30,000	0,150	3	10,000
12,000	12,000	11,200	83,000	26,000	36,000	0,180	3	12,000
16,000	16,000	15,000	92,000	32,000	42,000	0,190	3	16,000
20,000	20,000	19,000	104,000	38,000	52,000	0,240	3	20,000

SuperF-UT-Fräser

SuperF-UT-Fräser NX

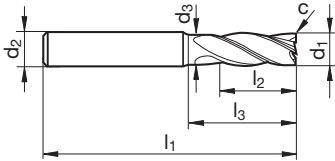


Katalog-Nr. 54588



P	M	K	N	S	H
•	•	•	•	•	

- kurze stabile Ausführung
- angepasste Stirn- und Nutengeometrie für höchste Schnittwerte und sehr gute Spanabfuhr
- extrem steile Tauchwinkel bis 45° möglich
- hohe Standzeiten durch hochharte Beschichtung
- hohe Prozesssicherheit bei gleichzeitiger Reduzierung der Bearbeitungszeiten
- Werkstoffe bis 1400 N/mm²
- Mikroeckenschutz
- Halsfreischliff
- Zentrumschnitt
- ruhiger, vibrationsfreier Lauf durch ungleiche Drallsteigung



d1 mm	d2 mm	d3 mm	l1 mm	l2 mm	l3 mm	c mm x 45°	Z	Code-Nr.
3,000	6,000	2,700	50,000	5,000	12,000	0,030	4	3,000
3,700	6,000	3,400	54,000	8,000	12,000	0,040	4	3,700
4,000	6,000	3,700	54,000	8,000	15,000	0,040	4	4,000
4,700	6,000	4,400	54,000	9,000	15,000	0,050	4	4,700
5,000	6,000	4,700	54,000	9,000	15,000	0,050	4	5,000
5,700	6,000	5,400	54,000	10,000	17,000	0,060	4	5,700
6,000	6,000	5,500	54,000	10,000	17,000	0,060	4	6,000
7,000	8,000	6,500	58,000	11,000	21,000	0,070	4	7,000
7,700	8,000	7,200	58,000	12,000	21,000	0,080	4	7,700
8,000	8,000	7,500	58,000	12,000	21,000	0,080	4	8,000
9,000	10,000	8,500	66,000	13,000	25,000	0,090	4	9,000
9,700	10,000	9,200	66,000	14,000	25,000	0,100	4	9,700
10,000	10,000	9,200	66,000	14,000	24,000	0,100	4	10,000
11,700	12,000	10,900	73,000	16,000	25,500	0,120	4	11,700
12,000	12,000	11,200	73,000	16,000	26,000	0,120	4	12,000
15,600	16,000	14,800	82,000	22,000	31,400	0,160	4	15,600
16,000	16,000	15,000	82,000	22,000	32,000	0,160	4	16,000
19,000	20,000	18,000	92,000	26,000	39,000	0,190	4	19,000
20,000	20,000	19,000	92,000	26,000	40,000	0,200	4	20,000

SuperF-UT-Fräser

SuperF-UT-Fräser NX

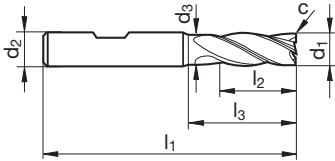


Katalog-Nr. 54589



P	M	K	N	S	H
•	•	•	•	•	

- kurze stabile Ausführung
- angepasste Stirn- und Nutengeometrie für höchste Schnittwerte und sehr gute Spanabfuhr
- extrem steile Tauchwinkel bis 45° möglich
- hohe Standzeiten durch hochharte Beschichtung
- hohe Prozesssicherheit bei gleichzeitiger Reduzierung der Bearbeitungszeiten
- Werkstoffe bis 1400 N/mm²
- Mikroeckenschutz
- Halsfreischliff
- Zentrumschnitt
- ruhiger, vibrationsfreier Lauf durch ungleiche Drallsteigung



d1 mm	d2 mm	d3 mm	l1 mm	l2 mm	l3 mm	c mm x 45°	Z	Code-Nr.
3,000	6,000	2,700	50,000	5,000	12,000	0,030	4	3,000
3,700	6,000	3,400	54,000	8,000	12,000	0,040	4	3,700
4,000	6,000	3,700	54,000	8,000	15,000	0,040	4	4,000
4,700	6,000	4,400	54,000	9,000	15,000	0,050	4	4,700
5,000	6,000	4,700	54,000	9,000	15,000	0,050	4	5,000
5,700	6,000	5,400	54,000	10,000	17,000	0,060	4	5,700
6,000	6,000	5,500	54,000	10,000	17,000	0,060	4	6,000
7,000	8,000	6,500	58,000	11,000	21,000	0,070	4	7,000
7,700	8,000	7,200	58,000	12,000	21,000	0,080	4	7,700
8,000	8,000	7,500	58,000	12,000	21,000	0,080	4	8,000
9,000	10,000	8,500	66,000	13,000	25,000	0,090	4	9,000
9,700	10,000	9,200	66,000	14,000	25,000	0,100	4	9,700
10,000	10,000	9,200	66,000	14,000	24,000	0,100	4	10,000
11,700	12,000	10,900	73,000	16,000	25,500	0,120	4	11,700
12,000	12,000	11,200	73,000	16,000	26,000	0,120	4	12,000
15,600	16,000	14,800	82,000	22,000	31,400	0,160	4	15,600
16,000	16,000	15,000	82,000	22,000	32,000	0,160	4	16,000
19,000	20,000	18,000	92,000	26,000	39,000	0,190	4	19,000
20,000	20,000	19,000	92,000	26,000	40,000	0,200	4	20,000

SuperF-UT-Fräser

SuperF-UT-Fräser Z

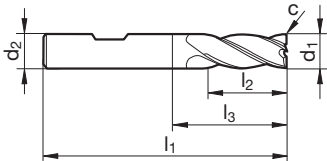


Katalog-Nr. 54577



P	M	K	N	S	H
•	•			•	

- besonders stabil durch Kernsprung
- universell einsetzbar
- Werkstoffe bis 1400 N/mm²
- Mikroeckenschutz
- Zentrumschnitt
- ungleiche Teilung
- HPC-Bearbeitung in zähen, niedrig- und hochlegierten Stählen und in schwer bearbeitbaren Sonderwerkstoffen
- auch als Satz 78882 1,00 und 78882 2,00 erhältlich



d1 mm	d2 mm	l1 mm	l2 mm	l3 mm	c mm x 45°	Z	Code-Nr.
3,000	6,000	57,000	8,000	10,900	0,045	4	3,000
4,000	6,000	57,000	11,000	13,900	0,060	4	4,000
5,000	6,000	57,000	13,000	15,900	0,075	4	5,000
6,000	6,000	57,000	15,000	21,000	0,090	4	6,000
8,000	8,000	63,000	20,000	27,000	0,120	4	8,000
10,000	10,000	72,000	24,000	32,000	0,150	4	10,000
12,000	12,000	83,000	28,000	38,000	0,180	4	12,000
16,000	16,000	92,000	36,000	44,000	0,240	4	16,000
20,000	20,000	104,000	45,000	54,000	0,300	4	20,000

SuperF-UT-Fräser

SuperF-UT-Fräser ZS

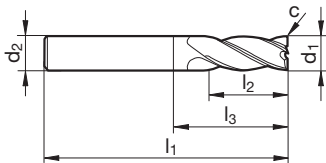


Katalog-Nr. 54582



P	M	K	N	S	H
•	•			•	

- besonders stabil durch Kernsprung
- mit Spanteiler
- universell einsetzbar
- Werkstoffe bis 1400 N/mm²
- Mikroeckenschutz
- Zentrumschnitt
- ungleiche Teilung
- HPC-Bearbeitung in zähen, niedrig- und hochlegierten Stählen und in schwer bearbeitbaren Sonderwerkstoffen



d1 mm	d2 mm	l1 mm	l2 mm	l3 mm	c mm x 45°	Z	Code-Nr.
3,000	6,000	57,000	12,000	14,900	0,045	4	3,000
4,000	6,000	65,000	16,000	18,900	0,060	4	4,000
5,000	6,000	65,000	20,000	22,900	0,075	4	5,000
6,000	6,000	65,000	24,000	29,000	0,090	4	6,000
8,000	8,000	75,000	32,000	39,000	0,120	4	8,000
10,000	10,000	90,000	40,000	50,000	0,150	4	10,000
12,000	12,000	100,000	46,000	55,000	0,180	4	12,000
16,000	16,000	108,000	55,000	60,000	0,240	4	16,000
20,000	20,000	126,000	65,000	76,000	0,300	4	20,000

SuperF-UT-Fräser

SuperF-UT-Fräser ZS

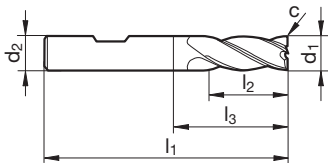


Katalog-Nr. 54578



P	M	K	N	S	H
•	•			•	

- besonders stabil durch Kernsprung
- mit Spanteiler
- universell einsetzbar
- Werkstoffe bis 1400 N/mm²
- Mikroeckenschutz
- Zentrumschnitt
- ungleiche Teilung
- HPC-Bearbeitung in zähen, niedrig- und hochlegierten Stählen und in schwer bearbeitbaren Sonderwerkstoffen



d1 mm	d2 mm	l1 mm	l2 mm	l3 mm	c mm x 45°	Z	Code-Nr.
3,000	6,000	57,000	12,000	14,900	0,045	4	3,000
4,000	6,000	65,000	16,000	18,900	0,060	4	4,000
5,000	6,000	65,000	20,000	22,900	0,075	4	5,000
6,000	6,000	65,000	24,000	29,000	0,090	4	6,000
8,000	8,000	75,000	32,000	39,000	0,120	4	8,000
10,000	10,000	90,000	40,000	50,000	0,150	4	10,000
12,000	12,000	100,000	46,000	55,000	0,180	4	12,000
16,000	16,000	108,000	55,000	60,000	0,240	4	16,000
20,000	20,000	126,000	65,000	76,000	0,300	4	20,000

SuperF-UT-Fräser

SuperF-UT-Fräser S

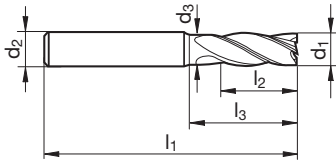


Katalog-Nr. 54556



P	M	K	N	S	H
○	○	○	○	○	○

- zum Feinstschichten und Schichten
- bis 1600 N/mm²
- ohne Eckenschutzfase
- Halsfreischliff
- Zentrumschnitt
- ruhiger, vibrationsfreier Lauf durch ungleiche Drallsteigung
- HB Spannfläche auf Anfrage möglich



d1 mm	d2 mm	d3 mm	l1 mm	l2 mm	l3 mm	Z	Code-Nr.
3,000	6,000	2,700	57,000	8,000	15,000	4	3,000
4,000	6,000	3,700	57,000	11,000	18,000	4	4,000
5,000	6,000	4,700	57,000	13,000	18,000	4	5,000
6,000	6,000	5,500	57,000	13,000	20,000	4	6,000
8,000	8,000	7,500	63,000	19,000	26,000	4	8,000
10,000	10,000	9,200	72,000	22,000	30,000	4	10,000
12,000	12,000	11,200	83,000	26,000	36,000	4	12,000
16,000	16,000	15,000	92,000	32,000	42,000	4	16,000
20,000	20,000	19,000	104,000	38,000	52,000	4	20,000

SuperF-UT-Fräser

SuperF-UT-Fräser VA-r

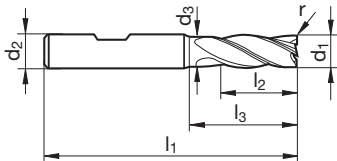


Katalog-Nr. 54542



P	M	K	N	S	H
○	●	●	●	●	●

- für rost-/säurebeständige Stähle
- optimiert für trochoidale Fräsoperationen im HPC und HSC Bereich
- mit definierten Eckradien
- Halsfreischliff
- Zentrumschnitt
- ruhiger, vibrationsfreier Lauf durch ungleiche Drallsteigung



d1 mm	d2 mm	d3 mm	l1 mm	l2 mm	l3 mm	r	Z	Code-Nr.
3,000	6,000	2,700	57,000	8,000	15,000	0,200	4	3,002
3,000	6,000	2,700	57,000	8,000	15,000	0,500	4	3,005
4,000	6,000	3,700	57,000	11,000	18,000	0,200	4	4,002
4,000	6,000	3,700	57,000	11,000	18,000	0,500	4	4,005
4,000	6,000	3,700	57,000	11,000	18,000	1,000	4	4,010
5,000	6,000	4,700	57,000	13,000	18,000	0,200	4	5,002
5,000	6,000	4,700	57,000	13,000	18,000	0,500	4	5,005
5,000	6,000	4,700	57,000	13,000	18,000	1,000	4	5,010
6,000	6,000	5,500	57,000	13,000	20,000	0,200	4	6,002
6,000	6,000	5,500	57,000	13,000	20,000	0,500	4	6,005
6,000	6,000	5,500	57,000	13,000	20,000	1,000	4	6,010
6,000	6,000	5,500	57,000	13,000	20,000	1,500	4	6,015
8,000	8,000	7,500	63,000	19,000	26,000	0,300	4	8,003
8,000	8,000	7,500	63,000	19,000	26,000	0,500	4	8,005
8,000	8,000	7,500	63,000	19,000	26,000	1,000	4	8,010
8,000	8,000	7,500	63,000	19,000	26,000	1,500	4	8,015
8,000	8,000	7,500	63,000	19,000	26,000	2,000	4	8,020
10,000	10,000	9,200	72,000	22,000	30,000	0,300	4	10,003
10,000	10,000	9,200	72,000	22,000	30,000	0,500	4	10,005
10,000	10,000	9,200	72,000	22,000	30,000	1,000	4	10,010
10,000	10,000	9,200	72,000	22,000	30,000	1,500	4	10,015
10,000	10,000	9,200	72,000	22,000	30,000	2,000	4	10,020
10,000	10,000	9,200	72,000	22,000	30,000	2,500	4	10,025
12,000	12,000	11,200	83,000	26,000	36,000	0,300	4	12,003
12,000	12,000	11,200	83,000	26,000	36,000	0,500	4	12,005
12,000	12,000	11,200	83,000	26,000	36,000	1,000	4	12,010
12,000	12,000	11,200	83,000	26,000	36,000	1,500	4	12,015
12,000	12,000	11,200	83,000	26,000	36,000	2,000	4	12,020
12,000	12,000	11,200	83,000	26,000	36,000	2,500	4	12,025
12,000	12,000	11,200	83,000	26,000	36,000	3,000	4	12,030
16,000	16,000	15,000	92,000	32,000	42,000	0,500	4	16,005
16,000	16,000	15,000	92,000	32,000	42,000	1,000	4	16,010
16,000	16,000	15,000	92,000	32,000	42,000	1,500	4	16,015
16,000	16,000	15,000	92,000	32,000	42,000	2,000	4	16,020
16,000	16,000	15,000	92,000	32,000	42,000	2,500	4	16,025
16,000	16,000	15,000	92,000	32,000	42,000	3,000	4	16,030
16,000	16,000	15,000	92,000	32,000	42,000	4,000	4	16,040
20,000	20,000	19,000	104,000	38,000	52,000	0,500	4	20,005
20,000	20,000	19,000	104,000	38,000	52,000	1,000	4	20,010
20,000	20,000	19,000	104,000	38,000	52,000	1,500	4	20,015
20,000	20,000	19,000	104,000	38,000	52,000	2,000	4	20,020
20,000	20,000	19,000	104,000	38,000	52,000	2,500	4	20,025
20,000	20,000	19,000	104,000	38,000	52,000	3,000	4	20,030
20,000	20,000	19,000	104,000	38,000	52,000	4,000	4	20,040

SuperF-UT-Fräser

SuperF-UT-Fräser N2, Sätze



SuperF-UT N2	DIN 6527L	VHM	TiAlZrN	h10	R	HB	35° 38°
P	M	K	N	S	H		
●	○	●	●	○	○		

- sehr großes Materialspektrum = universeller Einsatzbereich
- extrem hohe Standzeiten durch hochharte TiAlZrN-Beschichtung
- bis 1600 N/mm²
- Mikroeckenschutz
- Halsfreischliff
- Zentrumschnitt
- ruhiger, vibrationsfreier Lauf durch ungleiche Drallsteigung
- bestehend aus Katalog-Nr. 64552

Katalog-Nr. 78883

Code-Nr.	d1 mm	Stück/Satz
1,000	6,0-16,0	5

SuperF-UT-Fräser

SuperF-UT-Fräser Z, Sätze



SuperF-UT Z	WN	VHM	AlTiN+	h10	R	HB	48°
P	M	K	N	S	H		
•	•			•			

- besonders stabil durch Kernsprung
- universell einsetzbar
- Werkstoffe bis 1400 N/mm²
- Mikroeckenschutz
- Zentrumschnitt
- ungleiche Teilung
- HPC-Bearbeitung in zähen, niedrig- und hochlegierten Stählen und in schwer bearbeitbaren Sonderwerkstoffen
- bestehend aus Katalog-Nr. 54577

Katalog-Nr. 78882

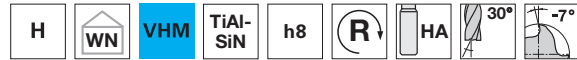
Code-Nr.	d1 mm	Stück/Satz
1,000	6,0-16,0	5
2,000	6,0-12,0	4

VHM Fräser

Kopierfräser mit Torusanschliff

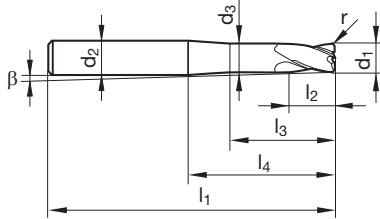


Katalog-Nr. 54304



P	M	K	N	S	H
○		●			●

- kurz
- Zentrumschnitt
- für den Formenbau
- hohe Standzeiten durch hochharte Beschichtung
- bis 63 HRC



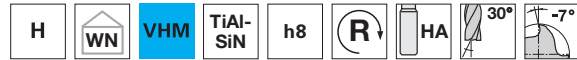
d1 mm	d2 mm	d3 mm	l1 mm	l2 mm	l3 mm	l4 mm	r mm	β °	Z	Code-Nr.
1,000	4,000	0,950	50,000	2,000	6,000	20,000	0,200	4,000	2	1,002
2,000	6,000	1,900	57,000	3,000	8,000	21,000	0,200	5,500	2	2,002
2,000	6,000	1,900	57,000	3,000	8,000	21,000	0,500	5,600	2	2,005
3,000	6,000	2,800	57,000	3,500	14,000	21,000	0,500	4,200	4	3,000
3,000	6,000	2,800	57,000	3,500	14,000	21,000	0,300	4,200	4	3,003
4,000	6,000	3,800	57,000	4,000	16,000	21,000	0,500	2,800	4	4,000
4,000	6,000	3,800	57,000	4,000	16,000	21,000	0,300	2,800	4	4,003
5,000	6,000	4,800	57,000	5,000	18,000	21,000	0,500	1,400	4	5,000
5,000	6,000	4,800	57,000	5,000	18,000	21,000	0,300	1,400	4	5,003
6,000	6,000	5,700	57,000	6,000	20,000	21,000	1,000		4	6,000
6,000	6,000	5,700	57,000	6,000	20,000	21,000	0,300		4	6,003
6,000	6,000	5,700	57,000	6,000	20,000	21,000	0,500		4	6,005
6,000	6,000	5,700	57,000	6,000	20,000	21,000	1,500		4	6,015
8,000	8,000	7,700	63,000	8,000	26,000	27,000	1,000		4	8,000
8,000	8,000	7,700	63,000	8,000	26,000	27,000	0,500		4	8,005
8,000	8,000	7,700	63,000	8,000	26,000	27,000	2,000		4	8,020
10,000	10,000	9,500	72,000	10,000	30,000	32,000	1,500		4	10,000
10,000	10,000	9,500	72,000	10,000	30,000	32,000	0,500		4	10,005
10,000	10,000	9,500	72,000	10,000	30,000	32,000	1,000		4	10,010
12,000	12,000	11,500	83,000	12,000	36,000	38,000	1,500		4	12,000
12,000	12,000	11,500	83,000	12,000	36,000	38,000	0,500		4	12,005
12,000	12,000	11,500	83,000	12,000	36,000	38,000	1,000		4	12,010
12,000	12,000	11,500	83,000	12,000	36,000	38,000	2,000		4	12,020
16,000	16,000	15,500	92,000	16,000	42,000	44,000	2,000		4	16,000
16,000	16,000	15,500	92,000	16,000	42,000	44,000	3,000		4	16,030

VHM Fräser

Kopierfräser mit Torusanschliff

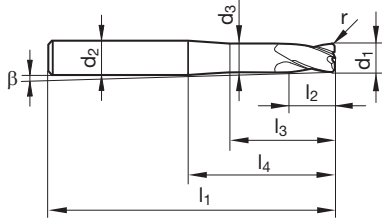


Katalog-Nr. 54305



P	M	K	N	S	H
○		●			●

- lang
- Zentrumschnitt
- mit extra langer Reichweite für den Formenbau
- hohe Standzeiten durch hochharte Beschichtung
- bis 63 HRC



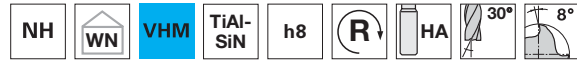
d1 mm	d2 mm	d3 mm	l1 mm	l2 mm	l3 mm	l4 mm	r mm	β °	Z	Code-Nr.
1,000	4,000	0,950	50,000	2,000	12,000	20,000	0,200	4,400	2	1,002
2,000	6,000	1,900	75,000	3,000	18,000	35,000	0,500	3,400	2	2,005
3,000	6,000	2,800	75,000	5,000	25,000	39,000	0,300	2,300	4	3,003
3,000	6,000	2,800	75,000	5,000	25,000	39,000	0,500	2,300	4	3,005
4,000	6,000	3,800	75,000	6,000	32,000	39,000	0,300	1,500	4	4,003
4,000	6,000	3,800	75,000	6,000	32,000	39,000	0,500	1,500	4	4,005
5,000	6,000	4,800	75,000	8,000	38,000	39,000	0,500	0,800	4	5,005
6,000	6,000	5,700	75,000	9,000	38,000	39,000	1,000		4	6,000
6,000	6,000	5,700	75,000	9,000	38,000	39,000	0,500		4	6,005
8,000	8,000	7,700	100,000	12,000	59,000	64,000	1,000		4	8,000
8,000	8,000	7,700	100,000	12,000	59,000	64,000	0,500		4	8,005
10,000	10,000	9,500	100,000	15,000	58,000	60,000	1,500		4	10,000
10,000	10,000	9,500	100,000	15,000	58,000	60,000	0,500		4	10,005
10,000	10,000	9,500	100,000	15,000	58,000	60,000	1,000		4	10,010
10,000	10,000	9,500	100,000	15,000	58,000	60,000	2,000		4	10,020
12,000	12,000	11,500	150,000	18,000	98,000	105,000	1,500		4	12,000
12,000	12,000	11,500	150,000	18,000	98,000	105,000	0,500		4	12,005
12,000	12,000	11,500	150,000	18,000	98,000	105,000	1,000		4	12,010
12,000	12,000	11,500	150,000	18,000	98,000	105,000	2,000		4	12,020
16,000	16,000	15,500	150,000	24,000	98,000	102,000	2,000		4	16,000

VHM Fräser

Kopierfräser mit Torusanschliff

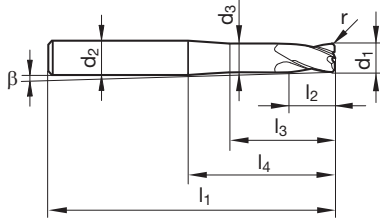


Katalog-Nr. 54302



P	M	K	N	S	H
●	●	●	○	●	○

- zum Schrappen, Schlichten und Feinstschlichten unter HSC-Bedingungen im Gesenk- und Formenbau
- Zentrumschnitt
- geeignet für Werkstoffe von 40 bis 54 HRC
- hohe Standzeiten durch hochharte Beschichtung



d1 mm	d2 mm	d3 mm	l1 mm	l2 mm	l3 mm	l4 mm	r mm	β °	Z	Code-Nr.
0,500	4,000	0,480	50,000	1,000	3,000	22,000	0,100	4,600	2	0,501
1,000	4,000	0,950	50,000	2,000	6,000	22,000	0,200	4,000	2	1,002
2,000	6,000	1,900	57,000	3,000	8,000	21,000	0,500	5,600	2	2,000
2,000	6,000	1,900	57,000	3,000	8,000	21,000	0,200	5,500	2	2,002
3,000	6,000	2,800	57,000	3,500	14,000	21,000	0,500	4,200	2	3,000
4,000	6,000	3,800	57,000	4,000	16,000	21,000	1,000	2,900	2	4,000
4,000	6,000	3,800	57,000	4,000	16,000	21,000	0,300	2,800	2	4,003
4,000	6,000	3,800	57,000	4,000	16,000	21,000	0,500	2,800	2	4,005
5,000	6,000	4,800	57,000	5,000	18,000	21,000	0,500	1,400	2	5,005
5,000	6,000	4,800	57,000	5,000	18,000	21,000	1,000	1,500	2	5,010
6,000	6,000	5,700	57,000	6,000	20,000	21,000	2,000		2	6,000
6,000	6,000	5,700	57,000	6,000	20,000	21,000	0,500		2	6,005
6,000	6,000	5,700	57,000	6,000	20,000	21,000	1,000		2	6,010
6,000	6,000	5,700	57,000	6,000	20,000	21,000	1,500		2	6,015
8,000	8,000	7,700	63,000	8,000	26,000	27,000	2,000		2	8,000
8,000	8,000	7,700	63,000	8,000	26,000	27,000	0,500		2	8,005
8,000	8,000	7,700	63,000	8,000	26,000	27,000	1,000		2	8,010
10,000	10,000	9,500	72,000	10,000	30,000	32,000	3,000		2	10,000
10,000	10,000	9,500	72,000	10,000	30,000	32,000	0,500		2	10,005
10,000	10,000	9,500	72,000	10,000	30,000	32,000	1,500		2	10,015
12,000	12,000	11,500	83,000	12,000	36,000	38,000	4,000		2	12,000
12,000	12,000	11,500	83,000	12,000	36,000	38,000	2,000		2	12,020

Entgrat- und Faswerkzeuge

Entgratfräser 90°

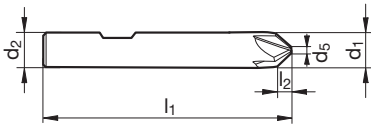


Katalog-Nr. 53399



P	M	K	N	S	H
•	•	•	•	•	

- Entgrat- und Anfasfräser, z.B. zur Bearbeitung von Werkstückkanten mit Faswinkel 90°
- höchste Vorschübe und bessere Oberfläche durch $z = 6$
- auch als Satz 322 044 176 erhältlich



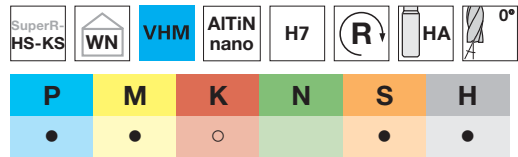
d1 js9 mm	d2 h6 mm	d5 mm	l1 mm	l2 mm	Z	Code-Nr.
6,000	6,000	1,500	57,000	2,300	6	6,000
8,000	8,000	2,000	63,000	3,000	6	8,000
10,000	10,000	3,000	72,000	3,500	6	10,000
12,000	12,000	3,000	83,000	4,500	6	12,000
16,000	16,000	4,000	92,000	6,000	6	16,000
20,000	20,000	6,000	92,000	6,900	6	20,000

Hartmetall-Reibwerkzeuge

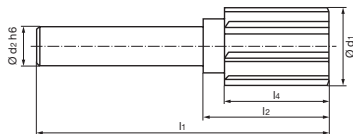
VHM-Hochleistungs-Reibbahnen



Katalog-Nr. 72874



- für höchste Schnittwerte und hochwertige Bohrungsqualitäten
- mit axialem Kühlkanal, zur Bearbeitung von Grundbohrungen



d1 mm	d2 h6 mm	l1 mm	l2 mm	l4 mm	Z	Code-Nr.
14,000	6,000	66,000	30,000	25,000	8	14,000
15,000	6,000	66,000	30,000	25,000	8	15,000
16,000	8,000	66,000	30,000	25,000	8	16,000
18,000	8,000	66,000	30,000	25,000	8	18,000
20,000	10,000	70,000	30,000	25,000	8	20,000
22,000	10,000	70,000	30,000	25,000	8	22,000
24,000	12,000	75,000	30,000	25,000	8	24,000
25,000	12,000	75,000	30,000	25,000	8	25,000
26,000	12,000	75,000	30,000	25,000	8	26,000
28,000	12,000	75,000	30,000	25,000	8	28,000
30,000	16,000	78,000	30,000	25,000	8	30,000
32,000	16,000	78,000	30,000	25,000	8	32,000
34,000	20,000	80,000	30,000	25,000	8	34,000
36,000	20,000	80,000	30,000	25,000	8	36,000
38,000	20,000	80,000	30,000	25,000	8	38,000
40,000	20,000	80,000	30,000	25,000	8	40,000
42,000	20,000	80,000	30,000	25,000	8	42,000

Hartmetall-Reibwerkzeuge

VHM-Hochleistungs-Reibbahnen

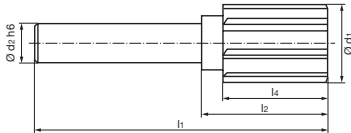


Katalog-Nr. 72875



P	M	K	N	S	H
●	●	○	●	●	●

- für höchste Schnittwerte und hochwertige Bohrungsqualitäten
- mit radialer Kühlmittelzufuhr und Schälanschnitt zum gesicherten Späne-transport in die Vorschubrichtung bei der Bearbeitung von Durchgangsbohrungen



d1 mm	d2 h6 mm	l1 mm	l2 mm	l4 mm	Z	Code-Nr.
14,000	6,000	66,000	30,000	25,000	8	14,000
15,000	6,000	66,000	30,000	25,000	8	15,000
16,000	8,000	66,000	30,000	25,000	8	16,000
18,000	8,000	66,000	30,000	25,000	8	18,000
20,000	10,000	70,000	30,000	25,000	8	20,000
22,000	10,000	70,000	30,000	25,000	8	22,000
24,000	12,000	75,000	30,000	25,000	8	24,000
25,000	12,000	75,000	30,000	25,000	8	25,000
26,000	12,000	75,000	30,000	25,000	8	26,000
28,000	12,000	75,000	30,000	25,000	8	28,000
30,000	16,000	78,000	30,000	25,000	8	30,000
32,000	16,000	78,000	30,000	25,000	8	32,000
34,000	20,000	80,000	30,000	25,000	8	34,000
36,000	20,000	80,000	30,000	25,000	8	36,000
38,000	20,000	80,000	30,000	25,000	8	38,000
40,000	20,000	80,000	30,000	25,000	8	40,000
42,000	20,000	80,000	30,000	25,000	8	42,000

HSS-Senker

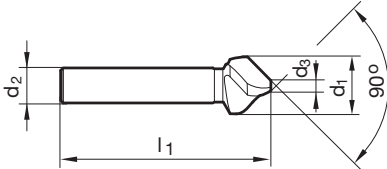
Kegelsenker 90°, spiralisiert



Katalog-Nr. 52348

V-NX	DIN 335	C	HSCO	Al-TiN	90°	R	Cyl
P	M	K	N	S	H		
●	●	●	○	○			

- 3 ungleiche, konvexe Schneiden
- vibrationsarme Schneidverhältnisse
- für runde und ratterfreie Senkungen
- deutlich reduzierte Vorschubkraft notwendig
- universell einsetzbar



d1 mm	d2 mm	d3 mm	l1 mm	Z	Code-Nr.
6,300	5,000	1,500	45,000	3	6,300
8,000	6,000	2,000	50,000	3	8,000
8,300	6,000	2,000	50,000	3	8,300
10,000	6,000	2,500	50,000	3	10,000
10,400	6,000	2,500	50,000	3	10,400
11,500	8,000	2,800	56,000	3	11,500
12,400	8,000	2,800	56,000	3	12,400
15,000	10,000	3,200	60,000	3	15,000
16,500	10,000	3,200	60,000	3	16,500
19,000	10,000	3,500	63,000	3	19,000
20,500	10,000	3,500	63,000	3	20,500
23,000	10,000	3,800	67,000	3	23,000
25,000	10,000	3,800	67,000	3	25,000
31,000	12,000	4,200	71,000	3	31,000

HSS-Senker

Kegelsenker 90°, spiralisiert

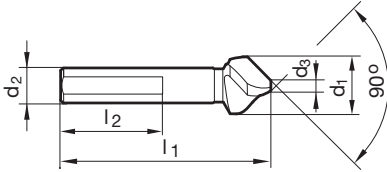


Katalog-Nr. 52350



P	M	K	N	S	H
●	●	●	○	○	

- 3-Flächenschaft verhindert Durchrutschen im Bohrfutter
- 3 ungleiche, konvexe Schneiden
- optimal für Handbohrmaschinen
- vibrationsarme Schneidverhältnisse
- für runde und ratterfreie Senkungen
- deutlich reduzierte Vorschubkraft notwendig
- universell einsetzbar



d1 mm	d2 mm	d3 mm	l1 mm	l2 mm	Z	Code-Nr.
6,300	5,000	1,500	45,000	30,000	3	6,300
8,000	6,000	2,000	50,000	30,000	3	8,000
8,300	6,000	2,000	50,000	30,000	3	8,300
10,000	6,000	2,500	50,000	30,000	3	10,000
10,400	6,000	2,500	50,000	30,000	3	10,400
11,500	8,000	2,800	56,000	30,000	3	11,500
12,400	8,000	2,800	56,000	30,000	3	12,400
15,000	10,000	3,200	60,000	30,000	3	15,000
16,500	10,000	3,200	60,000	30,000	3	16,500
19,000	10,000	3,500	63,000	30,000	3	19,000
20,500	10,000	3,500	63,000	30,000	3	20,500
23,000	10,000	3,800	67,000	30,000	3	23,000
25,000	10,000	3,800	67,000	30,000	3	25,000
31,000	12,000	4,200	71,000	30,000	3	31,000

HSS-Senker

Kegelsenkersätze 90°, spiralisiert



V-NX	DIN 335	C	HSCO	Al-TiN	90°	R	Cyl
P	M	K	N	S	H		
●	●	●	○	○			

- bestehend aus Katalog-Nr. 52348
- 3 ungleiche, konvexe Schneiden
- vibrationsarme Schneidverhältnisse
- für runde und ratterfreie Senkungen
- deutlich reduzierte Vorschubkraft notwendig
- universell einsetzbar

Katalog-Nr. 52398

Code-Nr.	Ø-Bereich mm	Stück/Satz
1,000	6,3/8,3/10,4/12,4/16,5/20,5	6

HSS-Senker

Kegelsenkersätze 90°, spiralisiert



V-NX	DIN 335	C	HSCO	Al-TiN	90°	R	3
P	M	K	N	S	H		
●	●	●	○	○			

- bestehend aus Katalog-Nr. 52350
- 3-Flächenschaft verhindert Durchrutschen im Bohrfutter
- 3 ungleiche, konvexe Schneiden
- optimal für Handbohrmaschinen
- vibrationsarme Schneidverhältnisse
- für runde und ratterfreie Senkungen
- deutlich reduzierte Vorschubkraft notwendig
- universell einsetzbar

Katalog-Nr. 52399

Code-Nr.	Ø-Bereich mm	Stück/Satz
1,000	6,3/8,3/10,4/12,4/16,5/20,5	6

Katalog-Nr.	Seite	Norm	Oberfläche	Bezeichnung	Schneidstoff	Typ
51146	29	DIN 6537K	AlTiN	Spiralbohrer mit verst. Zylinderschaft	VHM	H
51681	16	DIN 6537L	TiAlN nano	SuperV-Bohrer mit Innenkühlung	VHM	SuperV-IK-U
51687	14	DIN 6537L	TiAlN nano	SuperV-Bohrer ohne Innenkühlung	VHM	SuperV-U
51764	24	Werksnorm	AlTiN	SuperV-Bohrer mit Innenkühlung	VHM	SuperV-T
51765	25	Werksnorm	AlTiN	SuperV-Bohrer mit Innenkühlung	VHM	SuperV-T
51766	26	Werksnorm	AlTiN	SuperV-Bohrer mit Innenkühlung	VHM	SuperV-T
51767	27	Werksnorm	AlTiN	SuperV-Bohrer mit Innenkühlung	VHM	SuperV-T
51768	28	Werksnorm	AlTiN	SuperV-Bohrer mit Innenkühlung	VHM	SuperV-T
51785	20	DIN 6537L	TiAlN nano	SuperV-Bohrer mit Innenkühlung	VHM	SuperV-UX
51790	22	Werksnorm	TiAlN nano	SuperV-Bohrer mit Innenkühlung	VHM	SuperV-UX
52348	114	DIN 335	AlTiN	Kegelsenker 90°, spiralisiert	HSCO	V-NX
52350	115	DIN 335	AlTiN	Kegelsenker 90°, spiralisiert	HSCO	V-NX
52398	116	DIN 335	AlTiN	Kegelsenkersätze 90°, spiralisiert	HSCO	V-NX
52399	117	DIN 335	AlTiN	Kegelsenkersätze 90°, spiralisiert	HSCO	V-NX
53399	111	Werksnorm	TiAlZrN	Entgratfräser 90°	VHM	SuperAF-90
53610	82	~DIN 371/~DIN 376	TiCN	Kühlkanal-Gewindeformer für Metr. ISO-Gewinde	HSS-E-PM	Durativ N-X
53612	84	~DIN 374	TiCN	Kühlkanal-Gewindeformer für Metr. ISO-Feingewinde	HSS-E-PM	Durativ N-X
53618	83	~DIN 371	TiCN	Kühlkanal-Gewindeformer für Metr. ISO-Gewinde	HSS-E-PM	Durativ N-X
53619	85	~DIN 374	TiCN	Kühlkanal-Gewindeformer für Metr. ISO-Feingewinde	HSS-E-PM	Durativ N-X
53630	76	~DIN 371/~DIN 376	TiCN	Gewindeformer für Metrische ISO-Gewinde	HSS-E-PM	Durativ N-X
53631	77	~DIN 371/~DIN 376	TiCN	Gewindeformer für Metrische ISO-Gewinde	HSS-E-PM	Durativ N-X
53632	78	~DIN 374	TiCN	Gewindeformer für Metrische ISO-Feingewinde	HSS-E-PM	Durativ N-X
53633	79	~DIN 371/~DIN 376	TiCN	Gewindeformer für UNC-Gewinde	HSS-E-PM	Durativ N-X
53634	80	~DIN 371/~DIN 374	TiCN	Gewindeformer für UNF-Gewinde	HSS-E-PM	Durativ N-X
53635	81	DIN 2189	TiCN	Gewindeformer für Whitworth-Rohrgewinde	HSS-E-PM	Durativ N-X
53640	61	DIN 371/DIN 376	TiCN	Gewindebohrer für Metrische ISO-Gewinde	HSS-E-PM	Produktiv H
53646	59	DIN 376	TiCN	Gewindebohrer für Metrische ISO-Gewinde	HSS-E	H
53647	60	~DIN 376	TiCN	Gewindebohrer für Metrische ISO-Gewinde	HSS-E	H
53661	62	DIN 371/DIN 376	TiCN	Gewindebohrer für Metrische ISO-Gewinde	HSS-E	Intensiv H
53676	63	DIN 371/DIN 376	TiCN	Gewindebohrer für Metrische ISO-Gewinde	HSS-E-PM	H
53734	56	DIN 371/DIN 376	AlTiZrN	Gewindebohrer für Metrische ISO-Gewinde	HSS-E	Produktiv N-X LH
53735	48	DIN 371/DIN 376	AlTiZrN	Gewindebohrer für Metrische ISO-Gewinde	HSS-E-PM	Produktiv N-X
53736	49	DIN 371/DIN 376	AlTiZrN	Gewindebohrer für Metrische ISO-Gewinde	HSS-E-PM	Produktiv N-X
53737	45	DIN 371/DIN 376	AlTiZrN	Gewindebohrer für Metrische ISO-Gewinde	HSS-E	Produktiv N-X
53738	46	DIN 371/DIN 376	AlTiZrN	Gewindebohrer für Metrische ISO-Gewinde	HSS-E	Produktiv N-X
53739	47	Werksnorm	AlTiZrN	Gewindebohrer für Metrische ISO-Gewinde	HSS-E	Produktiv N-X
53747	57	DIN 371/DIN 376	TiAlN-H	Gewindebohrer für Metrische ISO-Gewinde	HSS-E	Produktiv N-X LH
53748	54	DIN 371/DIN 376	TiAlN-H	Gewindebohrer für Metrische ISO-Gewinde	HSS-E-PM	Intensiv N-X
53749	55	DIN 371/DIN 376	TiAlN-H	Gewindebohrer für Metrische ISO-Gewinde	HSS-E-PM	Intensiv N-X
53750	50	DIN 371/DIN 376	TiAlN-H	Gewindebohrer für Metrische ISO-Gewinde	HSS-E	Intensiv N-X
53751	51	DIN 371/DIN 376	TiAlN-H	Gewindebohrer für Metrische ISO-Gewinde	HSS-E	Intensiv N-X
53752	52	Werksnorm	TiAlN-H	Gewindebohrer für Metrische ISO-Gewinde	HSS-E	Intensiv N-X
53760	53	DIN 371/DIN 376	TiAlN-H	Gewindebohrer für Metrische ISO-Gewinde	HSS-E	Intensiv N-X
53770	68	DIN 374	TiAlN-H	Gewindebohrer für Metrische ISO-Feingewinde	HSS-E	Intensiv N-X
53775	75	DIN 5156	TiAlN-H	Gewindebohrer für Whitworth-Rohrgewinde	HSS-E	Intensiv N-X
53779	64	DIN 374	AlTiZrN	Gewindebohrer für Metrische ISO-Feingewinde	HSS-E	Produktiv N-X
53781	67	DIN 374	TiAlN-H	Gewindebohrer für Metrische ISO-Feingewinde	HSS-E	Intensiv N-X
53782	71	DIN 371/DIN 376	AlTiZrN	Gewindebohrer für UNC-Gewinde	HSS-E	Produktiv N-X
53783	72	DIN 371/DIN 376	TiAlN-H	Gewindebohrer für UNC-Gewinde	HSS-E	Intensiv N-X
53784	73	~DIN 371/~DIN 374	AlTiZrN	Gewindebohrer für UNF-Gewinde	HSS-E	Produktiv N-X
53785	74	~DIN 371/~DIN 374	TiAlN-H	Gewindebohrer für UNF-Gewinde	HSS-E	Intensiv N-X
53789	65	DIN 374	AlTiZrN	Gewindebohrer für Metrische ISO-Feingewinde	HSS-E-PM	Produktiv N-X
53790	66	DIN 374	AlTiZrN	Gewindebohrer für Metrische ISO-Feingewinde	HSS-E-PM	Produktiv N-X
53791	69	DIN 374	TiAlN-H	Gewindebohrer für Metrische ISO-Feingewinde	HSS-E-PM	Intensiv N-X
53792	70	DIN 374	TiAlN-H	Gewindebohrer für Metrische ISO-Feingewinde	HSS-E-PM	Intensiv N-X
53840	89	Werksnorm	TiCN	Mikro-Gewindefräser für Metrische ISO-Gewinde	VHM	TM SP
53850	90	Werksnorm	TiCN	Mikro-Gewindefräser für Metrische ISO-Gewinde	VHM	TM SP
53860	87	Werksnorm	TiCN	Gewindefräser ohne Senkfase für Metr. ISO-Gewinde	VHM	TM SP
53890	88	Werksnorm	AlCrN	Gewindefräser mit Senkfase für Metrische ISO-Gewinde	VHM	TMC-NX SP
53892	91	Werksnorm	TiCN	Mikro-Gewindefräser für Metrische ISO-Gewinde	VHM	MTM-NX SP
54302	110	Werksnorm	TiAlSiN	Kopierfräser mit Torusanschiff	VHM	NH
54304	108	Werksnorm	TiAlSiN	Kopierfräser mit Torusanschiff	VHM	H
54305	109	Werksnorm	TiAlSiN	Kopierfräser mit Torusanschiff	VHM	H
54542	105	DIN 6527L	TiAlSiN	SuperF-UT-Fräser VA-r	VHM	SuperF-UT VA-r
54550	94	DIN 6527L	AlCrN	SuperF-UT-Fräser N-r	VHM	SuperF-UT N-r
54553	93	Werksnorm	TiAlN	SuperF-UT-Fräser NL	VHM	SuperF-UT NL
54556	104	DIN 6527L	TiAlN	SuperF-UT-Fräser S	VHM	SuperF-UT S
54577	101	Werksnorm	AlTiN+	SuperF-UT-Fräser Z	VHM	SuperF-UT Z
54578	103	Werksnorm	AlTiN+	SuperF-UT-Fräser ZS	VHM	SuperF-UT ZS
54582	102	Werksnorm	AlTiN+	SuperF-UT-Fräser ZS	VHM	SuperF-UT ZS
54583	95	Werksnorm	TiAlN	SuperF-UT-Fräser N-5	VHM	SuperF-UT N-5
54584	96	Werksnorm	TiAlN	SuperF-UT-Fräser N-5	VHM	SuperF-UT N-5

Katalog-Nr.	Seite	Norm	Oberfläche	Bezeichnung	Schneidstoff	Typ
54586	97	Werksnorm	TiAlSiN	SuperF-UT-Fräser NX-3	VHM	SuperF-UT NX-3
54587	98	Werksnorm	TiAlSiN	SuperF-UT-Fräser NX-3	VHM	SuperF-UT NX-3
54588	99	DIN 6527K	TiAlSiN	SuperF-UT-Fräser NX	VHM	SuperF-UT NX
54589	100	DIN 6527K	TiAlSiN	SuperF-UT-Fräser NX	VHM	SuperF-UT NX
61131	34	DIN 1897	AlTiZrN	Spiralbohrer extra kurz	HSS-Co	V18
61232	36	DIN 338	AlTiZrN	Spiralbohrer kurz	HSS-Co	V18
63033	58	DIN 371/DIN 376	TiN	Gewindebohrer für Metrische ISO-Gewinde	HSS-E	Produktiv N
64552	92	DIN 6527L	TiAlZrN	SuperF-UT-Fräser N2	VHM	SuperF-UT N2
65030	30	Werksnorm	TiN	Einlippenbohrer SuperT-NXL	HM	SuperT-NXL
65031	31	Werksnorm	TiN	Einlippenbohrer SuperT-NXL	HM	SuperT-NXL
65032	32	Werksnorm	TiN	Einlippenbohrer SuperT-NXL	HM	SuperT-NXL
65033	33	Werksnorm	TiN	Einlippenbohrer SuperT-NXL	HM	SuperT-NXL
71018	37	DIN 338	Bronze-VAP	V16-Spiralbohrer	M42	V16
71019	39	DIN 338	Bronze-VAP	V16-Spiralbohrer-Sätze	M42	V16
71020	40	Werksnorm		V16-Pocket-Satz (Spiralbohrer, Gewindebohrer und Senker)		
71140	41	NAS 907	blank	Stangenbohrer, Länge 6 inches	HSS	N
71141	43	NAS 907	blank	Stangenbohrer, Länge 12 inches	HSS	N
71142	42	NAS 907	nitriert	Stangenbohrer, Länge 6 inches	HSS	N
71143	44	NAS 907	nitriert	Stangenbohrer, Länge 12 inches	HSS	N
71791	18	DIN 6537L	blank	SuperV-Bohrer mit Innenkühlung	VHM	SuperV-Al
72874	112	Werksnorm	AlTiN nano	VHM-Hochleistungs-Reibahlen	VHM	SuperR-HS-KS
72875	113	Werksnorm	AlTiN nano	VHM-Hochleistungs-Reibahlen	VHM	SuperR-HS-KD
73830	86	Werksnorm	TiCN	Gewindefräser ohne Senkfase für Metr. ISO-Gewinde	VHM	TMU SP
78882	107	Werksnorm	AlTiN+	SuperF-UT-Fräser Z, Sätze	VHM	SuperF-UT Z
78883	106	DIN 6527L	TiAlZrN	SuperF-UT-Fräser N2, Sätze	VHM	SuperF-UT N2

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