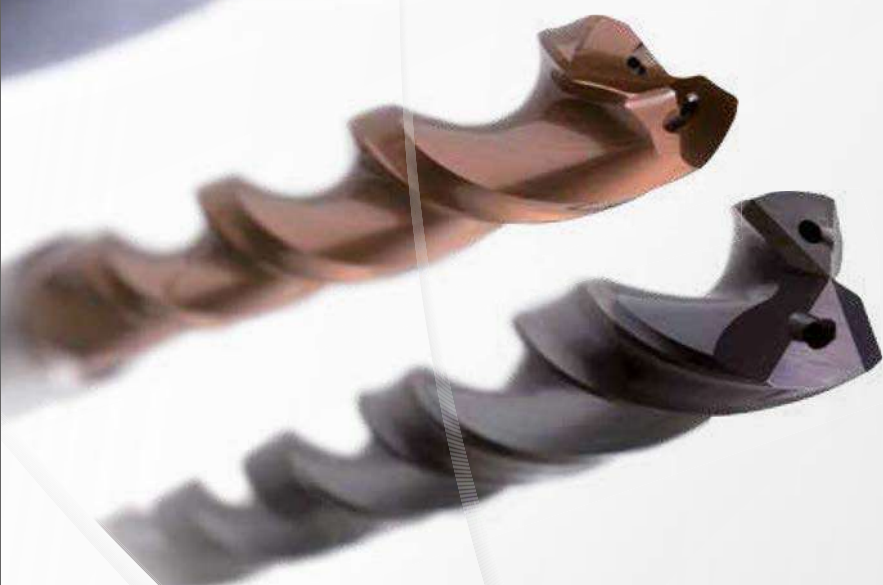




Vollhartmetall-Bohrerprogramm

SuperV

 **STOCK**

Span – um Span – Spitze

Suppe



The background of the entire page is a technical drawing of a mechanical part, possibly a drill bit or a component of a machine, rendered in a light, faded style. Overlaid on the right side of the image is a close-up photograph of a dark, twisted drill bit. The bit is positioned vertically, with its tip pointing towards the bottom right. The lighting on the bit highlights its metallic texture and the spiral flutes. In the upper left corner, the letters 'rv' are printed in a large, bold, sans-serif font. The 'r' is lowercase and the 'v' is lowercase, both in a light gray color that blends with the background.

rv

Hochleistungsbohrer für jede Anwendung

- Durchmesserbereich 0,1 bis 25,0 mm
- Bohrtiefen 3xD bis 40xD
- mit und ohne Innenkühlung
- aus anwendungsoptimierten Hartmetallsorten
- blank und mit TiN-, TiAlN nano-, TiAlSiN-, AlTiN+-, AlTiN- oder AlTiN nano-Beschichtung

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

PIKTOGRAMME



SCHNEIDSTOFF	VHM													
	Vollhartmetall													
BESCHICHTUNG	blank	TiAlN nano	AlTiN nano	TiN	Al-TiN	Al-TiN+	TiAl-SiN							
TOLERANZ	h6	h7	h8	m7										
BOHRTIEFE	3xD	~3xD	4xD	5xD	~5xD	7xD	8xD	10xD	12xD	15xD	20xD	25xD	30xD	40xD
SCHNEIDRICHTUNG														
	rechts													
SCHAFTFORM														
SPITZENWINKEL														
NORM														
	Stock													
TYP	SuperV-F	SuperV-IK-F	SuperV-IK-NX	SuperV-IK-U	SuperV-M	SuperV-NX	SuperV-S	SuperV-T	SuperV-U	SuperV-UX	SuperV-VA	SuperV-83-GAL	SuperV-95-GG	SuperV-95-GN

UNSERE GRUPPEN

DIE UNIVERSELLEN

zur Bearbeitung verschiedenster Werkstoffe,
Stähle bis 1400 N/mm², Stahlguss, Guss,
Aluminiumlegierungen mit einem hohen Si-Gehalt

Produktübersicht Seite 6-7
Produktinformationen ab Seite 18

DIE UNIVERSELLEN KLEINEN

von Durchmesser 0,1 bis 3,0 mm,
zur Bearbeitung verschiedenster Stähle, rostfreier Materialien,
Sonderlegierungen oder Aluminium bis 15xD

Produktübersicht Seite 8-9
Produktinformationen ab Seite 41

DIE UNIVERSELLEN LANGEN

ab Durchmesser 3,0 mm,
zur Bearbeitung verschiedenster Werkstoffe wie Stähle,
rostfreier Materialien, Titan- und Sonderlegierungen oder Aluminium

Produktübersicht Seite 10-11
Produktinformationen ab Seite 47

DIE SPEZIELLEN

zur Bearbeitung verschiedenster Werkstoffe wie Stähle,
rostfreier Materialien, Titan- und Sonderlegierungen oder
gehärtete Stähle bis max. 62 HRC

Produktübersicht Seite 12-13
Produktinformationen ab Seite 53

DIE ROSTFREIEN

zur Bearbeitung rostfreier Stähle

Produktübersicht Seite 14-15
Produktinformationen ab Seite 72

DIE LEICHTEN

zur Bearbeitung von Aluminium, NE-Metallen und Guss,
für unterbrochene Schnitte/Bohrungen

Produktübersicht Seite 16-17
Produktinformationen ab Seite 80

ARBEITSRICHTWERTE

ab Seite 87

SuperV

DIE UNIVERSELLEN

zur Bearbeitung verschiedenster Werkstoffe, Stähle bis 1400 N/mm²,
Stahlguss, Guss, Aluminiumlegierungen mit einem hohen Si-Gehalt

SPITZENWINKEL

135° / 140°

HARTMETALL

universelles Ultrafeinstkorn Hartmetall
aus eigener Produktion

BOHRTIEFE

3xD, 5xD, 7xD, 12xD

MIT UND OHNE INNENKÜHLUNG

zur Erhöhung der Standzeiten, sowie zur
verbesserten Spanabfuhr und optimalen Kühlung
sind die SuperV-Bohrer z.T. auch mit
innenliegenden Kühlkanälen erhältlich

GEOMETRIE

universelle Geometrie für breites Materialspektrum

BESCHICHTUNG

universelle TiAlN-nano

TOLERANZEN

m7/h7,
speziell abgestimmte Fertigungstoleranzen
ermöglichen den Einsatz als Pilotierwerkzeug für
nachfolgendes Tiefbohrwerkzeug

DURCHMESSER-BEREICH

3,0 – 20,0mm

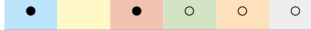
SCHAFTFORM

HA, HE, HB,
für die marktüblichen Spannsysteme

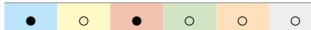
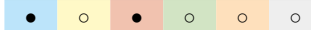
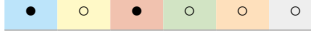
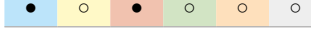
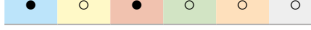


P	M	K	N	S	H	Typ	Schaft- form	Bohrtiefe	Schneidstoff	Oberfläche	Norm	d1/mm	Katalog-Nr.	Progr. Seite
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SuperV-Bohrer ohne Innenkühlung

													
	SuperV-U	HA	3xD	VHM	TiAlN nano	DIN 6537K	3,000 - 20,000	51873	18				
													
	SuperV-U	HE	3xD	VHM	TiAlN nano	DIN 6537K	3,000 - 20,000	51871	20				
													
	SuperV-U	HA	5xD	VHM	TiAlN nano	DIN 6537L	3,000 - 20,000	51787	22				
													
	SuperV-U	HE	5xD	VHM	TiAlN nano	DIN 6537L	3,000 - 20,000	51887	24				
													
	SuperV-U	HB	5xD	VHM	TiAlN nano	DIN 6537L	3,000 - 20,000	51687	26				

SuperV-Bohrer mit Innenkühlung

										
	SuperV-IK-U	HA	3xD	VHM	TiAlN nano	DIN 6537K	3,000 - 20,000	51776	28	
										
	SuperV-IK-U	HE	3xD	VHM	TiAlN nano	DIN 6537K	3,000 - 20,000	51876	30	
										
	SuperV-IK-U	HA	5xD	VHM	TiAlN nano	DIN 6537L	3,000 - 20,000	51781	32	
										
	SuperV-IK-U	HE	5xD	VHM	TiAlN nano	DIN 6537L	3,000 - 20,000	51881	34	
										
	SuperV-IK-U	HB	5xD	VHM	TiAlN nano	DIN 6537L	3,000 - 20,000	51681	36	
										
	SuperV-IK-U	HA	7xD	VHM	TiAlN nano	Werksnorm	3,000 - 20,000	51789	38	
										
	SuperV-IK-U	HE	7xD	VHM	TiAlN nano	Werksnorm	3,000 - 20,000	51889	39	
										
	SuperV-IK-U	HA	12xD	VHM	TiAlN nano	Werksnorm	3,000 - 20,000	51893	40	

SuperV

DIE UNIVERSELLEN KLEINEN

von Durchmesser 0,1 bis 3,0 mm,
zur Bearbeitung verschiedenster Stähle, rostfreier Materialien,
Sonderlegierungen oder Aluminium bis 15xD

SPITZENWINKEL

135°/140°

GEOMETRIE

SuperV-NX verfügen über eine spezielle
Kleinstbohrergeometrie für exzellente
Spanabfuhr auch in großen Bohrtiefen

TOLERANZ

m7/h7,
speziell abgestimmte Fertigungstoleranzen
ermöglichen den Einsatz als Pilotierwerkzeug

BESCHICHTUNG

TiAlN, AlTiN+,
Vollbeschichtung bzw. Kopfbeschichtung

BOHRTIEFE

4xD, 5xD, 7xD, 8xD, 15xD

MIT UND OHNE INNENKÜHLUNG

zur Erhöhung der Standzeiten, sowie zur
verbesserten Spanabfuhr und optimalen Kühlung sind
die SuperV-Bohrer z.T. auch mit
innenliegenden Kühlkanälen erhältlich

SCHAFTFORM

HA



P	M	K	N	S	H	Typ	Schaft- form	Bohrtiefe	Schneidstoff	Oberfläche	Norm	d1/mm	Katalog-Nr.	Progr. Seite
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SuperV-M Universal-Kleinstbohrer



•		•				SuperV-M	HA		VHM	AlTiN	Werksnorm	0,100 - 3,000	51720	41
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SuperV-NX Hochleistungs-Kleinstbohrer ohne Innenkühlung



•	○	•	○	○		SuperV-NX	HA	4xD	VHM	AlTiN+	Werksnorm	0,500 - 3,000	71998	42
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•	○	•	○	○		SuperV-NX	HA	7xD	VHM	AlTiN+	Werksnorm	0,500 - 3,000	71999	43
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SuperV-NX Hochleistungs-Kleinstbohrer mit Innenkühlung



•	•	•	○	○		SuperV-IK-NX	HA	5xD	VHM	AlTiN	Werksnorm	1,400 - 3,000	51997	44
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•	•	•	○	○		SuperV-IK-NX	HA	8xD	VHM	AlTiN	Werksnorm	1,400 - 3,000	51998	45
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•	•	•	○	○		SuperV-IK-NX	HA	15xD	VHM	AlTiN	Werksnorm	1,400 - 3,000	51999	46
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SuperV

DIE UNIVERSELLEN LANGEN

ab Durchmesser 3,0 mm,
zur Bearbeitung verschiedenster Werkstoffe wie Stähle,
rostfreie Materialien, Titan- und Sonderlegierungen oder Aluminium

SPITZENWINKEL

135°

TOLERANZ

h7

BOHRTIEFE

15xD, 20xD, 25xD, 30xD, 40xD

GEOMETRIE

universelle Geometrie für breites Materialspektrum

BESCHICHTUNG

AlTiN-Kopfbeschichtung
für perfekte Spanabfuhr bei Bohrtiefen ab 15xD

BESONDERHEIT

erweiterte und polierte Spannuten
mit auslaufender 4. Fase

SCHAFTFORM

HA



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

														
•	•	•	○	○		SuperV-T	HA	15xD	VHM	AlTiN	Werksnorm	3,000 - 16,000	51764	47
														
•	•	•	○	○		SuperV-T	HA	20xD	VHM	AlTiN	Werksnorm	3,000 - 16,000	51765	48
														
•	•	•	○	○		SuperV-T	HA	25xD	VHM	AlTiN	Werksnorm	3,000 - 16,000	51766	49
														
•	•	•	○	○		SuperV-T	HA	30xD	VHM	AlTiN	Werksnorm	3,000 - 14,000	51767	50
														
•	•	•	○	○		SuperV-T	HA	40xD	VHM	AlTiN	Werksnorm	3,000 - 10,000	51768	51

SuperV

DIE SPEZIELLEN

zur Bearbeitung verschiedenster Werkstoffe wie Stähle, rostfreie Materialien, Titan- und Sonderlegierungen oder gehärtete Stähle bis max. 62 HRC

MIKROGEOMETRIE

extrem glatte und stabile Schneidkanten, höchste Oberflächengüte an Schneiden und Nuten, Kegelmantel- und Flächenanschliff

GEOMETRIE

Auslegung für höchste Schnittwerte, sehr gutes Eigenzentrierverhalten, Erzeugung kurzer Späne

BOHRTIEFE

3xD, 5xD, 7xD, 8xD

MIT UND OHNE INNENKÜHLUNG

zur Erhöhung der Standzeiten, sowie zur verbesserten Spanabfuhr und optimalen Kühlung sind die SuperV-Bohrer z.T. auch mit innenliegenden Kühlkanälen erhältlich

BESCHICHTUNG

TiN, TiAlSiN oder TiAlN-nano, Kopfbeschichtung

TOLERANZ

m7

DURCHMESSER-BEREICH

3,0–25,0mm

SCHAFTFORM

zylindrisch, HA, HE



STAHL-SPEZIALIST SuperV-UX	SONDERLEGIERUNGEN / HARTE WERKSTOFFE SuperV-S	FÜR ZÄHE WERKSTOFFE SuperV-F
51785	51750	61888
51790	51752	61880
	51753	
	51754	
	51755	
	51756	

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

	•				○	○	SuperV-S	HA	3xD	VHM	TiAlSiN	DIN 6537K	3,000 - 20,000	51750	53
	○	•	○	○	•	○	SuperV-F	zyl.	3xD	VHM	TiN	DIN 6539	3,000 - 12,000	61888	55

SuperV-Bohrer mit Innenkühlung

	•	○	○	○	○	○	SuperV-UX	HA	5xD	VHM	TiAlN nano	DIN 6537L	3,000 - 20,000	51785	57
	•	○	○	○	○	○	SuperV-UX	HA	8xD	VHM	TiAlN nano	Werksnorm	3,000 - 20,000	51790	59
	•				•	○	SuperV-S	HA	3xD	VHM	TiAlSiN	DIN 6537K	3,000 - 20,000	51752	61
	•				•	○	SuperV-S	HE	3xD	VHM	TiAlSiN	DIN 6537K	3,000 - 20,000	51753	63
	•				•	○	SuperV-S	HA	5xD	VHM	TiAlSiN	DIN 6537L	3,000 - 20,000	51754	65
	•				•	○	SuperV-S	HE	5xD	VHM	TiAlSiN	DIN 6537L	3,000 - 20,000	51755	67
	•				•	○	SuperV-S	HA	7xD	VHM	TiAlSiN	Werksnorm	3,000 - 16,000	51756	69
	○	•	○	○	•	○	SuperV-IK-F	HE	5xD	VHM	TiN	DIN 6537L	4,000 - 25,000	61880	70

SuperV

DIE ROSTFREIEN

zur Bearbeitung rostfreier Stähle

SPITZENWINKEL

140°

BOHRTIEFE

3xD, 5xD

DURCHMESSER-BEREICH

3,0–20,0mm

SCHAFTFORM

HA, HE

GEOMETRIE

angepasstes Nutprofil für rostfreie Materialien

BESCHICHTUNG

AlTiN nano



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

														
	•			○		SuperV-VA	HA	3xD	VHM	AlTiN nano	DIN 6537K	3,000 - 20,000	51770	72
														
	•			○		SuperV-VA	HE	3xD	VHM	AlTiN nano	DIN 6537K	3,000 - 20,000	51771	74
														
	•			○		SuperV-VA	HA	5xD	VHM	AlTiN nano	DIN 6537L	3,000 - 20,000	51772	76
														
	•			○		SuperV-VA	HE	5xD	VHM	AlTiN nano	DIN 6537L	3,000 - 20,000	51773	78

SuperV

DIE LEICHTEN

zur Bearbeitung von Aluminium, NE-Metallen und Guss,
für unterbrochene Schnitte/Bohrungen



P	M	K	N	S	H	Typ	Schaft- form	Bohrtiefe	Schneidstoff	Oberfläche	Norm	d1/mm	Katalog-Nr.	Progr. Seite
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SuperV-Bohrer, 3-schneidig



sp

		•	•			SuperV83- GAL	HA	5xD	VHM	blank	DIN 6537L	3,000 - 20,000	71862	80
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SuperV-Bohrer mit Innenkühlung



		•	○			SuperV95- GG	HA	4xD	VHM	blank	Werksnorm	3,000 - 21,500	71995	81
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		•	○			SuperV95- GG	HA	7xD	VHM	blank	Werksnorm	3,000 - 20,000	71994	83
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sp

		•	○			SuperV95- GG	HA	10xD	VHM	blank	Werksnorm	3,000 - 20,000	71996	84
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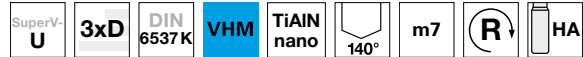
		•	○			SuperV95- GN	HA	15xD	VHM	blank	Werksnorm	5,000 - 14,000	71997	85
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SuperV-Bohrer

SuperV-Bohrer ohne Innenkühlung



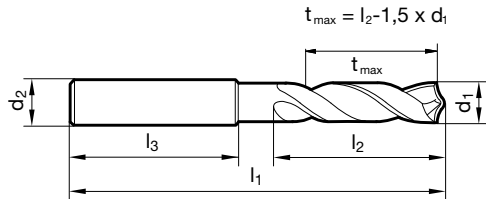
Katalog-Nr. 51873



P	M	K	N	S	H
●		●	○	○	○

Arbeitsrichtwerte
Seite 91

- Ausspitzung $\geq \varnothing 3,000$
- Flächenanschliff
- Hauptschneidenform gerade
- optimierte Schneidengeometrie



d1 mm	d2 mm	l1 mm	l2 mm	l3 mm
3,000	6,000	62,000	20,000	36,000
3,100	6,000	62,000	20,000	36,000
3,200	6,000	62,000	20,000	36,000
3,300	6,000	62,000	20,000	36,000
3,400	6,000	62,000	20,000	36,000
3,500	6,000	62,000	20,000	36,000
3,600	6,000	62,000	20,000	36,000
3,700	6,000	62,000	20,000	36,000
3,800	6,000	66,000	24,000	36,000
3,900	6,000	66,000	24,000	36,000
4,000	6,000	66,000	24,000	36,000
4,100	6,000	66,000	24,000	36,000
4,200	6,000	66,000	24,000	36,000
4,300	6,000	66,000	24,000	36,000
4,400	6,000	66,000	24,000	36,000
4,500	6,000	66,000	24,000	36,000
4,600	6,000	66,000	24,000	36,000
4,650	6,000	66,000	24,000	36,000
4,700	6,000	66,000	24,000	36,000
4,800	6,000	66,000	28,000	36,000
4,900	6,000	66,000	28,000	36,000
5,000	6,000	66,000	28,000	36,000
5,100	6,000	66,000	28,000	36,000
5,200	6,000	66,000	28,000	36,000
5,300	6,000	66,000	28,000	36,000
5,400	6,000	66,000	28,000	36,000
5,500	6,000	66,000	28,000	36,000
5,550	6,000	66,000	28,000	36,000
5,600	6,000	66,000	28,000	36,000
5,700	6,000	66,000	28,000	36,000
5,800	6,000	66,000	28,000	36,000
5,900	6,000	66,000	28,000	36,000
6,000	6,000	66,000	28,000	36,000
6,100	8,000	79,000	34,000	36,000
6,200	8,000	79,000	34,000	36,000
6,300	8,000	79,000	34,000	36,000
6,400	8,000	79,000	34,000	36,000
6,500	8,000	79,000	34,000	36,000
6,600	8,000	79,000	34,000	36,000
6,700	8,000	79,000	34,000	36,000
6,800	8,000	79,000	34,000	36,000
6,900	8,000	79,000	34,000	36,000
7,000	8,000	79,000	34,000	36,000
7,100	8,000	79,000	41,000	36,000
7,200	8,000	79,000	41,000	36,000
7,300	8,000	79,000	41,000	36,000
7,400	8,000	79,000	41,000	36,000
7,500	8,000	79,000	41,000	36,000

d1 mm	d2 mm	l1 mm	l2 mm	l3 mm
7,600	8,000	79,000	41,000	36,000
7,700	8,000	79,000	41,000	36,000
7,800	8,000	79,000	41,000	36,000
7,900	8,000	79,000	41,000	36,000
8,000	8,000	79,000	41,000	36,000
8,100	10,000	89,000	47,000	40,000
8,200	10,000	89,000	47,000	40,000
8,300	10,000	89,000	47,000	40,000
8,400	10,000	89,000	47,000	40,000
8,500	10,000	89,000	47,000	40,000
8,600	10,000	89,000	47,000	40,000
8,700	10,000	89,000	47,000	40,000
8,800	10,000	89,000	47,000	40,000
8,900	10,000	89,000	47,000	40,000
9,000	10,000	89,000	47,000	40,000
9,100	10,000	89,000	47,000	40,000
9,200	10,000	89,000	47,000	40,000
9,250	10,000	89,000	47,000	40,000
9,300	10,000	89,000	47,000	40,000
9,400	10,000	89,000	47,000	40,000
9,500	10,000	89,000	47,000	40,000
9,600	10,000	89,000	47,000	40,000
9,700	10,000	89,000	47,000	40,000
9,800	10,000	89,000	47,000	40,000
9,900	10,000	89,000	47,000	40,000
10,000	10,000	89,000	47,000	40,000
10,100	12,000	102,000	55,000	45,000
10,200	12,000	102,000	55,000	45,000
10,300	12,000	102,000	55,000	45,000
10,400	12,000	102,000	55,000	45,000
10,500	12,000	102,000	55,000	45,000
10,600	12,000	102,000	55,000	45,000
10,700	12,000	102,000	55,000	45,000
10,800	12,000	102,000	55,000	45,000
10,900	12,000	102,000	55,000	45,000
11,000	12,000	102,000	55,000	45,000
11,100	12,000	102,000	55,000	45,000
11,200	12,000	102,000	55,000	45,000
11,300	12,000	102,000	55,000	45,000
11,400	12,000	102,000	55,000	45,000
11,500	12,000	102,000	55,000	45,000
11,600	12,000	102,000	55,000	45,000
11,700	12,000	102,000	55,000	45,000
11,800	12,000	102,000	55,000	45,000
11,900	12,000	102,000	55,000	45,000
12,000	12,000	102,000	55,000	45,000
12,200	14,000	107,000	60,000	45,000
12,500	14,000	107,000	60,000	45,000

d1 mm	d2 mm	l1 mm	l2 mm	l3 mm	d1 mm	d2 mm	l1 mm	l2 mm	l3 mm
12,700	14,000	107,000	60,000	45,000	16,000	16,000	115,000	65,000	48,000
13,000	14,000	107,000	60,000	45,000	16,500	18,000	123,000	73,000	48,000
13,500	14,000	107,000	60,000	45,000	17,000	18,000	123,000	73,000	48,000
13,700	14,000	107,000	60,000	45,000	17,500	18,000	123,000	73,000	48,000
14,000	14,000	107,000	60,000	45,000	18,000	18,000	123,000	73,000	48,000
14,200	16,000	115,000	65,000	48,000	18,500	20,000	131,000	79,000	50,000
14,500	16,000	115,000	65,000	48,000	19,000	20,000	131,000	79,000	50,000
14,700	16,000	115,000	65,000	48,000	19,500	20,000	131,000	79,000	50,000
15,000	16,000	115,000	65,000	48,000	20,000	20,000	131,000	79,000	50,000
15,200	16,000	115,000	65,000	48,000					
15,500	16,000	115,000	65,000	48,000					
15,700	16,000	115,000	65,000	48,000					

SuperV-Bohrer

SuperV-Bohrer ohne Innenkühlung



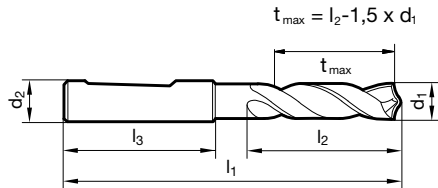
Katalog-Nr. 51871



P	M	K	N	S	H
●		●	○	○	○

Arbeitsrichtwerte
Seite 91

- Ausspitzung $\geq \varnothing 3,000$
- Flächenanschliff
- Hauptschneidenform gerade
- optimierte Schneidengeometrie



d1 mm	d2 mm	l1 mm	l2 mm	l3 mm
3,000	6,000	62,000	20,000	36,000
3,100	6,000	62,000	20,000	36,000
3,170	6,000	62,000	20,000	36,000
3,200	6,000	62,000	20,000	36,000
3,300	6,000	62,000	20,000	36,000
3,400	6,000	62,000	20,000	36,000
3,500	6,000	62,000	20,000	36,000
3,570	6,000	62,000	20,000	36,000
3,600	6,000	62,000	20,000	36,000
3,700	6,000	62,000	20,000	36,000
3,800	6,000	66,000	24,000	36,000
3,900	6,000	66,000	24,000	36,000
3,970	6,000	66,000	24,000	36,000
4,000	6,000	66,000	24,000	36,000
4,100	6,000	66,000	24,000	36,000
4,200	6,000	66,000	24,000	36,000
4,300	6,000	66,000	24,000	36,000
4,370	6,000	66,000	24,000	36,000
4,400	6,000	66,000	24,000	36,000
4,500	6,000	66,000	24,000	36,000
4,600	6,000	66,000	24,000	36,000
4,700	6,000	66,000	24,000	36,000
4,760	6,000	66,000	28,000	36,000
4,800	6,000	66,000	28,000	36,000
4,900	6,000	66,000	28,000	36,000
5,000	6,000	66,000	28,000	36,000
5,100	6,000	66,000	28,000	36,000
5,160	6,000	66,000	28,000	36,000
5,200	6,000	66,000	28,000	36,000
5,300	6,000	66,000	28,000	36,000
5,400	6,000	66,000	28,000	36,000
5,500	6,000	66,000	28,000	36,000
5,550	6,000	66,000	28,000	36,000
5,560	6,000	66,000	28,000	36,000
5,600	6,000	66,000	28,000	36,000
5,700	6,000	66,000	28,000	36,000
5,800	6,000	66,000	28,000	36,000
5,900	6,000	66,000	28,000	36,000
5,950	6,000	66,000	28,000	36,000
6,000	6,000	66,000	28,000	36,000
6,100	8,000	79,000	34,000	36,000
6,200	8,000	79,000	34,000	36,000
6,300	8,000	79,000	34,000	36,000
6,350	8,000	79,000	34,000	36,000
6,400	8,000	79,000	34,000	36,000
6,500	8,000	79,000	34,000	36,000
6,600	8,000	79,000	34,000	36,000
6,700	8,000	79,000	34,000	36,000

d1 mm	d2 mm	l1 mm	l2 mm	l3 mm
6,750	8,000	79,000	34,000	36,000
6,800	8,000	79,000	34,000	36,000
6,900	8,000	79,000	34,000	36,000
7,000	8,000	79,000	34,000	36,000
7,100	8,000	79,000	41,000	36,000
7,140	8,000	79,000	41,000	36,000
7,200	8,000	79,000	41,000	36,000
7,300	8,000	79,000	41,000	36,000
7,400	8,000	79,000	41,000	36,000
7,500	8,000	79,000	41,000	36,000
7,540	8,000	79,000	41,000	36,000
7,600	8,000	79,000	41,000	36,000
7,700	8,000	79,000	41,000	36,000
7,800	8,000	79,000	41,000	36,000
7,900	8,000	79,000	41,000	36,000
7,940	8,000	79,000	41,000	36,000
8,000	8,000	79,000	41,000	36,000
8,100	10,000	89,000	47,000	40,000
8,200	10,000	89,000	47,000	40,000
8,300	10,000	89,000	47,000	40,000
8,330	10,000	89,000	47,000	40,000
8,400	10,000	89,000	47,000	40,000
8,500	10,000	89,000	47,000	40,000
8,600	10,000	89,000	47,000	40,000
8,700	10,000	89,000	47,000	40,000
8,730	10,000	89,000	47,000	40,000
8,800	10,000	89,000	47,000	40,000
8,900	10,000	89,000	47,000	40,000
9,000	10,000	89,000	47,000	40,000
9,100	10,000	89,000	47,000	40,000
9,130	10,000	89,000	47,000	40,000
9,200	10,000	89,000	47,000	40,000
9,250	10,000	89,000	47,000	40,000
9,300	10,000	89,000	47,000	40,000
9,400	10,000	89,000	47,000	40,000
9,500	10,000	89,000	47,000	40,000
9,520	10,000	89,000	47,000	40,000
9,600	10,000	89,000	47,000	40,000
9,700	10,000	89,000	47,000	40,000
9,800	10,000	89,000	47,000	40,000
9,900	10,000	89,000	47,000	40,000
9,920	10,000	89,000	47,000	40,000
10,000	10,000	89,000	47,000	40,000
10,100	12,000	102,000	55,000	45,000
10,200	12,000	102,000	55,000	45,000
10,300	12,000	102,000	55,000	45,000
10,400	12,000	102,000	55,000	45,000
10,500	12,000	102,000	55,000	45,000

d1 mm	d2 mm	l1 mm	l2 mm	l3 mm	d1 mm	d2 mm	l1 mm	l2 mm	l3 mm
10,600	12,000	102,000	55,000	45,000	14,200	16,000	115,000	65,000	48,000
10,700	12,000	102,000	55,000	45,000	14,300	16,000	115,000	65,000	48,000
10,800	12,000	102,000	55,000	45,000	14,400	16,000	115,000	65,000	48,000
10,900	12,000	102,000	55,000	45,000	14,500	16,000	115,000	65,000	48,000
11,000	12,000	102,000	55,000	45,000	14,700	16,000	115,000	65,000	48,000
11,100	12,000	102,000	55,000	45,000	15,000	16,000	115,000	65,000	48,000
11,200	12,000	102,000	55,000	45,000	15,200	16,000	115,000	65,000	48,000
11,300	12,000	102,000	55,000	45,000	15,500	16,000	115,000	65,000	48,000
11,400	12,000	102,000	55,000	45,000	15,600	16,000	115,000	65,000	48,000
11,500	12,000	102,000	55,000	45,000	15,700	16,000	115,000	65,000	48,000
11,600	12,000	102,000	55,000	45,000	15,800	16,000	115,000	65,000	48,000
11,700	12,000	102,000	55,000	45,000	16,000	16,000	115,000	65,000	48,000
11,800	12,000	102,000	55,000	45,000	16,100	18,000	123,000	73,000	48,000
11,900	12,000	102,000	55,000	45,000	16,200	18,000	123,000	73,000	48,000
12,000	12,000	102,000	55,000	45,000	16,300	18,000	123,000	73,000	48,000
12,100	14,000	107,000	60,000	45,000	16,500	18,000	123,000	73,000	48,000
12,200	14,000	107,000	60,000	45,000	17,000	18,000	123,000	73,000	48,000
12,300	14,000	107,000	60,000	45,000	17,500	18,000	123,000	73,000	48,000
12,400	14,000	107,000	60,000	45,000	18,000	18,000	123,000	73,000	48,000
12,500	14,000	107,000	60,000	45,000	18,300	20,000	131,000	79,000	50,000
12,600	14,000	107,000	60,000	45,000	18,500	20,000	131,000	79,000	50,000
12,700	14,000	107,000	60,000	45,000	19,000	20,000	131,000	79,000	50,000
13,000	14,000	107,000	60,000	45,000	19,500	20,000	131,000	79,000	50,000
13,200	14,000	107,000	60,000	45,000	20,000	20,000	131,000	79,000	50,000
13,300	14,000	107,000	60,000	45,000					
13,500	14,000	107,000	60,000	45,000					
13,700	14,000	107,000	60,000	45,000					
13,800	14,000	107,000	60,000	45,000					
14,000	14,000	107,000	60,000	45,000					
14,100	16,000	115,000	65,000	48,000					

SuperV-Bohrer

SuperV-Bohrer ohne Innenkühlung



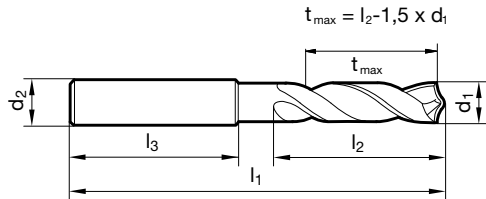
Katalog-Nr. 51787



P	M	K	N	S	H
●		●	○	○	○

Arbeitsrichtwerte
Seite 93

- Ausspitzung $\geq \varnothing 3,000$
- Flächenanschliff
- Hauptschneidenform gerade
- optimierte Schneidengeometrie



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
3,200	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
3,600	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
4,000	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
4,400	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
4,700	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
5,200	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
5,500	6,000	82,000	44,000	36,000
5,600	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
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
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
6,600	8,000	91,000	53,000	36,000
6,700	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
7,200	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

d1 mm	d2 mm	l1 mm	l2 mm	l3 mm
7,600	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
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
8,400	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
8,800	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
9,200	10,000	103,000	61,000	40,000
9,300	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
9,600	10,000	103,000	61,000	40,000
9,700	10,000	103,000	61,000	40,000
9,800	10,000	103,000	61,000	40,000
9,900	10,000	103,000	61,000	40,000
10,000	10,000	103,000	61,000	40,000
10,100	12,000	118,000	71,000	45,000
10,200	12,000	118,000	71,000	45,000
10,300	12,000	118,000	71,000	45,000
10,400	12,000	118,000	71,000	45,000
10,500	12,000	118,000	71,000	45,000
10,600	12,000	118,000	71,000	45,000
10,700	12,000	118,000	71,000	45,000
10,800	12,000	118,000	71,000	45,000
10,900	12,000	118,000	71,000	45,000
11,000	12,000	118,000	71,000	45,000
11,100	12,000	118,000	71,000	45,000
11,200	12,000	118,000	71,000	45,000
11,300	12,000	118,000	71,000	45,000
11,400	12,000	118,000	71,000	45,000
11,500	12,000	118,000	71,000	45,000
11,600	12,000	118,000	71,000	45,000
11,700	12,000	118,000	71,000	45,000
11,800	12,000	118,000	71,000	45,000
11,900	12,000	118,000	71,000	45,000
12,000	12,000	118,000	71,000	45,000
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

d1 mm	d2 mm	l1 mm	l2 mm	l3 mm	d1 mm	d2 mm	l1 mm	l2 mm	l3 mm
13,000	14,000	124,000	77,000	45,000	16,500	18,000	143,000	93,000	48,000
13,500	14,000	124,000	77,000	45,000	17,000	18,000	143,000	93,000	48,000
13,700	14,000	124,000	77,000	45,000	17,500	18,000	143,000	93,000	48,000
14,000	14,000	124,000	77,000	45,000	18,000	18,000	143,000	93,000	48,000
14,200	16,000	133,000	83,000	48,000	18,500	20,000	153,000	101,000	50,000
14,500	16,000	133,000	83,000	48,000	19,000	20,000	153,000	101,000	50,000
14,700	16,000	133,000	83,000	48,000	19,500	20,000	153,000	101,000	50,000
15,000	16,000	133,000	83,000	48,000	20,000	20,000	153,000	101,000	50,000
15,200	16,000	133,000	83,000	48,000					
15,500	16,000	133,000	83,000	48,000					
15,700	16,000	133,000	83,000	48,000					
16,000	16,000	133,000	83,000	48,000					

SuperV-Bohrer

SuperV-Bohrer ohne Innenkühlung



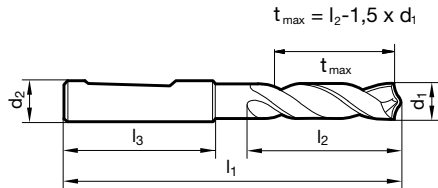
Katalog-Nr. 51887



P	M	K	N	S	H
●		●	○	○	○

Arbeitsrichtwerte
Seite 93

- Ausspitzung $\geq \varnothing 3,000$
- Flächenanschliff
- Hauptschneidenform gerade
- optimierte Schneidengeometrie



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
3,300	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
4,100	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
4,700	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
5,160	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
5,500	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
5,700	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
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
6,600	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

d1 mm	d2 mm	l1 mm	l2 mm	l3 mm
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
7,600	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
9,300	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
9,600	10,000	103,000	61,000	40,000
9,700	10,000	103,000	61,000	40,000
9,800	10,000	103,000	61,000	40,000
9,900	10,000	103,000	61,000	40,000
9,920	10,000	103,000	61,000	40,000
10,000	10,000	103,000	61,000	40,000
10,100	12,000	118,000	71,000	45,000
10,200	12,000	118,000	71,000	45,000
10,300	12,000	118,000	71,000	45,000
10,400	12,000	118,000	71,000	45,000
10,500	12,000	118,000	71,000	45,000
10,600	12,000	118,000	71,000	45,000
10,700	12,000	118,000	71,000	45,000

d1 mm	d2 mm	l1 mm	l2 mm	l3 mm
10,800	12,000	118,000	71,000	45,000
10,900	12,000	118,000	71,000	45,000
11,000	12,000	118,000	71,000	45,000
11,100	12,000	118,000	71,000	45,000
11,200	12,000	118,000	71,000	45,000
11,300	12,000	118,000	71,000	45,000
11,400	12,000	118,000	71,000	45,000
11,500	12,000	118,000	71,000	45,000
11,600	12,000	118,000	71,000	45,000
11,700	12,000	118,000	71,000	45,000
11,800	12,000	118,000	71,000	45,000
11,900	12,000	118,000	71,000	45,000
12,000	12,000	118,000	71,000	45,000
12,100	14,000	124,000	77,000	45,000
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
13,500	14,000	124,000	77,000	45,000
13,700	14,000	124,000	77,000	45,000
14,000	14,000	124,000	77,000	45,000
14,100	16,000	133,000	83,000	48,000
14,200	16,000	133,000	83,000	48,000
14,500	16,000	133,000	83,000	48,000

d1 mm	d2 mm	l1 mm	l2 mm	l3 mm
14,700	16,000	133,000	83,000	48,000
15,000	16,000	133,000	83,000	48,000
15,200	16,000	133,000	83,000	48,000
15,500	16,000	133,000	83,000	48,000
15,700	16,000	133,000	83,000	48,000
16,000	16,000	133,000	83,000	48,000
16,500	18,000	143,000	93,000	48,000
17,000	18,000	143,000	93,000	48,000
17,500	18,000	143,000	93,000	48,000
18,000	18,000	143,000	93,000	48,000
18,500	20,000	153,000	101,000	50,000
19,000	20,000	153,000	101,000	50,000
19,500	20,000	153,000	101,000	50,000
20,000	20,000	153,000	101,000	50,000

SuperV-Bohrer

SuperV-Bohrer ohne Innenkühlung



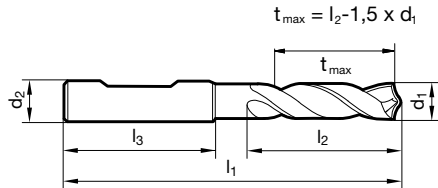
Katalog-Nr. 51687



P	M	K	N	S	H
●		●	○	○	○

Arbeitsrichtwerte
Seite 93

- Flächenanschliff
- Hauptschneidenform gerade
- optimierte Schneidengeometrie



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
4,100	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
5,160	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
5,500	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
5,700	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
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

d1 mm	d2 mm	l1 mm	l2 mm	l3 mm
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
7,600	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
9,400	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
9,600	10,000	103,000	61,000	40,000
9,700	10,000	103,000	61,000	40,000
9,800	10,000	103,000	61,000	40,000
9,900	10,000	103,000	61,000	40,000
9,920	10,000	103,000	61,000	40,000
10,000	10,000	103,000	61,000	40,000
10,100	12,000	118,000	71,000	45,000
10,200	12,000	118,000	71,000	45,000
10,300	12,000	118,000	71,000	45,000

d1 mm	d2 mm	l1 mm	l2 mm	l3 mm
10,320	12,000	118,000	71,000	45,000
10,400	12,000	118,000	71,000	45,000
10,500	12,000	118,000	71,000	45,000
10,600	12,000	118,000	71,000	45,000
10,700	12,000	118,000	71,000	45,000
10,800	12,000	118,000	71,000	45,000
10,900	12,000	118,000	71,000	45,000
11,000	12,000	118,000	71,000	45,000
11,100	12,000	118,000	71,000	45,000
11,110	12,000	118,000	71,000	45,000
11,200	12,000	118,000	71,000	45,000
11,300	12,000	118,000	71,000	45,000
11,400	12,000	118,000	71,000	45,000
11,500	12,000	118,000	71,000	45,000
11,600	12,000	118,000	71,000	45,000
11,700	12,000	118,000	71,000	45,000
11,800	12,000	118,000	71,000	45,000
11,900	12,000	118,000	71,000	45,000
11,910	12,000	118,000	71,000	45,000
12,000	12,000	118,000	71,000	45,000
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

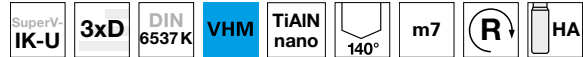
d1 mm	d2 mm	l1 mm	l2 mm	l3 mm
13,500	14,000	124,000	77,000	45,000
13,700	14,000	124,000	77,000	45,000
14,000	14,000	124,000	77,000	45,000
14,200	16,000	133,000	83,000	48,000
14,290	16,000	133,000	83,000	48,000
14,500	16,000	133,000	83,000	48,000
14,700	16,000	133,000	83,000	48,000
15,000	16,000	133,000	83,000	48,000
15,200	16,000	133,000	83,000	48,000
15,500	16,000	133,000	83,000	48,000
15,700	16,000	133,000	83,000	48,000
16,000	16,000	133,000	83,000	48,000
16,500	18,000	143,000	93,000	48,000
17,000	18,000	143,000	93,000	48,000
17,500	18,000	143,000	93,000	48,000
18,000	18,000	143,000	93,000	48,000
18,500	20,000	153,000	101,000	50,000
19,000	20,000	153,000	101,000	50,000
19,500	20,000	153,000	101,000	50,000
20,000	20,000	153,000	101,000	50,000

SuperV-Bohrer

SuperV-Bohrer mit Innenkühlung



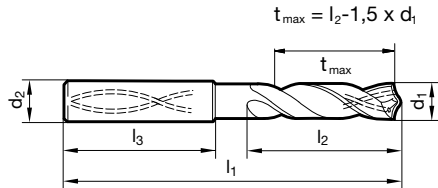
Katalog-Nr. 51776



P	M	K	N	S	H
●	○	●	○	○	○

Arbeitsrichtwerte
Seite 91

- Ausspitzung $\geq \varnothing 3,000$
- Flächenanschliff
- Hauptschneidenform gerade
- optimierte Schneidengeometrie



d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
3,000		6,000	62,000	20,000	36,000
3,100		6,000	62,000	20,000	36,000
3,200		6,000	62,000	20,000	36,000
3,300		6,000	62,000	20,000	36,000
3,400		6,000	62,000	20,000	36,000
3,500		6,000	62,000	20,000	36,000
3,600		6,000	62,000	20,000	36,000
3,700		6,000	62,000	20,000	36,000
3,800		6,000	66,000	24,000	36,000
3,900		6,000	66,000	24,000	36,000
4,000		6,000	66,000	24,000	36,000
4,100		6,000	66,000	24,000	36,000
4,200		6,000	66,000	24,000	36,000
4,300		6,000	66,000	24,000	36,000
4,400		6,000	66,000	24,000	36,000
4,500		6,000	66,000	24,000	36,000
4,600		6,000	66,000	24,000	36,000
4,650		6,000	66,000	24,000	36,000
4,700		6,000	66,000	24,000	36,000
4,800		6,000	66,000	28,000	36,000
4,900		6,000	66,000	28,000	36,000
5,000		6,000	66,000	28,000	36,000
5,100		6,000	66,000	28,000	36,000
5,200		6,000	66,000	28,000	36,000
5,300		6,000	66,000	28,000	36,000
5,400		6,000	66,000	28,000	36,000
5,500		6,000	66,000	28,000	36,000
5,550		6,000	66,000	28,000	36,000
5,600		6,000	66,000	28,000	36,000
5,700		6,000	66,000	28,000	36,000
5,800		6,000	66,000	28,000	36,000
5,900		6,000	66,000	28,000	36,000
6,000		6,000	66,000	28,000	36,000
6,100		8,000	79,000	34,000	36,000
6,200		8,000	79,000	34,000	36,000
6,300		8,000	79,000	34,000	36,000
6,350	1/4	8,000	79,000	34,000	36,000
6,400		8,000	79,000	34,000	36,000
6,500		8,000	79,000	34,000	36,000
6,600		8,000	79,000	34,000	36,000
6,700		8,000	79,000	34,000	36,000
6,800		8,000	79,000	34,000	36,000
6,900		8,000	79,000	34,000	36,000
7,000		8,000	79,000	34,000	36,000
7,100		8,000	79,000	41,000	36,000
7,200		8,000	79,000	41,000	36,000
7,300		8,000	79,000	41,000	36,000
7,400		8,000	79,000	41,000	36,000

d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
7,500		8,000	79,000	41,000	36,000
7,600		8,000	79,000	41,000	36,000
7,700		8,000	79,000	41,000	36,000
7,800		8,000	79,000	41,000	36,000
7,900		8,000	79,000	41,000	36,000
8,000		8,000	79,000	41,000	36,000
8,100		10,000	89,000	47,000	40,000
8,200		10,000	89,000	47,000	40,000
8,300		10,000	89,000	47,000	40,000
8,400		10,000	89,000	47,000	40,000
8,500		10,000	89,000	47,000	40,000
8,600		10,000	89,000	47,000	40,000
8,700		10,000	89,000	47,000	40,000
8,800		10,000	89,000	47,000	40,000
8,900		10,000	89,000	47,000	40,000
9,000		10,000	89,000	47,000	40,000
9,100		10,000	89,000	47,000	40,000
9,200		10,000	89,000	47,000	40,000
9,250		10,000	89,000	47,000	40,000
9,300		10,000	89,000	47,000	40,000
9,400		10,000	89,000	47,000	40,000
9,500		10,000	89,000	47,000	40,000
9,600		10,000	89,000	47,000	40,000
9,700		10,000	89,000	47,000	40,000
9,800		10,000	89,000	47,000	40,000
9,900		10,000	89,000	47,000	40,000
10,000		10,000	89,000	47,000	40,000
10,100		12,000	102,000	55,000	45,000
10,200		12,000	102,000	55,000	45,000
10,300		12,000	102,000	55,000	45,000
10,400		12,000	102,000	55,000	45,000
10,500		12,000	102,000	55,000	45,000
10,600		12,000	102,000	55,000	45,000
10,700		12,000	102,000	55,000	45,000
10,800		12,000	102,000	55,000	45,000
10,900		12,000	102,000	55,000	45,000
11,000		12,000	102,000	55,000	45,000
11,100		12,000	102,000	55,000	45,000
11,200		12,000	102,000	55,000	45,000
11,300		12,000	102,000	55,000	45,000
11,400		12,000	102,000	55,000	45,000
11,500		12,000	102,000	55,000	45,000
11,600		12,000	102,000	55,000	45,000
11,700		12,000	102,000	55,000	45,000
11,800		12,000	102,000	55,000	45,000
11,900		12,000	102,000	55,000	45,000
12,000		12,000	102,000	55,000	45,000
12,200		14,000	107,000	60,000	45,000

d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm	d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
12,500	1/2	14,000	107,000	60,000	45,000	18,000		18,000	123,000	73,000	48,000
12,700		14,000	107,000	60,000	45,000	18,500		20,000	131,000	79,000	50,000
13,000		14,000	107,000	60,000	45,000	18,700		20,000	131,000	79,000	50,000
13,500		14,000	107,000	60,000	45,000	19,000		20,000	131,000	79,000	50,000
13,700		14,000	107,000	60,000	45,000	19,500		20,000	131,000	79,000	50,000
14,000		14,000	107,000	60,000	45,000	19,700		20,000	131,000	79,000	50,000
14,200		16,000	115,000	65,000	48,000	20,000		20,000	131,000	79,000	50,000
14,500		16,000	115,000	65,000	48,000						
14,700		16,000	115,000	65,000	48,000						
15,000		16,000	115,000	65,000	48,000						
15,200		16,000	115,000	65,000	48,000						
15,500		16,000	115,000	65,000	48,000						
15,700		16,000	115,000	65,000	48,000						
16,000		16,000	115,000	65,000	48,000						
16,500		18,000	123,000	73,000	48,000						
16,700		18,000	123,000	73,000	48,000						
17,000		18,000	123,000	73,000	48,000						
17,500		18,000	123,000	73,000	48,000						

SuperV-Bohrer

SuperV-Bohrer mit Innenkühlung



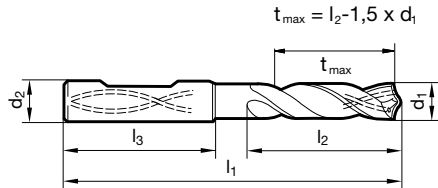
Katalog-Nr. 51876



P	M	K	N	S	H
●	○	●	○	○	○

Arbeitsrichtwerte
Seite 91

- Ausspitzung $\geq \varnothing 3,000$
- Flächenanschliff
- Hauptschneidenform gerade
- optimierte Schneidengeometrie



d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
3,000		6,000	62,000	20,000	36,000
3,100		6,000	62,000	20,000	36,000
3,200		6,000	62,000	20,000	36,000
3,300		6,000	62,000	20,000	36,000
3,400		6,000	62,000	20,000	36,000
3,500		6,000	62,000	20,000	36,000
3,600		6,000	62,000	20,000	36,000
3,700		6,000	62,000	20,000	36,000
3,800		6,000	66,000	24,000	36,000
3,900		6,000	66,000	24,000	36,000
4,000		6,000	66,000	24,000	36,000
4,100		6,000	66,000	24,000	36,000
4,200		6,000	66,000	24,000	36,000
4,300		6,000	66,000	24,000	36,000
4,370	11/64	6,000	66,000	24,000	36,000
4,400		6,000	66,000	24,000	36,000
4,500		6,000	66,000	24,000	36,000
4,600		6,000	66,000	24,000	36,000
4,700		6,000	66,000	24,000	36,000
4,760	3/16	6,000	66,000	28,000	36,000
4,800		6,000	66,000	28,000	36,000
4,900		6,000	66,000	28,000	36,000
5,000		6,000	66,000	28,000	36,000
5,100		6,000	66,000	28,000	36,000
5,160	13/64	6,000	66,000	28,000	36,000
5,200		6,000	66,000	28,000	36,000
5,300		6,000	66,000	28,000	36,000
5,400		6,000	66,000	28,000	36,000
5,500		6,000	66,000	28,000	36,000
5,560	7/32	6,000	66,000	28,000	36,000
5,600		6,000	66,000	28,000	36,000
5,700		6,000	66,000	28,000	36,000
5,800		6,000	66,000	28,000	36,000
5,900		6,000	66,000	28,000	36,000
5,950	15/64	6,000	66,000	28,000	36,000
6,000		6,000	66,000	28,000	36,000
6,100		8,000	79,000	34,000	36,000
6,200		8,000	79,000	34,000	36,000
6,300		8,000	79,000	34,000	36,000
6,350	1/4	8,000	79,000	34,000	36,000
6,400		8,000	79,000	34,000	36,000
6,500		8,000	79,000	34,000	36,000
6,600		8,000	79,000	34,000	36,000
6,700		8,000	79,000	34,000	36,000
6,750	17/64	8,000	79,000	34,000	36,000
6,800		8,000	79,000	34,000	36,000
6,900		8,000	79,000	34,000	36,000
7,000		8,000	79,000	34,000	36,000

d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
7,100		8,000	79,000	41,000	36,000
7,140	9/32	8,000	79,000	41,000	36,000
7,200		8,000	79,000	41,000	36,000
7,300		8,000	79,000	41,000	36,000
7,400		8,000	79,000	41,000	36,000
7,500		8,000	79,000	41,000	36,000
7,540	19/64	8,000	79,000	41,000	36,000
7,600		8,000	79,000	41,000	36,000
7,700		8,000	79,000	41,000	36,000
7,800		8,000	79,000	41,000	36,000
7,900		8,000	79,000	41,000	36,000
7,940	5/16	8,000	79,000	41,000	36,000
8,000		8,000	79,000	41,000	36,000
8,100		10,000	89,000	47,000	40,000
8,200		10,000	89,000	47,000	40,000
8,300		10,000	89,000	47,000	40,000
8,330	21/64	10,000	89,000	47,000	40,000
8,400		10,000	89,000	47,000	40,000
8,500		10,000	89,000	47,000	40,000
8,600		10,000	89,000	47,000	40,000
8,700		10,000	89,000	47,000	40,000
8,730	11/32	10,000	89,000	47,000	40,000
8,800		10,000	89,000	47,000	40,000
8,900		10,000	89,000	47,000	40,000
9,000		10,000	89,000	47,000	40,000
9,100		10,000	89,000	47,000	40,000
9,130	23/64	10,000	89,000	47,000	40,000
9,200		10,000	89,000	47,000	40,000
9,300		10,000	89,000	47,000	40,000
9,400		10,000	89,000	47,000	40,000
9,500		10,000	89,000	47,000	40,000
9,520	3/8	10,000	89,000	47,000	40,000
9,600		10,000	89,000	47,000	40,000
9,700		10,000	89,000	47,000	40,000
9,800		10,000	89,000	47,000	40,000
9,900		10,000	89,000	47,000	40,000
9,920	25/64	10,000	89,000	47,000	40,000
10,000		10,000	89,000	47,000	40,000
10,100		12,000	102,000	55,000	45,000
10,200		12,000	102,000	55,000	45,000
10,300		12,000	102,000	55,000	45,000
10,320	13/32	12,000	102,000	55,000	45,000
10,400		12,000	102,000	55,000	45,000
10,500		12,000	102,000	55,000	45,000
10,600		12,000	102,000	55,000	45,000
10,700		12,000	102,000	55,000	45,000
10,800		12,000	102,000	55,000	45,000
10,900		12,000	102,000	55,000	45,000

d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm	d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
11,000		12,000	102,000	55,000	45,000	14,100		16,000	115,000	65,000	48,000
11,100		12,000	102,000	55,000	45,000	14,200		16,000	115,000	65,000	48,000
11,110	7/16	12,000	102,000	55,000	45,000	14,290	9/16	16,000	115,000	65,000	48,000
11,200		12,000	102,000	55,000	45,000	14,300		16,000	115,000	65,000	48,000
11,300		12,000	102,000	55,000	45,000	14,500		16,000	115,000	65,000	48,000
11,400		12,000	102,000	55,000	45,000	14,700		16,000	115,000	65,000	48,000
11,500		12,000	102,000	55,000	45,000	14,900		16,000	115,000	65,000	48,000
11,600		12,000	102,000	55,000	45,000	15,000		16,000	115,000	65,000	48,000
11,700		12,000	102,000	55,000	45,000	15,200		16,000	115,000	65,000	48,000
11,800		12,000	102,000	55,000	45,000	15,500		16,000	115,000	65,000	48,000
11,900		12,000	102,000	55,000	45,000	15,600		16,000	115,000	65,000	48,000
11,910	15/32	12,000	102,000	55,000	45,000	15,700		16,000	115,000	65,000	48,000
12,000		12,000	102,000	55,000	45,000	16,000		16,000	115,000	65,000	48,000
12,100		14,000	107,000	60,000	45,000	16,100		18,000	123,000	73,000	48,000
12,200		14,000	107,000	60,000	45,000	16,200		18,000	123,000	73,000	48,000
12,300	31/64	14,000	107,000	60,000	45,000	16,500		18,000	123,000	73,000	48,000
12,400		14,000	107,000	60,000	45,000	17,000		18,000	123,000	73,000	48,000
12,500		14,000	107,000	60,000	45,000	17,500		18,000	123,000	73,000	48,000
12,700	1/2	14,000	107,000	60,000	45,000	17,700		18,000	123,000	73,000	48,000
13,000		14,000	107,000	60,000	45,000	18,000		18,000	123,000	73,000	48,000
13,200		14,000	107,000	60,000	45,000	18,500		20,000	131,000	79,000	50,000
13,500		14,000	107,000	60,000	45,000	19,000		20,000	131,000	79,000	50,000
13,700		14,000	107,000	60,000	45,000	19,500		20,000	131,000	79,000	50,000
14,000		14,000	107,000	60,000	45,000	20,000		20,000	131,000	79,000	50,000

SuperV-Bohrer

SuperV-Bohrer mit Innenkühlung



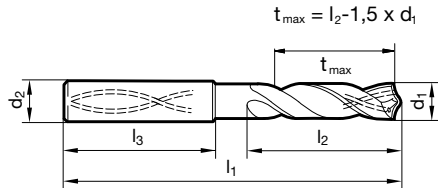
Katalog-Nr. 51781



P	M	K	N	S	H
●	○	●	○	○	○

Arbeitsrichtwerte
Seite 95

- Ausspitzung $\geq \varnothing 3,000$
- Flächenanschliff
- Hauptschneidenform gerade
- optimierte Schneidengeometrie



d1 mm	inch	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
3,200		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
3,600		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
4,000		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	11/64	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	3/16	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
5,160	13/64	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
5,500		6,000	82,000	44,000	36,000
5,550		6,000	82,000	44,000	36,000
5,560	7/32	6,000	82,000	44,000	36,000
5,600		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	15/64	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
6,300		8,000	91,000	53,000	36,000
6,350	1/4	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
6,600		8,000	91,000	53,000	36,000
6,700		8,000	91,000	53,000	36,000
6,750	17/64	8,000	91,000	53,000	36,000
6,800		8,000	91,000	53,000	36,000

d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
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	9/32	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	19/64	8,000	91,000	53,000	36,000
7,600		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	5/16	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	21/64	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	11/32	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	23/64	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
9,400		10,000	103,000	61,000	40,000
9,500		10,000	103,000	61,000	40,000
9,520	3/8	10,000	103,000	61,000	40,000
9,600		10,000	103,000	61,000	40,000
9,700		10,000	103,000	61,000	40,000
9,800		10,000	103,000	61,000	40,000
9,900		10,000	103,000	61,000	40,000
9,920	25/64	10,000	103,000	61,000	40,000
10,000		10,000	103,000	61,000	40,000
10,100		12,000	118,000	71,000	45,000
10,200		12,000	118,000	71,000	45,000
10,300		12,000	118,000	71,000	45,000
10,320	13/32	12,000	118,000	71,000	45,000
10,400		12,000	118,000	71,000	45,000
10,500		12,000	118,000	71,000	45,000
10,600		12,000	118,000	71,000	45,000

d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm	d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
10,700	27/64	12,000	118,000	71,000	45,000	14,000	9/16	14,000	124,000	77,000	45,000
10,720		12,000	118,000	71,000	45,000	14,100		16,000	133,000	83,000	48,000
10,800		12,000	118,000	71,000	45,000	14,200		16,000	133,000	83,000	48,000
10,900	7/16	12,000	118,000	71,000	45,000	14,290	9/16	16,000	133,000	83,000	48,000
11,000		12,000	118,000	71,000	45,000	14,500		16,000	133,000	83,000	48,000
11,100		12,000	118,000	71,000	45,000	14,700		16,000	133,000	83,000	48,000
11,110	7/16	12,000	118,000	71,000	45,000	15,000	9/16	16,000	133,000	83,000	48,000
11,200		12,000	118,000	71,000	45,000	15,200		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	15/32	12,000	118,000	71,000	45,000	15,600	9/16	16,000	133,000	83,000	48,000
11,500		12,000	118,000	71,000	45,000	15,700		16,000	133,000	83,000	48,000
11,600		12,000	118,000	71,000	45,000	15,800		16,000	133,000	83,000	48,000
11,700	31/64	12,000	118,000	71,000	45,000	16,000	9/16	16,000	133,000	83,000	48,000
11,800		12,000	118,000	71,000	45,000	16,500		18,000	143,000	93,000	48,000
11,900		12,000	118,000	71,000	45,000	16,700		18,000	143,000	93,000	48,000
11,910	1/2	12,000	118,000	71,000	45,000	17,000	9/16	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	1/2	14,000	124,000	77,000	45,000	18,000	9/16	18,000	143,000	93,000	48,000
12,300		14,000	124,000	77,000	45,000	18,500		20,000	153,000	101,000	50,000
12,400		14,000	124,000	77,000	45,000	18,700		20,000	153,000	101,000	50,000
12,500	1/2	14,000	124,000	77,000	45,000	19,000	9/16	20,000	153,000	101,000	50,000
12,700		14,000	124,000	77,000	45,000	19,500		20,000	153,000	101,000	50,000
13,000		14,000	124,000	77,000	45,000	19,700		20,000	153,000	101,000	50,000
13,200	1/2	14,000	124,000	77,000	45,000	20,000	9/16	20,000	153,000	101,000	50,000
13,500		14,000	124,000	77,000	45,000						
13,600		14,000	124,000	77,000	45,000						
13,700	1/2	14,000	124,000	77,000	45,000		9/16				
13,800		14,000	124,000	77,000	45,000						
13,900		14,000	124,000	77,000	45,000						

SuperV-Bohrer

SuperV-Bohrer mit Innenkühlung



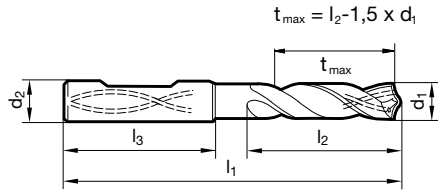
Katalog-Nr. 51881



P	M	K	N	S	H
●	○	●	○	○	○

Arbeitsrichtwerte
Seite 95

- Ausspitzung $\geq \varnothing 3,000$
- Flächenanschliff
- Hauptschneidenform gerade
- optimierte Schneidengeometrie



d1 mm	inch	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
3,200		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
3,600		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
4,000		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	11/64	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
4,700		6,000	74,000	36,000	36,000
4,760	3/16	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
5,160	13/64	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
5,500		6,000	82,000	44,000	36,000
5,560	7/32	6,000	82,000	44,000	36,000
5,600		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	15/64	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
6,300		8,000	91,000	53,000	36,000
6,350	1/4	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
6,600		8,000	91,000	53,000	36,000
6,700		8,000	91,000	53,000	36,000
6,750	17/64	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

d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
7,100		8,000	91,000	53,000	36,000
7,140	9/32	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	19/64	8,000	91,000	53,000	36,000
7,600		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	5/16	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	21/64	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	11/32	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	23/64	10,000	103,000	61,000	40,000
9,200		10,000	103,000	61,000	40,000
9,300		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	3/8	10,000	103,000	61,000	40,000
9,600		10,000	103,000	61,000	40,000
9,700		10,000	103,000	61,000	40,000
9,800		10,000	103,000	61,000	40,000
9,900		10,000	103,000	61,000	40,000
9,920	25/64	10,000	103,000	61,000	40,000
10,000		10,000	103,000	61,000	40,000
10,100		12,000	118,000	71,000	45,000
10,200		12,000	118,000	71,000	45,000
10,300		12,000	118,000	71,000	45,000
10,320	13/32	12,000	118,000	71,000	45,000
10,400		12,000	118,000	71,000	45,000
10,500		12,000	118,000	71,000	45,000
10,600		12,000	118,000	71,000	45,000
10,700		12,000	118,000	71,000	45,000
10,800		12,000	118,000	71,000	45,000
10,900		12,000	118,000	71,000	45,000

d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm	d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
11,000		12,000	118,000	71,000	45,000	14,000		14,000	124,000	77,000	45,000
11,100		12,000	118,000	71,000	45,000	14,100		16,000	133,000	83,000	48,000
11,110	7/16	12,000	118,000	71,000	45,000	14,200		16,000	133,000	83,000	48,000
11,200		12,000	118,000	71,000	45,000	14,290	9/16	16,000	133,000	83,000	48,000
11,300		12,000	118,000	71,000	45,000	14,500		16,000	133,000	83,000	48,000
11,400		12,000	118,000	71,000	45,000	14,700		16,000	133,000	83,000	48,000
11,500		12,000	118,000	71,000	45,000	15,000		16,000	133,000	83,000	48,000
11,600		12,000	118,000	71,000	45,000	15,200		16,000	133,000	83,000	48,000
11,700		12,000	118,000	71,000	45,000	15,500		16,000	133,000	83,000	48,000
11,800		12,000	118,000	71,000	45,000	15,700		16,000	133,000	83,000	48,000
11,900		12,000	118,000	71,000	45,000	15,800		16,000	133,000	83,000	48,000
11,910	15/32	12,000	118,000	71,000	45,000	16,000		16,000	133,000	83,000	48,000
12,000		12,000	118,000	71,000	45,000	16,500		18,000	143,000	93,000	48,000
12,100		14,000	124,000	77,000	45,000	17,000		18,000	143,000	93,000	48,000
12,200		14,000	124,000	77,000	45,000	17,300		18,000	143,000	93,000	48,000
12,300	31/64	14,000	124,000	77,000	45,000	17,500		18,000	143,000	93,000	48,000
12,400		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	18,200		20,000	153,000	101,000	50,000
12,700	1/2	14,000	124,000	77,000	45,000	18,500		20,000	153,000	101,000	50,000
13,000		14,000	124,000	77,000	45,000	18,600		20,000	153,000	101,000	50,000
13,500		14,000	124,000	77,000	45,000	19,000		20,000	153,000	101,000	50,000
13,700		14,000	124,000	77,000	45,000	19,500		20,000	153,000	101,000	50,000
13,800		14,000	124,000	77,000	45,000	20,000		20,000	153,000	101,000	50,000
13,900		14,000	124,000	77,000	45,000						

SuperV-Bohrer

SuperV-Bohrer mit Innenkühlung



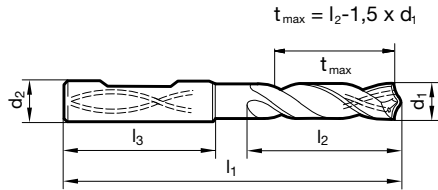
Katalog-Nr. 51681



P	M	K	N	S	H
●	○	●	○	○	○

Arbeitsrichtwerte
Seite 95

- Flächenanschliff
- Hauptschneidenform gerade
- optimierte Schneidengeometrie



d1 mm	inch	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	1/8	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	9/64	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	5/32	6,000	74,000	36,000	36,000
4,000		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	11/64	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	3/16	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
5,160	13/64	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
5,500		6,000	82,000	44,000	36,000
5,560	7/32	6,000	82,000	44,000	36,000
5,600		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	15/64	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
6,300		8,000	91,000	53,000	36,000
6,350	1/4	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
6,600		8,000	91,000	53,000	36,000

d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
6,700		8,000	91,000	53,000	36,000
6,750	17/64	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	9/32	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	19/64	8,000	91,000	53,000	36,000
7,600		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	5/16	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	21/64	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	11/32	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	23/64	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
9,400		10,000	103,000	61,000	40,000
9,500		10,000	103,000	61,000	40,000
9,520	3/8	10,000	103,000	61,000	40,000
9,600		10,000	103,000	61,000	40,000
9,700		10,000	103,000	61,000	40,000
9,800		10,000	103,000	61,000	40,000
9,900		10,000	103,000	61,000	40,000
9,920	25/64	10,000	103,000	61,000	40,000
10,000		10,000	103,000	61,000	40,000
10,100		12,000	118,000	71,000	45,000
10,200		12,000	118,000	71,000	45,000
10,300		12,000	118,000	71,000	45,000
10,320	13/32	12,000	118,000	71,000	45,000

d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm	d1 mm	inch	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	9/16	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	7/16	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	15/32	12,000	118,000	71,000	45,000	19,050	3/4	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	1/2	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



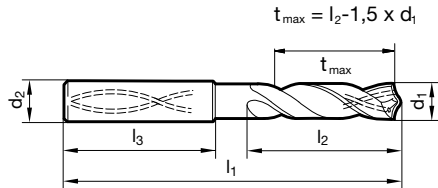
Katalog-Nr. 51789



P	M	K	N	S	H
●	○	●	○	○	○

Arbeitsrichtwerte
Seite 97

- Ausspitzung $\geq \varnothing 3,000$
- Flächenanschliff
- Hauptschneidenform gerade
- optimierte Schneidengeometrie
- vier Führungsfasen



d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
3,000		6,000	70,000	30,000	36,000
3,100		6,000	70,000	30,000	36,000
3,170	1/8	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	9/64	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	5/32	6,000	75,000	37,500	36,000
4,000		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
4,400		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
4,700		6,000	85,000	45,000	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
5,200		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
5,500		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
6,000		6,000	97,000	57,000	36,000
6,200		8,000	106,000	66,000	36,000
6,300		8,000	106,000	66,000	36,000
6,500		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
6,800		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
7,200		8,000	116,000	76,000	36,000
7,500		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

d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
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
8,400		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
8,800		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
9,200		10,000	139,000	95,000	40,000
9,300		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
9,700		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
10,000		10,000	139,000	95,000	40,000
10,200		12,000	155,000	106,000	45,000
10,500		12,000	155,000	106,000	45,000
10,800		12,000	155,000	106,000	45,000
11,000		12,000	155,000	106,000	45,000
11,200		12,000	163,000	114,000	45,000
11,500		12,000	163,000	114,000	45,000
11,800		12,000	163,000	114,000	45,000
12,000		12,000	163,000	114,000	45,000
12,200		14,000	182,000	133,000	45,000
12,500		14,000	182,000	133,000	45,000
12,700	1/2	14,000	182,000	133,000	45,000
13,000		14,000	182,000	133,000	45,000
13,500		14,000	182,000	133,000	45,000
14,000		14,000	182,000	133,000	45,000
14,200		16,000	204,000	152,000	48,000
14,500		16,000	204,000	152,000	48,000
15,000		16,000	204,000	152,000	48,000
15,500		16,000	204,000	152,000	48,000
16,000		16,000	204,000	152,000	48,000
16,500		18,000	223,000	171,000	48,000
17,000		18,000	223,000	171,000	48,000
17,500		18,000	223,000	171,000	48,000
18,000		18,000	223,000	171,000	48,000
18,500		20,000	244,000	190,000	50,000
19,000		20,000	244,000	190,000	50,000
19,500		20,000	244,000	190,000	50,000
20,000		20,000	244,000	190,000	50,000

SuperV-Bohrer

SuperV-Bohrer mit Innenkühlung



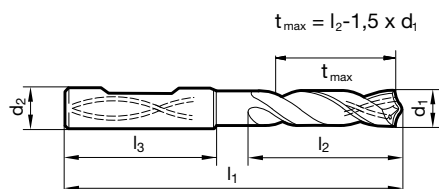
Katalog-Nr. 51889



P	M	K	N	S	H
●	○	●	○	○	○

Arbeitsrichtwerte
Seite 97

- Ausspitzung $\geq \varnothing 3,000$
- Flächenanschliff
- Hauptschneidenform gerade
- optimierte Schneidengeometrie
- vier Führungsfasen



d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
3,000		6,000	70,000	30,000	36,000
3,100		6,000	70,000	30,000	36,000
3,170	1/8	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	9/64	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	5/32	6,000	75,000	37,500	36,000
4,000		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
4,400		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
4,700		6,000	85,000	45,000	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
5,200		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
5,500		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
6,000		6,000	97,000	57,000	36,000
6,200		8,000	106,000	66,000	36,000
6,300		8,000	106,000	66,000	36,000
6,500		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
6,800		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
7,200		8,000	116,000	76,000	36,000
7,500		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

d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
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
8,400		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
8,800		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
9,200		10,000	139,000	95,000	40,000
9,300		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
9,700		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
10,000		10,000	139,000	95,000	40,000
10,200		12,000	155,000	106,000	45,000
10,300		12,000	155,000	106,000	45,000
10,500		12,000	155,000	106,000	45,000
10,800		12,000	155,000	106,000	45,000
11,000		12,000	155,000	106,000	45,000
11,200		12,000	163,000	114,000	45,000
11,500		12,000	163,000	114,000	45,000
11,800		12,000	163,000	114,000	45,000
12,000		12,000	163,000	114,000	45,000
12,100		14,000	182,000	133,000	45,000
12,200		14,000	182,000	133,000	45,000
12,500		14,000	182,000	133,000	45,000
12,700	1/2	14,000	182,000	133,000	45,000
13,000		14,000	182,000	133,000	45,000
13,500		14,000	182,000	133,000	45,000
14,000		14,000	182,000	133,000	45,000
14,100		16,000	204,000	152,000	48,000
14,200		16,000	204,000	152,000	48,000
14,500		16,000	204,000	152,000	48,000
15,000		16,000	204,000	152,000	48,000
15,500		16,000	204,000	152,000	48,000
16,000		16,000	204,000	152,000	48,000
16,500		18,000	223,000	171,000	48,000
17,000		18,000	223,000	171,000	48,000
17,500		18,000	223,000	171,000	48,000
18,000		18,000	223,000	171,000	48,000
18,500		20,000	244,000	190,000	50,000
19,000		20,000	244,000	190,000	50,000
19,500		20,000	244,000	190,000	50,000
20,000		20,000	244,000	190,000	50,000

SuperV-Bohrer

SuperV-Bohrer mit Innenkühlung



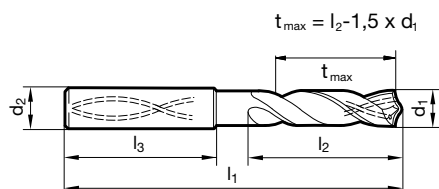
Katalog-Nr. 51893



P	M	K	N	S	H
●	○	●	○	○	

Arbeitsrichtwerte
Seite 99

- Ausspitzung $\geq \varnothing 3,000$
- Flächenanschliff
- Kopfbeschichtung
- Hauptschneidenform gerade
- optimierte Schneidengeometrie
- vier Führungsfasen



d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
3,000		6,000	90,000	50,000	36,000
3,100		6,000	90,000	50,000	36,000
3,200		6,000	90,000	50,000	36,000
3,300		6,000	90,000	50,000	36,000
3,400		6,000	90,000	50,000	36,000
3,500		6,000	90,000	50,000	36,000
3,600		6,000	90,000	50,000	36,000
3,700		6,000	90,000	50,000	36,000
3,800		6,000	102,000	64,000	36,000
3,900		6,000	102,000	64,000	36,000
4,000		6,000	102,000	64,000	36,000
4,100		6,000	102,000	64,000	36,000
4,200		6,000	102,000	64,000	36,000
4,300		6,000	102,000	64,000	36,000
4,400		6,000	102,000	64,000	36,000
4,500		6,000	102,000	64,000	36,000
4,600		6,000	102,000	64,000	36,000
4,700		6,000	102,000	64,000	36,000
4,800		6,000	116,000	78,000	36,000
4,900		6,000	116,000	78,000	36,000
5,000		6,000	116,000	78,000	36,000
5,100		6,000	116,000	78,000	36,000
5,200		6,000	116,000	78,000	36,000
5,300		6,000	116,000	78,000	36,000
5,400		6,000	116,000	78,000	36,000
5,500		6,000	116,000	78,000	36,000
5,600		6,000	116,000	78,000	36,000
5,700		6,000	116,000	78,000	36,000
5,800		6,000	116,000	78,000	36,000
5,900		6,000	116,000	78,000	36,000
6,000		6,000	116,000	78,000	36,000
6,100		8,000	146,000	108,000	36,000
6,200		8,000	146,000	108,000	36,000
6,300		8,000	146,000	108,000	36,000
6,400		8,000	146,000	108,000	36,000
6,500		8,000	146,000	108,000	36,000
6,600		8,000	146,000	108,000	36,000
6,700		8,000	146,000	108,000	36,000
6,800		8,000	146,000	108,000	36,000
6,900		8,000	146,000	108,000	36,000
7,000		8,000	146,000	108,000	36,000
7,100		8,000	146,000	108,000	36,000
7,200		8,000	146,000	108,000	36,000
7,300		8,000	146,000	108,000	36,000
7,400		8,000	146,000	108,000	36,000
7,500		8,000	146,000	108,000	36,000
7,600		8,000	146,000	108,000	36,000
7,700		8,000	146,000	108,000	36,000

d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
7,800		8,000	146,000	108,000	36,000
7,900		8,000	146,000	108,000	36,000
8,000		8,000	146,000	108,000	36,000
8,100		10,000	162,000	120,000	40,000
8,200		10,000	162,000	120,000	40,000
8,300		10,000	162,000	120,000	40,000
8,400		10,000	162,000	120,000	40,000
8,500		10,000	162,000	120,000	40,000
8,600		10,000	162,000	120,000	40,000
8,700		10,000	162,000	120,000	40,000
8,800		10,000	162,000	120,000	40,000
8,900		10,000	162,000	120,000	40,000
9,000		10,000	162,000	120,000	40,000
9,100		10,000	162,000	120,000	40,000
9,200		10,000	162,000	120,000	40,000
9,300		10,000	162,000	120,000	40,000
9,400		10,000	162,000	120,000	40,000
9,500		10,000	162,000	120,000	40,000
9,600		10,000	162,000	120,000	40,000
9,700		10,000	162,000	120,000	40,000
9,800		10,000	162,000	120,000	40,000
9,900		10,000	162,000	120,000	40,000
10,000		10,000	162,000	120,000	40,000
10,200		12,000	204,000	156,000	45,000
10,500		12,000	204,000	156,000	45,000
11,000		12,000	204,000	156,000	45,000
11,500		12,000	204,000	156,000	45,000
12,000		12,000	204,000	156,000	45,000
12,500		14,000	230,000	182,000	45,000
12,700	1/2	14,000	230,000	182,000	45,000
13,000		14,000	230,000	182,000	45,000
13,500		14,000	230,000	182,000	45,000
14,000		14,000	230,000	182,000	45,000
14,500		16,000	260,000	208,000	48,000
15,000		16,000	260,000	208,000	48,000
15,500		16,000	260,000	208,000	48,000
16,000		16,000	260,000	208,000	48,000
16,500		18,000	285,000	234,000	48,000
17,000		18,000	285,000	234,000	48,000
17,500		18,000	285,000	234,000	48,000
18,000		18,000	285,000	234,000	48,000
18,500		20,000	310,000	258,000	50,000
19,000		20,000	310,000	258,000	50,000
19,500		20,000	310,000	258,000	50,000
20,000		20,000	310,000	258,000	50,000

SuperV-Bohrer

SuperV-M Universal-Kleinstbohrer



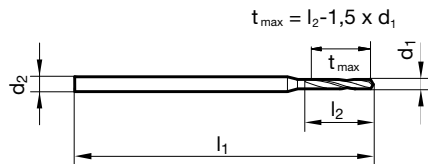
Katalog-Nr. 51720



P	M	K	N	S	H
•		•			

Arbeitsrichtwerte
Seite 101

- Ausspitzung $\geq \varnothing 0,800$
- Flächenanschliff
- Hauptschneidenform gerade



d1 mm	inch	d2 mm	l1 mm	l2 mm
0,100		3,000	38,000	1,200
0,200		3,000	38,000	2,500
0,300		3,000	38,000	5,000
0,400		3,000	38,000	7,000
0,500		3,000	38,000	7,000
0,600		3,000	38,000	7,000
0,700		3,000	38,000	8,000
0,800		3,000	38,000	10,000
0,900		3,000	38,000	10,000
1,000		3,000	38,000	10,000
1,100		3,000	38,000	10,000
1,200		3,000	38,000	10,000

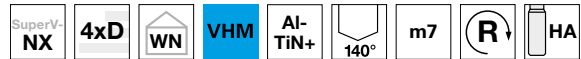
d1 mm	inch	d2 mm	l1 mm	l2 mm
1,400		3,000	38,000	10,000
1,500		3,000	38,000	10,000
1,600		3,000	38,000	12,000
1,700		3,000	38,000	12,000
1,800		3,000	38,000	12,000
1,900		3,000	38,000	12,000
2,000		3,000	38,000	12,000
2,100		3,000	38,000	12,000
2,400		3,000	38,000	12,000
2,500		3,000	38,000	12,000
2,600		3,000	38,000	12,000
3,000		3,000	38,000	12,000

SuperV-Bohrer

SuperV-NX Hochleistungs-Kleinstbohrer ohne Innenkühlung



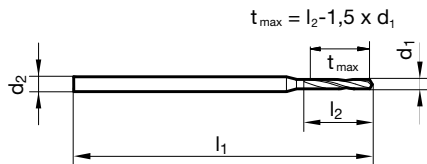
Katalog-Nr. 71998



P	M	K	N	S	H
●	○	●	○	○	

Arbeitsrichtwerte
Seite 101

- Ausspitzung $\geq \varnothing 0,500$
- Flächenanschliff
- Hauptschneidenform gerade
- geschliffener Schneidenabzug



d1 mm	inch	d2 mm	l1 mm	l2 mm
0,500		3,000	47,000	3,000
0,550		3,000	47,000	3,300
0,600		3,000	47,000	3,600
0,650		3,000	47,000	3,900
0,700		3,000	47,000	4,200
0,750		3,000	47,000	4,500
0,800		3,000	47,000	4,800
0,850		3,000	47,000	5,100
0,900		3,000	47,000	5,400
0,950		3,000	47,000	5,700
1,000		3,000	47,000	6,000
1,050		3,000	47,000	6,300
1,100		3,000	47,000	6,600
1,150		3,000	47,000	6,900
1,200		3,000	47,000	7,200
1,250		3,000	47,000	7,500
1,300		3,000	47,000	7,800
1,350		3,000	47,000	8,100
1,400		3,000	47,000	8,400
1,450		3,000	47,000	8,700
1,500		3,000	47,000	9,000
1,550		3,000	47,000	9,300
1,590	1/16	3,000	47,000	9,600
1,600		3,000	47,000	9,600
1,650		3,000	47,000	9,900
1,700		3,000	47,000	10,200
1,750		3,000	47,000	10,500
1,800		3,000	52,000	10,800
1,850		3,000	52,000	11,100
1,900		3,000	52,000	11,400

d1 mm	inch	d2 mm	l1 mm	l2 mm
1,950		3,000	52,000	11,700
1,980	5/64	4,000	59,000	12,000
2,000		4,000	59,000	12,000
2,050		4,000	59,000	12,300
2,100		4,000	59,000	12,600
2,150		4,000	59,000	12,900
2,200		4,000	59,000	13,200
2,250		4,000	59,000	13,500
2,300		4,000	59,000	13,800
2,350		4,000	59,000	14,100
2,380	3/32	4,000	59,000	14,400
2,400		4,000	59,000	14,400
2,450		4,000	59,000	14,700
2,500		4,000	59,000	15,000
2,550		4,000	59,000	15,300
2,600		4,000	59,000	15,600
2,650		4,000	59,000	15,900
2,700		4,000	59,000	16,200
2,750		4,000	59,000	16,500
2,780	7/64	4,000	59,000	16,800
2,800		4,000	59,000	16,800
2,850		4,000	59,000	17,100
2,900		4,000	59,000	17,400
2,950		4,000	59,000	17,700
3,000		4,000	59,000	18,000

SuperV-Bohrer

SuperV-NX Hochleistungs-Kleinstbohrer ohne Innenkühlung



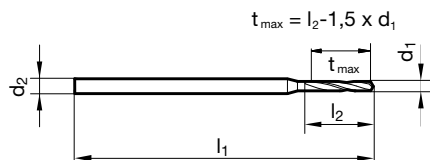
Katalog-Nr. 71999



P	M	K	N	S	H
●	○	●	○	○	

Arbeitsrichtwerte
Seite 101

- Ausspitzung $\geq \varnothing 0,500$
- Flächenanschliff
- Hauptschneidenform gerade
- geschliffener Schneidenabzug



d1 mm	inch	d2 mm	l1 mm	l2 mm
0,500		3,000	47,000	4,000
0,550		3,000	47,000	4,400
0,600		3,000	47,000	4,800
0,650		3,000	47,000	5,200
0,700		3,000	47,000	5,600
0,750		3,000	47,000	6,000
0,800		3,000	47,000	6,400
0,850		3,000	47,000	6,800
0,900		3,000	47,000	7,200
0,950		3,000	47,000	7,600
1,000		3,000	47,000	8,000
1,050		3,000	47,000	8,400
1,100		3,000	47,000	8,800
1,150		3,000	47,000	9,200
1,200		3,000	52,000	10,800
1,250		3,000	52,000	11,300
1,300		3,000	52,000	11,700
1,350		3,000	52,000	12,200
1,400		3,000	52,000	12,600
1,450		3,000	52,000	13,100
1,500		3,000	52,000	13,500
1,550		3,000	52,000	14,000
1,590	1/16	3,000	52,000	14,400
1,600		3,000	52,000	14,400
1,650		3,000	52,000	14,900
1,700		3,000	52,000	15,300
1,750		3,000	52,000	15,800
1,800		3,000	52,000	16,200
1,850		3,000	52,000	16,700
1,900		3,000	52,000	17,100

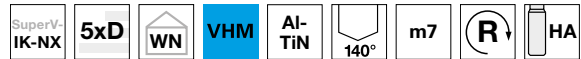
d1 mm	inch	d2 mm	l1 mm	l2 mm
1,950		3,000	52,000	17,600
1,980	5/64	4,000	63,000	18,000
2,000		4,000	63,000	18,000
2,050		4,000	63,000	18,500
2,100		4,000	63,000	18,900
2,150		4,000	63,000	19,400
2,200		4,000	63,000	19,800
2,250		4,000	63,000	20,300
2,300		4,000	63,000	20,700
2,350		4,000	63,000	21,200
2,380	3/32	4,000	63,000	21,600
2,400		4,000	63,000	21,600
2,450		4,000	63,000	22,100
2,500		4,000	63,000	22,500
2,550		4,000	63,000	23,000
2,600		4,000	67,000	23,400
2,650		4,000	67,000	23,900
2,700		4,000	67,000	24,300
2,750		4,000	67,000	24,800
2,780	7/64	4,000	67,000	25,200
2,800		4,000	67,000	25,200
2,850		4,000	67,000	25,700
2,900		4,000	67,000	26,100
2,950		4,000	67,000	26,600
3,000		4,000	67,000	27,000

SuperV-Bohrer

SuperV-NX Hochleistungs-Kleinstbohrer mit Innenkühlung



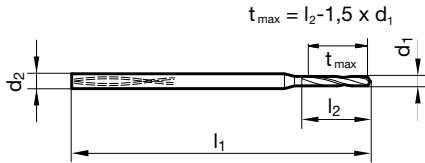
Katalog-Nr. 51997



P	M	K	N	S	H
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Arbeitsrichtwerte
Seite 101

- Ausspitzung $\geq \varnothing 1,400$
- Flächenanschliff
- Hauptschneidenform gerade
- geschliffener Schneidenabzug
- Kühlmitteldruck beachten (s. Diagramm „Kühlmittlempfehlungen“)



d1 mm	inch	d2 mm	l1 mm	l2 mm
1,400		4,000	52,000	11,000
1,450		4,000	52,000	12,000
1,500		4,000	52,000	12,000
1,550		4,000	52,000	12,000
1,590	1/16	4,000	52,000	13,000
1,600		4,000	52,000	13,000
1,650		4,000	52,000	13,000
1,700		4,000	56,000	14,000
1,750		4,000	56,000	14,000
1,800		4,000	56,000	14,000
1,850		4,000	56,000	15,000
1,900		4,000	56,000	15,000
1,950		4,000	56,000	16,000
1,980	5/64	4,000	56,000	16,000
2,000		4,000	56,000	16,000
2,050		4,000	56,000	16,000
2,100		4,000	62,000	17,000
2,150		4,000	62,000	17,000
2,200		4,000	62,000	18,000
2,250		4,000	62,000	18,000
2,300		4,000	62,000	18,000
2,350		4,000	62,000	19,000
2,380	3/32	4,000	62,000	19,000
2,400		4,000	62,000	19,000

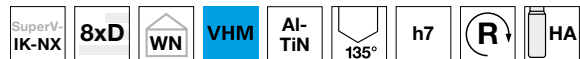
d1 mm	inch	d2 mm	l1 mm	l2 mm
2,450		4,000	62,000	20,000
2,500		4,000	62,000	20,000
2,550		4,000	62,000	20,000
2,600		4,000	66,000	21,000
2,650		4,000	66,000	21,000
2,700		4,000	66,000	22,000
2,750		4,000	66,000	22,000
2,780	7/64	4,000	66,000	22,000
2,800		4,000	66,000	22,000
2,850		4,000	66,000	23,000
2,900		4,000	66,000	23,000
2,950		4,000	66,000	24,000
3,000		4,000	66,000	24,000

SuperV-Bohrer

SuperV-NX Hochleistungs-Kleinstbohrer mit Innenkühlung



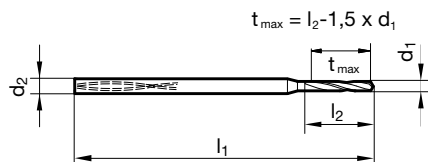
Katalog-Nr. 51998



P	M	K	N	S	H
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Arbeitsrichtwerte
Seite 101

- Ausspitzung $\geq \varnothing 1,400$
- Flächenanschliff
- Hauptschneidenform gerade
- geschliffener Schneidenabzug
- Kühlmitteldruck beachten (s. Diagramm „Kühlmittlempfehlungen“)



d1 mm	inch	d2 mm	l1 mm	l2 mm
1,400		4,000	52,000	15,000
1,450		4,000	52,000	16,000
1,500		4,000	52,000	17,000
1,550		4,000	52,000	17,000
1,590	1/16	4,000	52,000	18,000
1,600		4,000	52,000	18,000
1,650		4,000	52,000	18,000
1,700		4,000	56,000	19,000
1,750		4,000	56,000	19,000
1,800		4,000	56,000	20,000
1,850		4,000	56,000	20,000
1,900		4,000	56,000	21,000
1,950		4,000	56,000	21,000
1,980	5/64	4,000	56,000	22,000
2,000		4,000	56,000	22,000
2,050		4,000	56,000	23,000
2,100		4,000	62,000	23,000
2,150		4,000	62,000	24,000
2,200		4,000	62,000	24,000
2,250		4,000	62,000	25,000
2,300		4,000	62,000	25,000
2,350		4,000	62,000	26,000
2,380	3/32	4,000	62,000	26,000
2,400		4,000	62,000	26,000

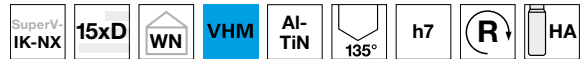
d1 mm	inch	d2 mm	l1 mm	l2 mm
2,450		4,000	62,000	27,000
2,500		4,000	62,000	28,000
2,550		4,000	62,000	28,000
2,600		4,000	66,000	29,000
2,650		4,000	66,000	29,000
2,700		4,000	66,000	30,000
2,750		4,000	66,000	30,000
2,780	7/64	4,000	66,000	31,000
2,800		4,000	66,000	31,000
2,850		4,000	66,000	31,000
2,900		4,000	66,000	32,000
2,950		4,000	66,000	32,000
3,000		4,000	66,000	33,000

SuperV-Bohrer

SuperV-NX Hochleistungs-Kleinstbohrer mit Innenkühlung



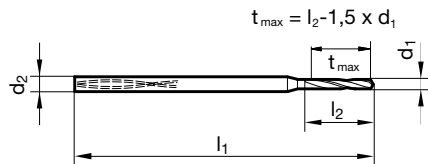
Katalog-Nr. 51999



P	M	K	N	S	H
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Arbeitsrichtwerte
Seite 101

- Ausspitzung $\geq \varnothing 1,400$
- Flächenanschliff
- Kopfbeschichtung
- Hauptschneidenform gerade
- geschliffener Schneidenabzug
- Kühlmitteldruck beachten (s. Diagramm „Kühlmittlempfehlungen“)



d1 mm	inch	d2 mm	l1 mm	l2 mm
1,400		4,000	62,000	25,000
1,500		4,000	62,000	27,000
1,590	1/16	4,000	62,000	29,000
1,600		4,000	62,000	29,000
1,700		4,000	70,000	31,000
1,800		4,000	70,000	32,000
1,900		4,000	70,000	34,000
1,980	5/64	4,000	70,000	36,000
2,000		4,000	70,000	36,000
2,100		4,000	78,000	38,000
2,200		4,000	78,000	40,000
2,300		4,000	78,000	42,000

d1 mm	inch	d2 mm	l1 mm	l2 mm
2,380	3/32	4,000	78,000	44,000
2,400		4,000	78,000	44,000
2,500		4,000	78,000	45,000
2,600		4,000	87,000	47,000
2,700		4,000	87,000	48,000
2,780	7/64	4,000	87,000	50,000
2,800		4,000	87,000	50,000
2,900		4,000	87,000	52,000
3,000		4,000	87,000	54,000

SuperV-Bohrer

SuperV-Bohrer mit Innenkühlung



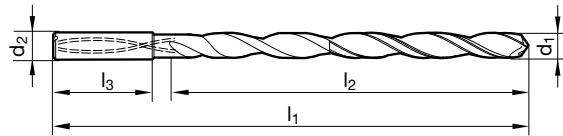
Katalog-Nr. 51764



P	M	K	N	S	H
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Arbeitsrichtwerte
Seite 99

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



d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
3,000		6,000	95,000	55,000	36,000
3,100		6,000	106,000	67,000	36,000
3,170	1/8	6,000	106,000	67,000	36,000
3,200		6,000	106,000	67,000	36,000
3,300		6,000	106,000	67,000	36,000
3,500		6,000	116,000	76,000	36,000
3,570	9/64	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	5/32	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	11/64	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	3/16	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	13/64	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	7/32	6,000	150,000	110,000	36,000
5,800		6,000	150,000	110,000	36,000
5,950	15/64	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	1/4	8,000	167,000	127,000	36,000
6,500		8,000	167,000	127,000	36,000
6,750	17/64	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	9/32	8,000	183,000	143,000	36,000
7,500		8,000	183,000	143,000	36,000
7,540	19/64	8,000	183,000	143,000	36,000

d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
7,800		8,000	183,000	143,000	36,000
7,940	5/16	8,000	183,000	143,000	36,000
8,000		8,000	183,000	143,000	36,000
8,330	21/64	10,000	204,000	160,000	40,000
8,500		10,000	204,000	160,000	40,000
8,730	11/32	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	23/64	10,000	221,000	177,000	40,000
9,520	3/8	10,000	221,000	177,000	40,000
9,800		10,000	221,000	177,000	40,000
9,920	25/64	10,000	221,000	177,000	40,000
10,000		10,000	221,000	177,000	40,000
10,320	13/32	12,000	247,000	198,000	45,000
10,500		12,000	247,000	198,000	45,000
10,720	27/64	12,000	247,000	198,000	45,000
11,000		12,000	247,000	198,000	45,000
11,110	7/16	12,000	263,000	214,000	45,000
11,510	29/64	12,000	263,000	214,000	45,000
11,800		12,000	263,000	214,000	45,000
11,910	15/32	12,000	263,000	214,000	45,000
12,000		12,000	263,000	214,000	45,000
12,300	31/64	14,000	297,000	248,000	45,000
12,500		14,000	297,000	248,000	45,000
12,700	1/2	14,000	297,000	248,000	45,000
13,000		14,000	297,000	248,000	45,000
13,100	33/64	14,000	297,000	248,000	45,000
13,490	17/32	14,000	297,000	248,000	45,000
13,890	35/64	14,000	297,000	248,000	45,000
14,000		14,000	297,000	248,000	45,000
14,290	9/16	16,000	333,000	281,000	48,000
15,000		16,000	333,000	281,000	48,000
15,870	5/8	16,000	333,000	281,000	48,000
16,000		16,000	333,000	281,000	48,000

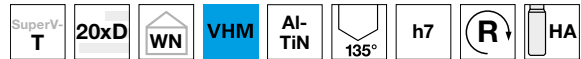
Die Universellen
Längen

SuperV-Bohrer

SuperV-Bohrer mit Innenkühlung



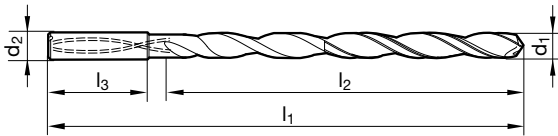
Katalog-Nr. 51765



P	M	K	N	S	H
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Arbeitsrichtwerte
Seite 99

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



Die Universellen
Längen

d1 mm	inch	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	9/64	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	5/32	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	11/64	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	3/16	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	13/64	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	7/32	6,000	180,000	140,000	36,000
5,800		6,000	180,000	140,000	36,000
5,950	15/64	6,000	180,000	140,000	36,000
6,000		6,000	180,000	140,000	36,000
6,350	1/4	8,000	202,000	162,000	36,000
6,500		8,000	202,000	162,000	36,000
6,750	17/64	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	9/32	8,000	223,000	183,000	36,000
7,500		8,000	223,000	183,000	36,000
7,540	19/64	8,000	223,000	183,000	36,000
7,800		8,000	223,000	183,000	36,000
7,940	5/16	8,000	223,000	183,000	36,000

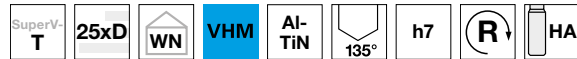
d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
8,000		8,000	223,000	183,000	36,000
8,330	21/64	10,000	249,000	205,000	40,000
8,500		10,000	249,000	205,000	40,000
8,730	11/32	10,000	249,000	205,000	40,000
8,800		10,000	249,000	205,000	40,000
9,000		10,000	249,000	205,000	40,000
9,130	23/64	10,000	271,000	227,000	40,000
9,520	3/8	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	13/32	12,000	302,000	253,000	45,000
10,500		12,000	302,000	253,000	45,000
10,720	27/64	12,000	302,000	253,000	45,000
11,000		12,000	302,000	253,000	45,000
11,110	7/16	12,000	323,000	274,000	45,000
11,510	29/64	12,000	323,000	274,000	45,000
11,800		12,000	323,000	274,000	45,000
11,910	15/32	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	1/2	14,000	367,000	318,000	45,000
13,000		14,000	367,000	318,000	45,000
13,490	17/32	14,000	367,000	318,000	45,000
14,000		14,000	367,000	318,000	45,000
14,290	9/16	16,000	413,000	361,000	48,000
15,000		16,000	413,000	361,000	48,000
15,870	5/8	16,000	413,000	361,000	48,000
16,000		16,000	413,000	361,000	48,000

SuperV-Bohrer

SuperV-Bohrer mit Innenkühlung



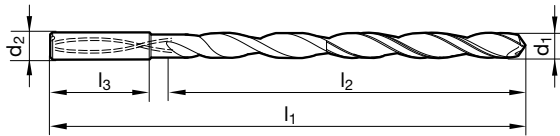
Katalog-Nr. 51766



P	M	K	N	S	H
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Arbeitsrichtwerte
Seite 99

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



d1 mm	inch	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	9/64	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	5/32	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	11/64	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	3/16	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	13/64	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	7/32	6,000	210,000	170,000	36,000
5,800		6,000	210,000	170,000	36,000
5,950	15/64	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	1/4	8,000	237,000	197,000	36,000
6,500		8,000	237,000	197,000	36,000
6,750	17/64	8,000	237,000	197,000	36,000

d1 mm	inch	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	9/32	8,000	263,000	223,000	36,000
7,500		8,000	263,000	223,000	36,000
7,540	19/64	8,000	263,000	223,000	36,000
7,940	5/16	8,000	263,000	223,000	36,000
8,000		8,000	263,000	223,000	36,000
8,330	21/64	10,000	294,000	250,000	40,000
8,500		10,000	294,000	250,000	40,000
8,730	11/32	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	23/64	10,000	321,000	277,000	40,000
9,520	3/8	10,000	321,000	277,000	40,000
10,000		10,000	321,000	277,000	40,000
10,720	27/64	12,000	359,000	310,000	45,000
11,000		12,000	359,000	310,000	45,000
11,110	7/16	12,000	386,000	337,000	45,000
12,000		12,000	386,000	337,000	45,000
12,300	31/64	14,000	437,000	388,000	45,000
12,700	1/2	14,000	437,000	388,000	45,000
13,000		14,000	437,000	388,000	45,000
13,100	33/64	14,000	437,000	388,000	45,000
13,490	17/32	14,000	437,000	388,000	45,000
13,890	35/64	14,000	437,000	388,000	45,000
14,000		14,000	437,000	388,000	45,000
14,290	9/16	16,000	493,000	441,000	48,000
15,000		16,000	493,000	441,000	48,000
15,870	5/8	16,000	493,000	441,000	48,000
16,000		16,000	493,000	441,000	48,000

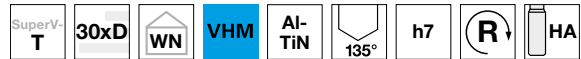
Die Universellen
Längen

SuperV-Bohrer

SuperV-Bohrer mit Innenkühlung



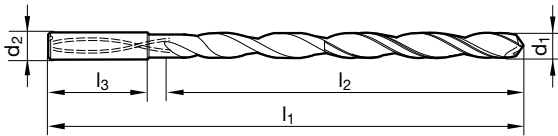
Katalog-Nr. 51767



P	M	K	N	S	H
●	●	●	○	○	

Arbeitsrichtwerte
Seite 99

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



Die Universellen
Längen

d1 mm	inch	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	9/64	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	5/32	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	11/64	6,000	208,000	168,000	36,000
4,500		6,000	208,000	168,000	36,000
4,760	3/16	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	13/64	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	7/32	6,000	240,000	200,000	36,000
5,950	15/64	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	1/4	8,000	272,000	232,000	36,000
6,500		8,000	272,000	232,000	36,000
6,750	17/64	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	9/32	8,000	303,000	263,000	36,000
7,500		8,000	303,000	263,000	36,000

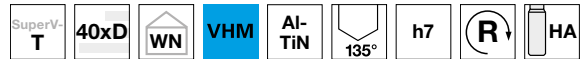
d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
7,540	19/64	8,000	303,000	263,000	36,000
7,940	5/16	8,000	303,000	263,000	36,000
8,000		8,000	303,000	263,000	36,000
8,330	21/64	10,000	339,000	295,000	40,000
8,500		10,000	339,000	295,000	40,000
8,730	11/32	10,000	339,000	295,000	40,000
8,800		10,000	339,000	295,000	40,000
9,000		10,000	339,000	295,000	40,000
9,130	23/64	10,000	371,000	327,000	40,000
9,520	3/8	10,000	371,000	327,000	40,000
10,000		10,000	371,000	327,000	40,000
10,320	13/32	12,000	412,000	363,000	45,000
10,720	27/64	12,000	412,000	363,000	45,000
11,000		12,000	412,000	363,000	45,000
11,110	7/16	12,000	443,000	394,000	45,000
11,510	29/64	12,000	443,000	394,000	45,000
11,910	15/32	12,000	443,000	394,000	45,000
12,000		12,000	443,000	394,000	45,000
12,300	31/64	14,000	507,000	458,000	45,000
12,700	1/2	14,000	507,000	458,000	45,000
13,000		14,000	507,000	458,000	45,000
13,100	33/64	14,000	507,000	458,000	45,000
13,490	17/32	14,000	507,000	458,000	45,000
13,890	35/64	14,000	507,000	458,000	45,000
14,000		14,000	507,000	458,000	45,000

SuperV-Bohrer

SuperV-Bohrer mit Innenkühlung



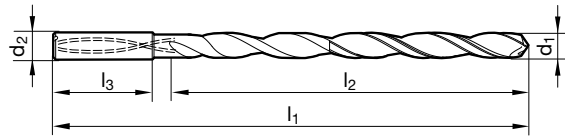
Katalog-Nr. 51768



P	M	K	N	S	H
●	●	●	○	○	

Arbeitsrichtwerte
Seite 99

- 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	inch	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	1/8	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	5/32	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	3/16	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	7/32	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	inch	d2 mm	l1 mm	l2 mm	l3 mm
6,350	1/4	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	9/32	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

Die Universellen
Längen



SuperV-S

- extrem stabiler Bohrer
- Kegelmantelanschliff
- Doppelfase
- hochharte TiAlSiN-Beschichtung
- zum Bohren hochfester Materialien

SuperV-Bohrer

SuperV-Bohrer ohne Innenkühlung



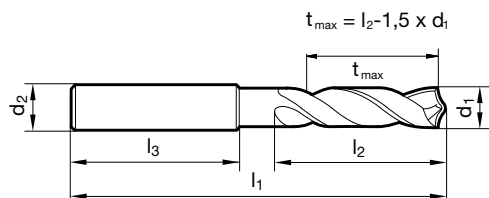
Katalog-Nr. 51750



P	M	K	N	S	H
●				○	○

Arbeitsrichtwerte
Seite 91

- Ausspitzung $\geq \varnothing 3,000$
- Kegelmantelschliff
- Hauptschneidenform konkav
- sehr harte Beschichtung
- vier Führungsfasen



d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
3,000		6,000	62,000	20,000	36,000
3,100		6,000	62,000	20,000	36,000
3,170	1/8	6,000	62,000	20,000	36,000
3,200		6,000	62,000	20,000	36,000
3,250		6,000	62,000	20,000	36,000
3,300		6,000	62,000	20,000	36,000
3,400		6,000	62,000	20,000	36,000
3,500		6,000	62,000	20,000	36,000
3,570	9/64	6,000	62,000	20,000	36,000
3,600		6,000	62,000	20,000	36,000
3,700		6,000	62,000	20,000	36,000
3,800		6,000	66,000	24,000	36,000
3,900		6,000	66,000	24,000	36,000
3,970	5/32	6,000	66,000	24,000	36,000
4,000		6,000	66,000	24,000	36,000
4,100		6,000	66,000	24,000	36,000
4,200		6,000	66,000	24,000	36,000
4,300		6,000	66,000	24,000	36,000
4,370	11/64	6,000	66,000	24,000	36,000
4,400		6,000	66,000	24,000	36,000
4,500		6,000	66,000	24,000	36,000
4,600		6,000	66,000	24,000	36,000
4,650		6,000	66,000	24,000	36,000
4,700		6,000	66,000	24,000	36,000
4,760	3/16	6,000	66,000	28,000	36,000
4,800		6,000	66,000	28,000	36,000
4,900		6,000	66,000	28,000	36,000
5,000		6,000	66,000	28,000	36,000
5,100		6,000	66,000	28,000	36,000
5,160	13/64	6,000	66,000	28,000	36,000
5,200		6,000	66,000	28,000	36,000
5,300		6,000	66,000	28,000	36,000
5,400		6,000	66,000	28,000	36,000
5,500		6,000	66,000	28,000	36,000
5,550		6,000	66,000	28,000	36,000
5,560	7/32	6,000	66,000	28,000	36,000
5,600		6,000	66,000	28,000	36,000
5,700		6,000	66,000	28,000	36,000
5,800		6,000	66,000	28,000	36,000
5,900		6,000	66,000	28,000	36,000
5,950	15/64	6,000	66,000	28,000	36,000
6,000		6,000	66,000	28,000	36,000
6,100		8,000	79,000	34,000	36,000
6,200		8,000	79,000	34,000	36,000
6,300		8,000	79,000	34,000	36,000
6,350	1/4	8,000	79,000	34,000	36,000
6,400		8,000	79,000	34,000	36,000
6,500		8,000	79,000	34,000	36,000

d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
6,600		8,000	79,000	34,000	36,000
6,700		8,000	79,000	34,000	36,000
6,750	17/64	8,000	79,000	34,000	36,000
6,800		8,000	79,000	34,000	36,000
6,900		8,000	79,000	34,000	36,000
7,000		8,000	79,000	34,000	36,000
7,100		8,000	79,000	41,000	36,000
7,140	9/32	8,000	79,000	41,000	36,000
7,200		8,000	79,000	41,000	36,000
7,300		8,000	79,000	41,000	36,000
7,400		8,000	79,000	41,000	36,000
7,500		8,000	79,000	41,000	36,000
7,540	19/64	8,000	79,000	41,000	36,000
7,600		8,000	79,000	41,000	36,000
7,700		8,000	79,000	41,000	36,000
7,800		8,000	79,000	41,000	36,000
7,900		8,000	79,000	41,000	36,000
7,940	5/16	8,000	79,000	41,000	36,000
8,000		8,000	79,000	41,000	36,000
8,100		10,000	89,000	47,000	40,000
8,200		10,000	89,000	47,000	40,000
8,300		10,000	89,000	47,000	40,000
8,330	21/64	10,000	89,000	47,000	40,000
8,400		10,000	89,000	47,000	40,000
8,500		10,000	89,000	47,000	40,000
8,600		10,000	89,000	47,000	40,000
8,700		10,000	89,000	47,000	40,000
8,730	11/32	10,000	89,000	47,000	40,000
8,800		10,000	89,000	47,000	40,000
8,900		10,000	89,000	47,000	40,000
9,000		10,000	89,000	47,000	40,000
9,100		10,000	89,000	47,000	40,000
9,130	23/64	10,000	89,000	47,000	40,000
9,200		10,000	89,000	47,000	40,000
9,250		10,000	89,000	47,000	40,000
9,300		10,000	89,000	47,000	40,000
9,400		10,000	89,000	47,000	40,000
9,500		10,000	89,000	47,000	40,000
9,520	3/8	10,000	89,000	47,000	40,000
9,600		10,000	89,000	47,000	40,000
9,700		10,000	89,000	47,000	40,000
9,800		10,000	89,000	47,000	40,000
9,900		10,000	89,000	47,000	40,000
9,920	25/64	10,000	89,000	47,000	40,000
10,000		10,000	89,000	47,000	40,000
10,100		12,000	102,000	55,000	45,000
10,200		12,000	102,000	55,000	45,000
10,300		12,000	102,000	55,000	45,000

d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm	d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
10,320	13/32	12,000	102,000	55,000	45,000	14,290	9/16	16,000	115,000	65,000	48,000
10,400		12,000	102,000	55,000	45,000	14,300		16,000	115,000	65,000	48,000
10,500		12,000	102,000	55,000	45,000	14,500		16,000	115,000	65,000	48,000
10,600		12,000	102,000	55,000	45,000	14,700		16,000	115,000	65,000	48,000
10,700		12,000	102,000	55,000	45,000	15,000		16,000	115,000	65,000	48,000
10,800	7/16	12,000	102,000	55,000	45,000	15,200	3/4	16,000	115,000	65,000	48,000
10,900		12,000	102,000	55,000	45,000	15,300		16,000	115,000	65,000	48,000
11,000		12,000	102,000	55,000	45,000	15,500		16,000	115,000	65,000	48,000
11,100		12,000	102,000	55,000	45,000	15,700		16,000	115,000	65,000	48,000
11,110		12,000	102,000	55,000	45,000	16,000		16,000	115,000	65,000	48,000
11,200	15/32	12,000	102,000	55,000	45,000	16,300	1/2	18,000	123,000	73,000	48,000
11,300		12,000	102,000	55,000	45,000	16,500		18,000	123,000	73,000	48,000
11,400		12,000	102,000	55,000	45,000	16,900		18,000	123,000	73,000	48,000
11,500		12,000	102,000	55,000	45,000	17,000		18,000	123,000	73,000	48,000
11,600		12,000	102,000	55,000	45,000	17,300		18,000	123,000	73,000	48,000
11,700	1/2	12,000	102,000	55,000	45,000	17,500		18,000	123,000	73,000	48,000
11,800		12,000	102,000	55,000	45,000	18,000		18,000	123,000	73,000	48,000
11,900		12,000	102,000	55,000	45,000	18,500		20,000	131,000	79,000	50,000
11,910		12,000	102,000	55,000	45,000	18,900		20,000	131,000	79,000	50,000
12,000		12,000	102,000	55,000	45,000	19,000		20,000	131,000	79,000	50,000
12,200	1/2	14,000	107,000	60,000	45,000	19,050		20,000	131,000	79,000	50,000
12,500		14,000	107,000	60,000	45,000	19,300		20,000	131,000	79,000	50,000
12,700		14,000	107,000	60,000	45,000	19,500		20,000	131,000	79,000	50,000
12,800		14,000	107,000	60,000	45,000	20,000		20,000	131,000	79,000	50,000
13,000		14,000	107,000	60,000	45,000						
13,300	1/2	14,000	107,000	60,000	45,000						
13,500		14,000	107,000	60,000	45,000						
13,700		14,000	107,000	60,000	45,000						
14,000		14,000	107,000	60,000	45,000						
14,200		16,000	115,000	65,000	48,000						

SuperV-Bohrer

SuperV-Bohrer ohne Innenkühlung



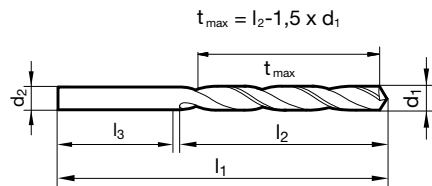
Katalog-Nr. 61888



P	M	K	N	S	H
○	●	○	○	●	○

Arbeitsrichtwerte
Seite 91

- Ausspitzung $\geq \varnothing 3,000$
- Kegelmantelanschliff
- Hauptschneidenform konkav
- optimierte Schneidengeometrie
- scharfes Schnittverhalten



d1 mm	d2 mm	l1 mm	l2 mm	l3 mm
3,000	3,000	46,000	16,000	30,000
3,100	3,100	49,000	18,000	31,000
3,200	3,200	49,000	18,000	31,000
3,400	3,400	52,000	20,000	32,000
3,500	3,500	52,000	20,000	32,000
3,600	3,600	52,000	20,000	32,000
4,000	4,000	55,000	22,000	33,000
4,200	4,200	55,000	22,000	33,000
4,300	4,300	58,000	24,000	34,000
4,500	4,500	58,000	24,000	34,000
4,700	4,700	58,000	24,000	34,000
5,000	5,000	62,000	26,000	36,000
5,100	5,100	62,000	26,000	36,000
5,200	5,200	62,000	26,000	36,000
5,500	5,500	66,000	28,000	38,000
5,700	5,700	66,000	28,000	38,000
5,800	5,800	66,000	28,000	38,000
6,000	6,000	66,000	28,000	38,000
6,100	6,100	70,000	31,000	39,000
6,200	6,200	70,000	31,000	39,000
6,400	6,400	70,000	31,000	39,000
6,500	6,500	70,000	31,000	39,000
6,600	6,600	70,000	31,000	39,000
6,700	6,700	70,000	31,000	39,000

d1 mm	d2 mm	l1 mm	l2 mm	l3 mm
6,800	6,800	74,000	34,000	40,000
7,000	7,000	74,000	34,000	40,000
7,200	7,200	74,000	34,000	40,000
7,300	7,300	74,000	34,000	40,000
7,500	7,500	74,000	34,000	40,000
7,700	7,700	79,000	37,000	42,000
7,800	7,800	79,000	37,000	42,000
8,000	8,000	79,000	37,000	42,000
8,400	8,400	79,000	37,000	42,000
8,500	8,500	79,000	37,000	42,000
8,700	8,700	84,000	40,000	44,000
8,900	8,900	84,000	40,000	44,000
9,000	9,000	84,000	40,000	44,000
9,100	9,100	84,000	40,000	44,000
9,200	9,200	84,000	40,000	44,000
9,300	9,300	84,000	40,000	44,000
9,400	9,400	84,000	40,000	44,000
9,500	9,500	84,000	40,000	44,000
9,700	9,700	89,000	43,000	46,000
10,000	10,000	89,000	43,000	46,000
10,100	10,100	89,000	43,000	46,000
10,200	10,200	89,000	43,000	46,000
12,000	12,000	102,000	51,000	51,000

Die Speziellen



SuperV-UX

- für höchste Schnittwerte und Standzeiten
- optimierte Mikrogeometrie
- TiAlN-Kopfbeschichtung mit polierten Spannuten
- höchste Oberflächenqualität

SuperV-Bohrer

SuperV-Bohrer mit Innenkühlung

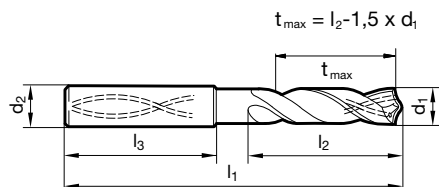


Katalog-Nr. 51785



P	M	K	N	S	H	Arbeitsrichtwerte Seite 95
●	○	○	○	○	○	

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



d1 mm	inch	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	1/8	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	9/64	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	5/32	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	11/64	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	3/16	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	13/64	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	7/32	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	15/64	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	inch	d2 mm	l1 mm	l2 mm	l3 mm
6,300		8,000	91,000	53,000	36,000
6,350	1/4	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	17/64	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	9/32	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	19/64	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	5/16	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	21/64	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	11/32	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	23/64	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	3/8	10,000	103,000	61,000	40,000
9,550		10,000	103,000	61,000	40,000

Die Speziellen

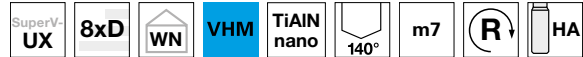
d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm	d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
9,600		10,000	103,000	61,000	40,000	14,100		16,000	133,000	83,000	48,000
9,700		10,000	103,000	61,000	40,000	14,200		16,000	133,000	83,000	48,000
9,800		10,000	103,000	61,000	40,000	14,290	9/16	16,000	133,000	83,000	48,000
9,900		10,000	103,000	61,000	40,000	14,400		16,000	133,000	83,000	48,000
9,920	25/64	10,000	103,000	61,000	40,000	14,500		16,000	133,000	83,000	48,000
10,000		10,000	103,000	61,000	40,000	14,600		16,000	133,000	83,000	48,000
10,100		12,000	118,000	71,000	45,000	14,680	37/64	16,000	133,000	83,000	48,000
10,200		12,000	118,000	71,000	45,000	14,700		16,000	133,000	83,000	48,000
10,300		12,000	118,000	71,000	45,000	14,800		16,000	133,000	83,000	48,000
10,320	13/32	12,000	118,000	71,000	45,000	14,900		16,000	133,000	83,000	48,000
10,400		12,000	118,000	71,000	45,000	15,000		16,000	133,000	83,000	48,000
10,500		12,000	118,000	71,000	45,000	15,080	19/32	16,000	133,000	83,000	48,000
10,600		12,000	118,000	71,000	45,000	15,100		16,000	133,000	83,000	48,000
10,700		12,000	118,000	71,000	45,000	15,200		16,000	133,000	83,000	48,000
10,720	27/64	12,000	118,000	71,000	45,000	15,300		16,000	133,000	83,000	48,000
10,800		12,000	118,000	71,000	45,000	15,400		16,000	133,000	83,000	48,000
10,900		12,000	118,000	71,000	45,000	15,480	39/64	16,000	133,000	83,000	48,000
11,000		12,000	118,000	71,000	45,000	15,500		16,000	133,000	83,000	48,000
11,100		12,000	118,000	71,000	45,000	15,550		16,000	133,000	83,000	48,000
11,110	7/16	12,000	118,000	71,000	45,000	15,600		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	15,800		16,000	133,000	83,000	48,000
11,400		12,000	118,000	71,000	45,000	15,870	5/8	16,000	133,000	83,000	48,000
11,500		12,000	118,000	71,000	45,000	15,900		16,000	133,000	83,000	48,000
11,510	29/64	12,000	118,000	71,000	45,000	16,000		16,000	133,000	83,000	48,000
11,550		12,000	118,000	71,000	45,000	16,270	41/64	18,000	143,000	93,000	48,000
11,600		12,000	118,000	71,000	45,000	16,500		18,000	143,000	93,000	48,000
11,700		12,000	118,000	71,000	45,000	16,670	21/32	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	15/32	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	17,070	43/64	18,000	143,000	93,000	48,000
12,100		14,000	124,000	77,000	45,000	17,460	11/16	18,000	143,000	93,000	48,000
12,200		14,000	124,000	77,000	45,000	17,500		18,000	143,000	93,000	48,000
12,300	31/64	14,000	124,000	77,000	45,000	17,550		18,000	143,000	93,000	48,000
12,400		14,000	124,000	77,000	45,000	17,700		18,000	143,000	93,000	48,000
12,500		14,000	124,000	77,000	45,000	17,860	45/64	18,000	143,000	93,000	48,000
12,600		14,000	124,000	77,000	45,000	18,000		18,000	143,000	93,000	48,000
12,700	1/2	14,000	124,000	77,000	45,000	18,260	23/32	20,000	153,000	101,000	50,000
12,800		14,000	124,000	77,000	45,000	18,500		20,000	153,000	101,000	50,000
12,900		14,000	124,000	77,000	45,000	18,700		20,000	153,000	101,000	50,000
13,000		14,000	124,000	77,000	45,000	18,900		20,000	153,000	101,000	50,000
13,100	33/64	14,000	124,000	77,000	45,000	19,000		20,000	153,000	101,000	50,000
13,200		14,000	124,000	77,000	45,000	19,050	3/4	20,000	153,000	101,000	50,000
13,300		14,000	124,000	77,000	45,000	19,250		20,000	153,000	101,000	50,000
13,400		14,000	124,000	77,000	45,000	19,300		20,000	153,000	101,000	50,000
13,490	17/32	14,000	124,000	77,000	45,000	19,500		20,000	153,000	101,000	50,000
13,500		14,000	124,000	77,000	45,000	19,550		20,000	153,000	101,000	50,000
13,600		14,000	124,000	77,000	45,000	19,700		20,000	153,000	101,000	50,000
13,700		14,000	124,000	77,000	45,000	19,840	25/32	20,000	153,000	101,000	50,000
13,800		14,000	124,000	77,000	45,000	20,000		20,000	153,000	101,000	50,000
13,890	35/64	14,000	124,000	77,000	45,000						
13,900		14,000	124,000	77,000	45,000						
14,000		14,000	124,000	77,000	45,000						

SuperV-Bohrer

SuperV-Bohrer mit Innenkühlung



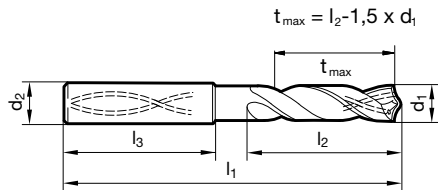
Katalog-Nr. 51790



P	M	K	N	S	H
●	○	○	○	○	○

Arbeitsrichtwerte
Seite 97

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



d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
3,000		6,000	70,000	30,000	36,000
3,170	1/8	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	9/64	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	5/32	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	11/64	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	3/16	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	13/64	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	7/32	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	15/64	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	1/4	8,000	106,000	66,000	36,000

d1 mm	inch	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	17/64	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	9/32	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	19/64	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	5/16	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	21/64	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	11/32	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	23/64	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	3/8	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	25/64	10,000	139,000	95,000	40,000

Die Speziellen

d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm	d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
10,000		10,000	139,000	95,000	40,000	13,890	35/64	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	13/32	12,000	155,000	106,000	45,000	14,290	9/16	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	27/64	12,000	155,000	106,000	45,000	15,480	39/64	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	5/8	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	7/16	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	29/64	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	3/4	20,000	244,000	190,000	50,000
11,910	15/32	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	31/64	14,000	182,000	133,000	45,000						
12,500		14,000	182,000	133,000	45,000						
12,700	1/2	14,000	182,000	133,000	45,000						
13,000		14,000	182,000	133,000	45,000						
13,100	33/64	14,000	182,000	133,000	45,000						
13,490	17/32	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



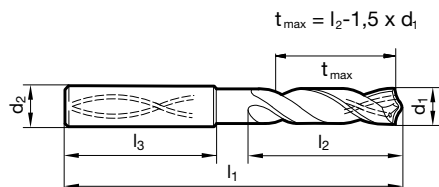
Katalog-Nr. 51752



P	M	K	N	S	H
●				●	○

Arbeitsrichtwerte
Seite 93

- Ausspitzung $\geq \varnothing 3,000$
- Kegelmantelschliff
- Hauptschneidenform konkav
- sehr harte Beschichtung
- vier Führungsfasen



d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
3,000		6,000	62,000	20,000	36,000
3,100		6,000	62,000	20,000	36,000
3,170	1/8	6,000	62,000	20,000	36,000
3,200		6,000	62,000	20,000	36,000
3,250		6,000	62,000	20,000	36,000
3,300		6,000	62,000	20,000	36,000
3,400		6,000	62,000	20,000	36,000
3,500		6,000	62,000	20,000	36,000
3,570	9/64	6,000	62,000	20,000	36,000
3,600		6,000	62,000	20,000	36,000
3,700		6,000	62,000	20,000	36,000
3,800		6,000	66,000	24,000	36,000
3,900		6,000	66,000	24,000	36,000
3,970	5/32	6,000	66,000	24,000	36,000
4,000		6,000	66,000	24,000	36,000
4,100		6,000	66,000	24,000	36,000
4,200		6,000	66,000	24,000	36,000
4,300		6,000	66,000	24,000	36,000
4,370	11/64	6,000	66,000	24,000	36,000
4,400		6,000	66,000	24,000	36,000
4,500		6,000	66,000	24,000	36,000
4,600		6,000	66,000	24,000	36,000
4,650		6,000	66,000	24,000	36,000
4,700		6,000	66,000	24,000	36,000
4,760	3/16	6,000	66,000	28,000	36,000
4,800		6,000	66,000	28,000	36,000
4,900		6,000	66,000	28,000	36,000
5,000		6,000	66,000	28,000	36,000
5,100		6,000	66,000	28,000	36,000
5,160	13/64	6,000	66,000	28,000	36,000
5,200		6,000	66,000	28,000	36,000
5,300		6,000	66,000	28,000	36,000
5,400		6,000	66,000	28,000	36,000
5,500		6,000	66,000	28,000	36,000
5,550		6,000	66,000	28,000	36,000
5,560	7/32	6,000	66,000	28,000	36,000
5,600		6,000	66,000	28,000	36,000
5,700		6,000	66,000	28,000	36,000
5,800		6,000	66,000	28,000	36,000
5,900		6,000	66,000	28,000	36,000
5,950	15/64	6,000	66,000	28,000	36,000
6,000		6,000	66,000	28,000	36,000
6,100		8,000	79,000	34,000	36,000
6,200		8,000	79,000	34,000	36,000
6,300		8,000	79,000	34,000	36,000
6,350	1/4	8,000	79,000	34,000	36,000
6,400		8,000	79,000	34,000	36,000
6,500		8,000	79,000	34,000	36,000

d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
6,600		8,000	79,000	34,000	36,000
6,700		8,000	79,000	34,000	36,000
6,750	17/64	8,000	79,000	34,000	36,000
6,800		8,000	79,000	34,000	36,000
6,900		8,000	79,000	34,000	36,000
7,000		8,000	79,000	34,000	36,000
7,100		8,000	79,000	41,000	36,000
7,140	9/32	8,000	79,000	41,000	36,000
7,200		8,000	79,000	41,000	36,000
7,300		8,000	79,000	41,000	36,000
7,400		8,000	79,000	41,000	36,000
7,500		8,000	79,000	41,000	36,000
7,540	19/64	8,000	79,000	41,000	36,000
7,600		8,000	79,000	41,000	36,000
7,700		8,000	79,000	41,000	36,000
7,800		8,000	79,000	41,000	36,000
7,900		8,000	79,000	41,000	36,000
7,940	5/16	8,000	79,000	41,000	36,000
8,000		8,000	79,000	41,000	36,000
8,100		10,000	89,000	47,000	40,000
8,200		10,000	89,000	47,000	40,000
8,300		10,000	89,000	47,000	40,000
8,330	21/64	10,000	89,000	47,000	40,000
8,400		10,000	89,000	47,000	40,000
8,500		10,000	89,000	47,000	40,000
8,600		10,000	89,000	47,000	40,000
8,700		10,000	89,000	47,000	40,000
8,730	11/32	10,000	89,000	47,000	40,000
8,800		10,000	89,000	47,000	40,000
8,900		10,000	89,000	47,000	40,000
9,000		10,000	89,000	47,000	40,000
9,100		10,000	89,000	47,000	40,000
9,130	23/64	10,000	89,000	47,000	40,000
9,200		10,000	89,000	47,000	40,000
9,250		10,000	89,000	47,000	40,000
9,300		10,000	89,000	47,000	40,000
9,400		10,000	89,000	47,000	40,000
9,500		10,000	89,000	47,000	40,000
9,520	3/8	10,000	89,000	47,000	40,000
9,600		10,000	89,000	47,000	40,000
9,700		10,000	89,000	47,000	40,000
9,800		10,000	89,000	47,000	40,000
9,900		10,000	89,000	47,000	40,000
9,920	25/64	10,000	89,000	47,000	40,000
10,000		10,000	89,000	47,000	40,000
10,100		12,000	102,000	55,000	45,000
10,200		12,000	102,000	55,000	45,000
10,300		12,000	102,000	55,000	45,000

d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm	d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
10,320	13/32	12,000	102,000	55,000	45,000	14,290	9/16	16,000	115,000	65,000	48,000
10,400		12,000	102,000	55,000	45,000	14,300		16,000	115,000	65,000	48,000
10,500		12,000	102,000	55,000	45,000	14,500		16,000	115,000	65,000	48,000
10,600		12,000	102,000	55,000	45,000	14,700		16,000	115,000	65,000	48,000
10,700		12,000	102,000	55,000	45,000	15,000		16,000	115,000	65,000	48,000
10,800	7/16	12,000	102,000	55,000	45,000	15,200	3/4	16,000	115,000	65,000	48,000
10,900		12,000	102,000	55,000	45,000	15,300		16,000	115,000	65,000	48,000
11,000		12,000	102,000	55,000	45,000	15,500		16,000	115,000	65,000	48,000
11,100		12,000	102,000	55,000	45,000	15,700		16,000	115,000	65,000	48,000
11,110		12,000	102,000	55,000	45,000	16,000		16,000	115,000	65,000	48,000
11,200	15/32	12,000	102,000	55,000	45,000	16,300	1/2	18,000	123,000	73,000	48,000
11,300		12,000	102,000	55,000	45,000	16,500		18,000	123,000	73,000	48,000
11,400		12,000	102,000	55,000	45,000	16,900		18,000	123,000	73,000	48,000
11,500		12,000	102,000	55,000	45,000	17,000		18,000	123,000	73,000	48,000
11,600		12,000	102,000	55,000	45,000	17,300		18,000	123,000	73,000	48,000
11,700	1/2	12,000	102,000	55,000	45,000	17,500		18,000	123,000	73,000	48,000
11,800		12,000	102,000	55,000	45,000	18,000		18,000	123,000	73,000	48,000
11,900		12,000	102,000	55,000	45,000	18,500		20,000	131,000	79,000	50,000
11,910		12,000	102,000	55,000	45,000	18,900		20,000	131,000	79,000	50,000
12,000		12,000	102,000	55,000	45,000	19,000		20,000	131,000	79,000	50,000
12,200	1/2	14,000	107,000	60,000	45,000	19,050		20,000	131,000	79,000	50,000
12,500		14,000	107,000	60,000	45,000	19,300		20,000	131,000	79,000	50,000
12,700		14,000	107,000	60,000	45,000	19,500		20,000	131,000	79,000	50,000
12,800		14,000	107,000	60,000	45,000	20,000		20,000	131,000	79,000	50,000
13,000		14,000	107,000	60,000	45,000						
13,300	1/2	14,000	107,000	60,000	45,000						
13,500		14,000	107,000	60,000	45,000						
13,700		14,000	107,000	60,000	45,000						
14,000		14,000	107,000	60,000	45,000						
14,200		16,000	115,000	65,000	48,000						

SuperV-Bohrer

SuperV-Bohrer mit Innenkühlung



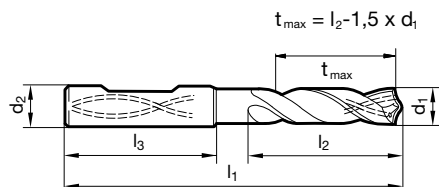
Katalog-Nr. 51753



P	M	K	N	S	H
●				●	○

Arbeitsrichtwerte
Seite 93

- Ausspitzung $\geq \varnothing 3,000$
- Kegelmantelschliff
- Hauptschneidenform konkav
- sehr harte Beschichtung
- vier Führungsfasen



d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
3,000		6,000	62,000	20,000	36,000
3,100		6,000	62,000	20,000	36,000
3,170	1/8	6,000	62,000	20,000	36,000
3,200		6,000	62,000	20,000	36,000
3,250		6,000	62,000	20,000	36,000
3,300		6,000	62,000	20,000	36,000
3,400		6,000	62,000	20,000	36,000
3,500		6,000	62,000	20,000	36,000
3,570	9/64	6,000	62,000	20,000	36,000
3,600		6,000	62,000	20,000	36,000
3,700		6,000	62,000	20,000	36,000
3,800		6,000	66,000	24,000	36,000
3,900		6,000	66,000	24,000	36,000
3,970	5/32	6,000	66,000	24,000	36,000
4,000		6,000	66,000	24,000	36,000
4,100		6,000	66,000	24,000	36,000
4,200		6,000	66,000	24,000	36,000
4,300		6,000	66,000	24,000	36,000
4,370	11/64	6,000	66,000	24,000	36,000
4,400		6,000	66,000	24,000	36,000
4,500		6,000	66,000	24,000	36,000
4,600		6,000	66,000	24,000	36,000
4,650		6,000	66,000	24,000	36,000
4,700		6,000	66,000	24,000	36,000
4,760	3/16	6,000	66,000	28,000	36,000
4,800		6,000	66,000	28,000	36,000
4,900		6,000	66,000	28,000	36,000
5,000		6,000	66,000	28,000	36,000
5,100		6,000	66,000	28,000	36,000
5,160	13/64	6,000	66,000	28,000	36,000
5,200		6,000	66,000	28,000	36,000
5,300		6,000	66,000	28,000	36,000
5,400		6,000	66,000	28,000	36,000
5,500		6,000	66,000	28,000	36,000
5,550		6,000	66,000	28,000	36,000
5,560	7/32	6,000	66,000	28,000	36,000
5,600		6,000	66,000	28,000	36,000
5,700		6,000	66,000	28,000	36,000
5,800		6,000	66,000	28,000	36,000
5,900		6,000	66,000	28,000	36,000
5,950	15/64	6,000	66,000	28,000	36,000
6,000		6,000	66,000	28,000	36,000
6,100		8,000	79,000	34,000	36,000
6,200		8,000	79,000	34,000	36,000
6,300		8,000	79,000	34,000	36,000
6,350	1/4	8,000	79,000	34,000	36,000
6,400		8,000	79,000	34,000	36,000
6,500		8,000	79,000	34,000	36,000

d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
6,600		8,000	79,000	34,000	36,000
6,700		8,000	79,000	34,000	36,000
6,750	17/64	8,000	79,000	34,000	36,000
6,800		8,000	79,000	34,000	36,000
6,900		8,000	79,000	34,000	36,000
7,000		8,000	79,000	34,000	36,000
7,100		8,000	79,000	41,000	36,000
7,140	9/32	8,000	79,000	41,000	36,000
7,200		8,000	79,000	41,000	36,000
7,300		8,000	79,000	41,000	36,000
7,400		8,000	79,000	41,000	36,000
7,500		8,000	79,000	41,000	36,000
7,540	19/64	8,000	79,000	41,000	36,000
7,600		8,000	79,000	41,000	36,000
7,700		8,000	79,000	41,000	36,000
7,800		8,000	79,000	41,000	36,000
7,900		8,000	79,000	41,000	36,000
7,940	5/16	8,000	79,000	41,000	36,000
8,000		8,000	79,000	41,000	36,000
8,100		10,000	89,000	47,000	40,000
8,200		10,000	89,000	47,000	40,000
8,300		10,000	89,000	47,000	40,000
8,330	21/64	10,000	89,000	47,000	40,000
8,400		10,000	89,000	47,000	40,000
8,500		10,000	89,000	47,000	40,000
8,600		10,000	89,000	47,000	40,000
8,700		10,000	89,000	47,000	40,000
8,730	11/32	10,000	89,000	47,000	40,000
8,800		10,000	89,000	47,000	40,000
8,900		10,000	89,000	47,000	40,000
9,000		10,000	89,000	47,000	40,000
9,100		10,000	89,000	47,000	40,000
9,130	23/64	10,000	89,000	47,000	40,000
9,200		10,000	89,000	47,000	40,000
9,250		10,000	89,000	47,000	40,000
9,300		10,000	89,000	47,000	40,000
9,400		10,000	89,000	47,000	40,000
9,500		10,000	89,000	47,000	40,000
9,520	3/8	10,000	89,000	47,000	40,000
9,600		10,000	89,000	47,000	40,000
9,700		10,000	89,000	47,000	40,000
9,800		10,000	89,000	47,000	40,000
9,900		10,000	89,000	47,000	40,000
9,920	25/64	10,000	89,000	47,000	40,000
10,000		10,000	89,000	47,000	40,000
10,100		12,000	102,000	55,000	45,000
10,200		12,000	102,000	55,000	45,000
10,300		12,000	102,000	55,000	45,000

d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm	d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
10,320	13/32	12,000	102,000	55,000	45,000	14,290	9/16	16,000	115,000	65,000	48,000
10,400		12,000	102,000	55,000	45,000	14,300		16,000	115,000	65,000	48,000
10,500		12,000	102,000	55,000	45,000	14,500		16,000	115,000	65,000	48,000
10,600		12,000	102,000	55,000	45,000	14,700		16,000	115,000	65,000	48,000
10,700		12,000	102,000	55,000	45,000	15,000		16,000	115,000	65,000	48,000
10,800	7/16	12,000	102,000	55,000	45,000	15,200	3/4	16,000	115,000	65,000	48,000
10,900		12,000	102,000	55,000	45,000	15,300		16,000	115,000	65,000	48,000
11,000		12,000	102,000	55,000	45,000	15,500		16,000	115,000	65,000	48,000
11,100		12,000	102,000	55,000	45,000	15,700		16,000	115,000	65,000	48,000
11,110		12,000	102,000	55,000	45,000	16,000		16,000	115,000	65,000	48,000
11,200	15/32	12,000	102,000	55,000	45,000	16,300	1/2	18,000	123,000	73,000	48,000
11,300		12,000	102,000	55,000	45,000	16,500		18,000	123,000	73,000	48,000
11,400		12,000	102,000	55,000	45,000	16,900		18,000	123,000	73,000	48,000
11,500		12,000	102,000	55,000	45,000	17,000		18,000	123,000	73,000	48,000
11,600		12,000	102,000	55,000	45,000	17,300		18,000	123,000	73,000	48,000
11,700	1/2	12,000	102,000	55,000	45,000	17,500		18,000	123,000	73,000	48,000
11,800		12,000	102,000	55,000	45,000	18,000		18,000	123,000	73,000	48,000
11,900		12,000	102,000	55,000	45,000	18,500		20,000	131,000	79,000	50,000
11,910		12,000	102,000	55,000	45,000	18,900		20,000	131,000	79,000	50,000
12,000		12,000	102,000	55,000	45,000	19,000		20,000	131,000	79,000	50,000
12,200	1/2	14,000	107,000	60,000	45,000	19,050		20,000	131,000	79,000	50,000
12,500		14,000	107,000	60,000	45,000	19,300		20,000	131,000	79,000	50,000
12,700		14,000	107,000	60,000	45,000	19,500		20,000	131,000	79,000	50,000
12,800		14,000	107,000	60,000	45,000	20,000		20,000	131,000	79,000	50,000
13,000		14,000	107,000	60,000	45,000						
13,300	1/2	14,000	107,000	60,000	45,000						
13,500		14,000	107,000	60,000	45,000						
13,700		14,000	107,000	60,000	45,000						
14,000		14,000	107,000	60,000	45,000						
14,200		16,000	115,000	65,000	48,000						

SuperV-Bohrer

SuperV-Bohrer mit Innenkühlung



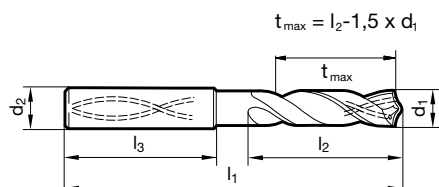
Katalog-Nr. 51754



P	M	K	N	S	H
●				●	○

Arbeitsrichtwerte
Seite 95

- Ausspitzung $\geq \varnothing 3,000$
- Kegelmantelanschliff
- Hauptschneidenform konkav
- sehr harte Beschichtung
- vier Führungsfasen



d1 mm	inch	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	1/8	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	9/64	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	5/32	6,000	74,000	36,000	36,000
4,000		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	11/64	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	3/16	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
5,160	13/64	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
5,500		6,000	82,000	44,000	36,000
5,550		6,000	82,000	44,000	36,000
5,560	7/32	6,000	82,000	44,000	36,000
5,600		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	15/64	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
6,300		8,000	91,000	53,000	36,000
6,350	1/4	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

d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
6,600		8,000	91,000	53,000	36,000
6,700		8,000	91,000	53,000	36,000
6,750	17/64	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	9/32	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	19/64	8,000	91,000	53,000	36,000
7,600		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	5/16	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	21/64	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	11/32	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	23/64	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
9,400		10,000	103,000	61,000	40,000
9,500		10,000	103,000	61,000	40,000
9,520	3/8	10,000	103,000	61,000	40,000
9,600		10,000	103,000	61,000	40,000
9,700		10,000	103,000	61,000	40,000
9,800		10,000	103,000	61,000	40,000
9,900		10,000	103,000	61,000	40,000
9,920	25/64	10,000	103,000	61,000	40,000
10,000		10,000	103,000	61,000	40,000
10,100		12,000	118,000	71,000	45,000
10,200		12,000	118,000	71,000	45,000
10,300		12,000	118,000	71,000	45,000

d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm	d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
10,320	13/32	12,000	118,000	71,000	45,000	14,290	9/16	16,000	133,000	83,000	48,000
10,400		12,000	118,000	71,000	45,000	14,300		16,000	133,000	83,000	48,000
10,500		12,000	118,000	71,000	45,000	14,500		16,000	133,000	83,000	48,000
10,600		12,000	118,000	71,000	45,000	14,700		16,000	133,000	83,000	48,000
10,700		12,000	118,000	71,000	45,000	15,000		16,000	133,000	83,000	48,000
10,800	7/16	12,000	118,000	71,000	45,000	15,200	3/4	16,000	133,000	83,000	48,000
10,900		12,000	118,000	71,000	45,000	15,300		16,000	133,000	83,000	48,000
11,000		12,000	118,000	71,000	45,000	15,500		16,000	133,000	83,000	48,000
11,100		12,000	118,000	71,000	45,000	15,700		16,000	133,000	83,000	48,000
11,110		12,000	118,000	71,000	45,000	16,000		16,000	133,000	83,000	48,000
11,200	15/32	12,000	118,000	71,000	45,000	16,300	1/2	18,000	143,000	93,000	48,000
11,300		12,000	118,000	71,000	45,000	16,500		18,000	143,000	93,000	48,000
11,400		12,000	118,000	71,000	45,000	16,900		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	17,300		18,000	143,000	93,000	48,000
11,700	1/2	12,000	118,000	71,000	45,000	17,500		18,000	143,000	93,000	48,000
11,800		12,000	118,000	71,000	45,000	18,000		18,000	143,000	93,000	48,000
11,900		12,000	118,000	71,000	45,000	18,500		20,000	153,000	101,000	50,000
11,910		12,000	118,000	71,000	45,000	18,900		20,000	153,000	101,000	50,000
12,000		12,000	118,000	71,000	45,000	19,000		20,000	153,000	101,000	50,000
12,200	1/2	14,000	124,000	77,000	45,000	19,050		20,000	153,000	101,000	50,000
12,500		14,000	124,000	77,000	45,000	19,300		20,000	153,000	101,000	50,000
12,700		14,000	124,000	77,000	45,000	19,500		20,000	153,000	101,000	50,000
12,800		14,000	124,000	77,000	45,000	20,000		20,000	153,000	101,000	50,000
13,000		14,000	124,000	77,000	45,000						
13,300	1/2	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						
14,000		14,000	124,000	77,000	45,000						
14,200		16,000	133,000	83,000	48,000						

SuperV-Bohrer

SuperV-Bohrer mit Innenkühlung



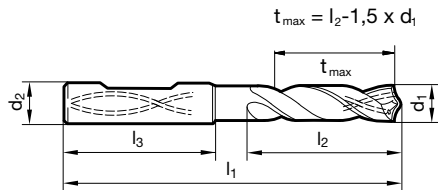
Katalog-Nr. 51755



P	M	K	N	S	H
●				●	○

Arbeitsrichtwerte
Seite 95

- Ausspitzung $\geq \varnothing 3,000$
- Kegelmantelanschliff
- Hauptschneidenform konkav
- sehr harte Beschichtung
- vier Führungsfasen



d1 mm	inch	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	1/8	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	9/64	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	5/32	6,000	74,000	36,000	36,000
4,000		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	11/64	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	3/16	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
5,160	13/64	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
5,500		6,000	82,000	44,000	36,000
5,550		6,000	82,000	44,000	36,000
5,560	7/32	6,000	82,000	44,000	36,000
5,600		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	15/64	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
6,300		8,000	91,000	53,000	36,000
6,350	1/4	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

d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
6,600		8,000	91,000	53,000	36,000
6,700		8,000	91,000	53,000	36,000
6,750	17/64	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	9/32	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	19/64	8,000	91,000	53,000	36,000
7,600		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	5/16	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	21/64	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	11/32	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	23/64	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
9,400		10,000	103,000	61,000	40,000
9,500		10,000	103,000	61,000	40,000
9,520	3/8	10,000	103,000	61,000	40,000
9,600		10,000	103,000	61,000	40,000
9,700		10,000	103,000	61,000	40,000
9,800		10,000	103,000	61,000	40,000
9,900		10,000	103,000	61,000	40,000
9,920	25/64	10,000	103,000	61,000	40,000
10,000		10,000	103,000	61,000	40,000
10,100		12,000	118,000	71,000	45,000
10,200		12,000	118,000	71,000	45,000
10,300		12,000	118,000	71,000	45,000

d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm	d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
10,320	13/32	12,000	118,000	71,000	45,000	14,290	9/16	16,000	133,000	83,000	48,000
10,400		12,000	118,000	71,000	45,000	14,300		16,000	133,000	83,000	48,000
10,500		12,000	118,000	71,000	45,000	14,500		16,000	133,000	83,000	48,000
10,600		12,000	118,000	71,000	45,000	14,700		16,000	133,000	83,000	48,000
10,700		12,000	118,000	71,000	45,000	15,000		16,000	133,000	83,000	48,000
10,800	7/16	12,000	118,000	71,000	45,000	15,200	3/4	16,000	133,000	83,000	48,000
10,900		12,000	118,000	71,000	45,000	15,300		16,000	133,000	83,000	48,000
11,000		12,000	118,000	71,000	45,000	15,500		16,000	133,000	83,000	48,000
11,100		12,000	118,000	71,000	45,000	15,700		16,000	133,000	83,000	48,000
11,110		12,000	118,000	71,000	45,000	16,000		16,000	133,000	83,000	48,000
11,200	15/32	12,000	118,000	71,000	45,000	16,300	1/2	18,000	143,000	93,000	48,000
11,300		12,000	118,000	71,000	45,000	16,500		18,000	143,000	93,000	48,000
11,400		12,000	118,000	71,000	45,000	16,900		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	17,300		18,000	143,000	93,000	48,000
11,700	1/2	12,000	118,000	71,000	45,000	17,500		18,000	143,000	93,000	48,000
11,800		12,000	118,000	71,000	45,000	18,000		18,000	143,000	93,000	48,000
11,900		12,000	118,000	71,000	45,000	18,500		20,000	153,000	101,000	50,000
11,910		12,000	118,000	71,000	45,000	18,900		20,000	153,000	101,000	50,000
12,000		12,000	118,000	71,000	45,000	19,000		20,000	153,000	101,000	50,000
12,200	1/2	14,000	124,000	77,000	45,000	19,050		20,000	153,000	101,000	50,000
12,500		14,000	124,000	77,000	45,000	19,300		20,000	153,000	101,000	50,000
12,700		14,000	124,000	77,000	45,000	19,500		20,000	153,000	101,000	50,000
12,800		14,000	124,000	77,000	45,000	20,000		20,000	153,000	101,000	50,000
13,000		14,000	124,000	77,000	45,000						
13,300	1/2	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						
14,000		14,000	124,000	77,000	45,000						
14,200		16,000	133,000	83,000	48,000						

SuperV-Bohrer

SuperV-Bohrer mit Innenkühlung



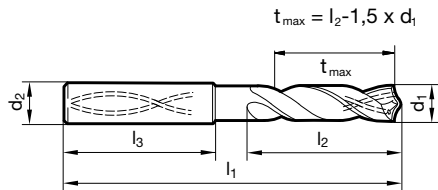
Katalog-Nr. 51756



P	M	K	N	S	H
●				●	○

Arbeitsrichtwerte
Seite 97

- Ausspitzung $\geq \varnothing 3,000$
- Kegelmantelschliff
- Hauptschneidenform konkav
- sehr harte Beschichtung
- vier Führungsfasen



d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
3,000		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
3,700		6,000	75,000	35,500	36,000
4,000		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
4,500		6,000	85,000	45,000	36,000
4,650		6,000	85,000	45,000	36,000
5,000		6,000	90,000	50,000	36,000
5,100		6,000	90,000	50,000	36,000
5,200		6,000	90,000	50,000	36,000
5,500		6,000	97,000	57,000	36,000
5,550		6,000	97,000	57,000	36,000
6,000		6,000	97,000	57,000	36,000
6,500		8,000	106,000	66,000	36,000
6,750	17/64	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
7,400		8,000	116,000	76,000	36,000
7,500		8,000	116,000	76,000	36,000
7,800		8,000	116,000	76,000	36,000
8,000		8,000	116,000	76,000	36,000
8,500		10,000	131,000	87,000	40,000
8,600		10,000	131,000	87,000	40,000
8,800		10,000	131,000	87,000	40,000
9,000		10,000	131,000	87,000	40,000

d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
9,250		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
10,000		10,000	139,000	95,000	40,000
10,200		12,000	155,000	106,000	45,000
10,400		12,000	155,000	106,000	45,000
10,500		12,000	155,000	106,000	45,000
10,800		12,000	155,000	106,000	45,000
11,000		12,000	155,000	106,000	45,000
11,300		12,000	163,000	114,000	45,000
11,400		12,000	163,000	114,000	45,000
11,500		12,000	163,000	114,000	45,000
12,000		12,000	163,000	114,000	45,000
12,500		14,000	182,000	133,000	45,000
13,000		14,000	182,000	133,000	45,000
13,100	33/64	14,000	182,000	133,000	45,000
13,500		14,000	182,000	133,000	45,000
14,000		14,000	182,000	133,000	45,000
14,500		16,000	204,000	152,000	48,000
15,000		16,000	204,000	152,000	48,000
15,100		16,000	204,000	152,000	48,000
15,500		16,000	204,000	152,000	48,000
16,000		16,000	204,000	152,000	48,000

Die Speziellen

SuperV-Bohrer

SuperV-Bohrer mit Innenkühlung



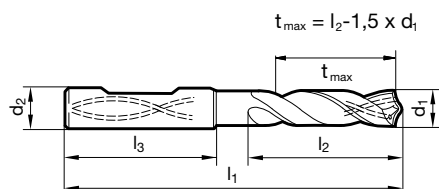
Katalog-Nr. 61880



P	M	K	N	S	H
○	●	○	○	●	○

Arbeitsrichtwerte
Seite 93

- Ausspitzung $\geq \varnothing 4,000$
- Kegelmantelanschiff
- Hauptschneidenform konkav
- optimierte Schneidengeometrie
- scharfes Schnittverhalten



d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
4,000		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
4,500		6,000	74,000	36,000	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
5,200		6,000	82,000	44,000	36,000
5,400		6,000	82,000	44,000	36,000
5,500		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
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
6,500		8,000	91,000	53,000	36,000
6,600		8,000	91,000	53,000	36,000
6,750	17/64	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
7,140	9/32	8,000	91,000	53,000	36,000
7,200		8,000	91,000	53,000	36,000
7,500		8,000	91,000	53,000	36,000
7,600		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
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
8,500		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
8,800		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
9,300		10,000	103,000	61,000	40,000
9,500		10,000	103,000	61,000	40,000
9,700		10,000	103,000	61,000	40,000
10,000		10,000	103,000	61,000	40,000
10,200		12,000	118,000	71,000	45,000
10,500		12,000	118,000	71,000	45,000
10,800		12,000	118,000	71,000	45,000

d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
11,000		12,000	118,000	71,000	45,000
11,400		12,000	118,000	71,000	45,000
11,500		12,000	118,000	71,000	45,000
11,600		12,000	118,000	71,000	45,000
11,700		12,000	118,000	71,000	45,000
11,800		12,000	118,000	71,000	45,000
12,000		12,000	118,000	71,000	45,000
12,100		14,000	124,000	77,000	45,000
12,200		14,000	124,000	77,000	45,000
12,500		14,000	124,000	77,000	45,000
12,800		14,000	124,000	77,000	45,000
12,900		14,000	124,000	77,000	45,000
13,000		14,000	124,000	77,000	45,000
13,200		14,000	124,000	77,000	45,000
13,500		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
14,100		16,000	133,000	83,000	48,000
14,200		16,000	133,000	83,000	48,000
14,500		16,000	133,000	83,000	48,000
15,000		16,000	133,000	83,000	48,000
15,500		16,000	133,000	83,000	48,000
15,800		16,000	133,000	83,000	48,000
16,000		16,000	133,000	83,000	48,000
16,500		18,000	143,000	93,000	48,000
17,000		18,000	143,000	93,000	48,000
17,500		18,000	143,000	93,000	48,000
18,000		18,000	143,000	93,000	48,000
18,500		20,000	153,000	101,000	50,000
19,000		20,000	153,000	101,000	50,000
20,000		20,000	153,000	101,000	50,000
21,000		25,000	165,000	105,000	56,000
22,000		25,000	165,000	105,000	56,000
23,500		25,000	180,000	117,000	56,000
24,000		25,000	180,000	117,000	56,000
24,500		25,000	180,000	117,000	56,000
25,000	63/64	25,000	180,000	117,000	56,000



SuperV70-NX

- weite offene Nuten
- 40° Spiralwinkel für geringere Schnittkräfte und besseren Spantransport
- TiSiN Beschichtung speziell für langspanende Materialien und hohe Standzeiten

SuperV-Bohrer

SuperV-Bohrer mit Innenkühlung



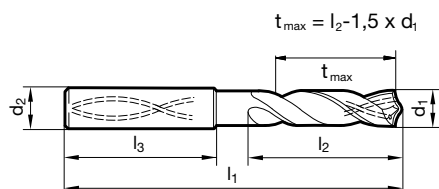
Katalog-Nr. 51770



P	M	K	N	S	H
	●			○	

Arbeitsrichtwerte
Seite 93

- Ausspitzung $\geq \varnothing 3,000$
- Flächenanschliff
- Hauptschneidenform gerade
- optimierte Schneidengeometrie
- besonders geeignet für rostfreie Stähle



d1 mm	d2 mm	l1 mm	l2 mm	l3 mm
3,000	6,000	62,000	20,000	36,000
3,100	6,000	62,000	20,000	36,000
3,170	6,000	62,000	20,000	36,000
3,200	6,000	62,000	20,000	36,000
3,250	6,000	62,000	20,000	36,000
3,300	6,000	62,000	20,000	36,000
3,400	6,000	62,000	20,000	36,000
3,500	6,000	62,000	20,000	36,000
3,570	6,000	62,000	20,000	36,000
3,600	6,000	62,000	20,000	36,000
3,700	6,000	62,000	20,000	36,000
3,800	6,000	66,000	24,000	36,000
3,900	6,000	66,000	24,000	36,000
3,970	6,000	66,000	24,000	36,000
4,000	6,000	66,000	24,000	36,000
4,100	6,000	66,000	24,000	36,000
4,200	6,000	66,000	24,000	36,000
4,300	6,000	66,000	24,000	36,000
4,370	6,000	66,000	24,000	36,000
4,400	6,000	66,000	24,000	36,000
4,500	6,000	66,000	24,000	36,000
4,600	6,000	66,000	24,000	36,000
4,650	6,000	66,000	24,000	36,000
4,700	6,000	66,000	24,000	36,000
4,760	6,000	66,000	28,000	36,000
4,800	6,000	66,000	28,000	36,000
4,900	6,000	66,000	28,000	36,000
5,000	6,000	66,000	28,000	36,000
5,100	6,000	66,000	28,000	36,000
5,160	6,000	66,000	28,000	36,000
5,200	6,000	66,000	28,000	36,000
5,300	6,000	66,000	28,000	36,000
5,400	6,000	66,000	28,000	36,000
5,500	6,000	66,000	28,000	36,000
5,550	6,000	66,000	28,000	36,000
5,560	6,000	66,000	28,000	36,000
5,600	6,000	66,000	28,000	36,000
5,700	6,000	66,000	28,000	36,000
5,800	6,000	66,000	28,000	36,000
5,900	6,000	66,000	28,000	36,000
5,950	6,000	66,000	28,000	36,000
6,000	6,000	66,000	28,000	36,000
6,100	8,000	79,000	34,000	36,000
6,200	8,000	79,000	34,000	36,000
6,300	8,000	79,000	34,000	36,000
6,350	8,000	79,000	34,000	36,000
6,400	8,000	79,000	34,000	36,000
6,500	8,000	79,000	34,000	36,000

d1 mm	d2 mm	l1 mm	l2 mm	l3 mm
6,600	8,000	79,000	34,000	36,000
6,700	8,000	79,000	34,000	36,000
6,750	8,000	79,000	34,000	36,000
6,800	8,000	79,000	34,000	36,000
6,900	8,000	79,000	34,000	36,000
7,000	8,000	79,000	34,000	36,000
7,100	8,000	79,000	41,000	36,000
7,140	8,000	79,000	41,000	36,000
7,200	8,000	79,000	41,000	36,000
7,300	8,000	79,000	41,000	36,000
7,400	8,000	79,000	41,000	36,000
7,500	8,000	79,000	41,000	36,000
7,540	8,000	79,000	41,000	36,000
7,600	8,000	79,000	41,000	36,000
7,700	8,000	79,000	41,000	36,000
7,800	8,000	79,000	41,000	36,000
7,900	8,000	79,000	41,000	36,000
7,940	8,000	79,000	41,000	36,000
8,000	8,000	79,000	41,000	36,000
8,100	10,000	89,000	47,000	40,000
8,200	10,000	89,000	47,000	40,000
8,300	10,000	89,000	47,000	40,000
8,330	10,000	89,000	47,000	40,000
8,400	10,000	89,000	47,000	40,000
8,500	10,000	89,000	47,000	40,000
8,600	10,000	89,000	47,000	40,000
8,700	10,000	89,000	47,000	40,000
8,730	10,000	89,000	47,000	40,000
8,800	10,000	89,000	47,000	40,000
8,900	10,000	89,000	47,000	40,000
9,000	10,000	89,000	47,000	40,000
9,100	10,000	89,000	47,000	40,000
9,130	10,000	89,000	47,000	40,000
9,200	10,000	89,000	47,000	40,000
9,250	10,000	89,000	47,000	40,000
9,300	10,000	89,000	47,000	40,000
9,400	10,000	89,000	47,000	40,000
9,500	10,000	89,000	47,000	40,000
9,520	10,000	89,000	47,000	40,000
9,600	10,000	89,000	47,000	40,000
9,700	10,000	89,000	47,000	40,000
9,800	10,000	89,000	47,000	40,000
9,900	10,000	89,000	47,000	40,000
9,920	10,000	89,000	47,000	40,000
10,000	10,000	89,000	47,000	40,000
10,100	12,000	102,000	55,000	45,000
10,200	12,000	102,000	55,000	45,000
10,300	12,000	102,000	55,000	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	102,000	55,000	45,000	13,500	14,000	107,000	60,000	45,000
10,400	12,000	102,000	55,000	45,000	13,700	14,000	107,000	60,000	45,000
10,500	12,000	102,000	55,000	45,000	14,000	14,000	107,000	60,000	45,000
10,600	12,000	102,000	55,000	45,000	14,200	16,000	115,000	65,000	48,000
10,700	12,000	102,000	55,000	45,000	14,290	16,000	115,000	65,000	48,000
10,800	12,000	102,000	55,000	45,000	14,500	16,000	115,000	65,000	48,000
10,900	12,000	102,000	55,000	45,000	14,700	16,000	115,000	65,000	48,000
11,000	12,000	102,000	55,000	45,000	15,000	16,000	115,000	65,000	48,000
11,100	12,000	102,000	55,000	45,000	15,200	16,000	115,000	65,000	48,000
11,110	12,000	102,000	55,000	45,000	15,500	16,000	115,000	65,000	48,000
11,200	12,000	102,000	55,000	45,000	15,700	16,000	115,000	65,000	48,000
11,300	12,000	102,000	55,000	45,000	16,000	16,000	115,000	65,000	48,000
11,400	12,000	102,000	55,000	45,000	16,500	18,000	123,000	73,000	48,000
11,500	12,000	102,000	55,000	45,000	17,000	18,000	123,000	73,000	48,000
11,600	12,000	102,000	55,000	45,000	17,500	18,000	123,000	73,000	48,000
11,700	12,000	102,000	55,000	45,000	18,000	18,000	123,000	73,000	48,000
11,800	12,000	102,000	55,000	45,000	18,500	20,000	131,000	79,000	50,000
11,900	12,000	102,000	55,000	45,000	19,000	20,000	131,000	79,000	50,000
11,910	12,000	102,000	55,000	45,000	19,500	20,000	131,000	79,000	50,000
12,000	12,000	102,000	55,000	45,000	20,000	20,000	131,000	79,000	50,000
12,200	14,000	107,000	60,000	45,000					
12,500	14,000	107,000	60,000	45,000					
12,700	14,000	107,000	60,000	45,000					
13,000	14,000	107,000	60,000	45,000					

SuperV-Bohrer

SuperV-Bohrer mit Innenkühlung



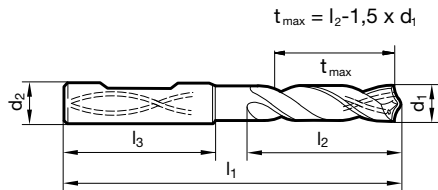
Katalog-Nr. 51771



P	M	K	N	S	H
	●			○	

Arbeitsrichtwerte
Seite 93

- Ausspitzung $\geq \varnothing 3,000$
- Flächenanschliff
- Hauptschneidenform gerade
- optimierte Schneidengeometrie
- besonders geeignet für rostfreie Stähle



d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
3,000		6,000	62,000	20,000	36,000
3,100		6,000	62,000	20,000	36,000
3,170	1/8	6,000	62,000	20,000	36,000
3,200		6,000	62,000	20,000	36,000
3,250		6,000	62,000	20,000	36,000
3,300		6,000	62,000	20,000	36,000
3,400		6,000	62,000	20,000	36,000
3,500		6,000	62,000	20,000	36,000
3,570	9/64	6,000	62,000	20,000	36,000
3,600		6,000	62,000	20,000	36,000
3,700		6,000	62,000	20,000	36,000
3,800		6,000	66,000	24,000	36,000
3,900		6,000	66,000	24,000	36,000
3,970	5/32	6,000	66,000	24,000	36,000
4,000		6,000	66,000	24,000	36,000
4,100		6,000	66,000	24,000	36,000
4,200		6,000	66,000	24,000	36,000
4,300		6,000	66,000	24,000	36,000
4,370	11/64	6,000	66,000	24,000	36,000
4,400		6,000	66,000	24,000	36,000
4,500		6,000	66,000	24,000	36,000
4,600		6,000	66,000	24,000	36,000
4,650		6,000	66,000	24,000	36,000
4,700		6,000	66,000	24,000	36,000
4,760	3/16	6,000	66,000	28,000	36,000
4,800		6,000	66,000	28,000	36,000
4,900		6,000	66,000	28,000	36,000
5,000		6,000	66,000	28,000	36,000
5,100		6,000	66,000	28,000	36,000
5,160	13/64	6,000	66,000	28,000	36,000
5,200		6,000	66,000	28,000	36,000
5,300		6,000	66,000	28,000	36,000
5,400		6,000	66,000	28,000	36,000
5,500		6,000	66,000	28,000	36,000
5,550		6,000	66,000	28,000	36,000
5,560	7/32	6,000	66,000	28,000	36,000
5,600		6,000	66,000	28,000	36,000
5,700		6,000	66,000	28,000	36,000
5,800		6,000	66,000	28,000	36,000
5,900		6,000	66,000	28,000	36,000
5,950	15/64	6,000	66,000	28,000	36,000
6,000		6,000	66,000	28,000	36,000
6,100		8,000	79,000	34,000	36,000
6,200		8,000	79,000	34,000	36,000
6,300		8,000	79,000	34,000	36,000
6,350	1/4	8,000	79,000	34,000	36,000
6,400		8,000	79,000	34,000	36,000
6,500		8,000	79,000	34,000	36,000

d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
6,600		8,000	79,000	34,000	36,000
6,700		8,000	79,000	34,000	36,000
6,750	17/64	8,000	79,000	34,000	36,000
6,800		8,000	79,000	34,000	36,000
6,900		8,000	79,000	34,000	36,000
7,000		8,000	79,000	34,000	36,000
7,100		8,000	79,000	41,000	36,000
7,140	9/32	8,000	79,000	41,000	36,000
7,200		8,000	79,000	41,000	36,000
7,300		8,000	79,000	41,000	36,000
7,400		8,000	79,000	41,000	36,000
7,500		8,000	79,000	41,000	36,000
7,540	19/64	8,000	79,000	41,000	36,000
7,600		8,000	79,000	41,000	36,000
7,700		8,000	79,000	41,000	36,000
7,800		8,000	79,000	41,000	36,000
7,900		8,000	79,000	41,000	36,000
7,940	5/16	8,000	79,000	41,000	36,000
8,000		8,000	79,000	41,000	36,000
8,100		10,000	89,000	47,000	40,000
8,200		10,000	89,000	47,000	40,000
8,300		10,000	89,000	47,000	40,000
8,330	21/64	10,000	89,000	47,000	40,000
8,400		10,000	89,000	47,000	40,000
8,500		10,000	89,000	47,000	40,000
8,600		10,000	89,000	47,000	40,000
8,700		10,000	89,000	47,000	40,000
8,730	11/32	10,000	89,000	47,000	40,000
8,800		10,000	89,000	47,000	40,000
8,900		10,000	89,000	47,000	40,000
9,000		10,000	89,000	47,000	40,000
9,100		10,000	89,000	47,000	40,000
9,130	23/64	10,000	89,000	47,000	40,000
9,200		10,000	89,000	47,000	40,000
9,250		10,000	89,000	47,000	40,000
9,300		10,000	89,000	47,000	40,000
9,400		10,000	89,000	47,000	40,000
9,500		10,000	89,000	47,000	40,000
9,520	3/8	10,000	89,000	47,000	40,000
9,600		10,000	89,000	47,000	40,000
9,700		10,000	89,000	47,000	40,000
9,800		10,000	89,000	47,000	40,000
9,900		10,000	89,000	47,000	40,000
9,920	25/64	10,000	89,000	47,000	40,000
10,000		10,000	89,000	47,000	40,000
10,100		12,000	102,000	55,000	45,000
10,200		12,000	102,000	55,000	45,000
10,300		12,000	102,000	55,000	45,000

d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm	d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm	
10,320	13/32	12,000	102,000	55,000	45,000	13,500		14,000	107,000	60,000	45,000	
10,400		12,000	102,000	55,000	45,000	13,700		14,000	107,000	60,000	45,000	
10,500		12,000	102,000	55,000	45,000	14,000		14,000	107,000	60,000	45,000	
10,600		12,000	102,000	55,000	45,000	14,200		16,000	115,000	65,000	48,000	
10,700		12,000	102,000	55,000	45,000	14,290	9/16	16,000	115,000	65,000	48,000	
10,800		12,000	102,000	55,000	45,000	14,500		16,000	115,000	65,000	48,000	
10,900		12,000	102,000	55,000	45,000	14,700		16,000	115,000	65,000	48,000	
11,000		12,000	102,000	55,000	45,000	15,000		16,000	115,000	65,000	48,000	
11,100	7/16	12,000	102,000	55,000	45,000	15,200		16,000	115,000	65,000	48,000	
11,110		12,000	102,000	55,000	45,000	15,500		16,000	115,000	65,000	48,000	
11,200		12,000	102,000	55,000	45,000	15,700		16,000	115,000	65,000	48,000	
11,300		12,000	102,000	55,000	45,000	16,000		16,000	115,000	65,000	48,000	
11,400		12,000	102,000	55,000	45,000	16,500		18,000	123,000	73,000	48,000	
11,500		12,000	102,000	55,000	45,000	17,000		18,000	123,000	73,000	48,000	
11,600		12,000	102,000	55,000	45,000	17,500		18,000	123,000	73,000	48,000	
11,700		12,000	102,000	55,000	45,000	18,000		18,000	123,000	73,000	48,000	
11,800		12,000	102,000	55,000	45,000	18,500		20,000	131,000	79,000	50,000	
11,900		12,000	102,000	55,000	45,000	19,000		20,000	131,000	79,000	50,000	
11,910		12,000	102,000	55,000	45,000	19,500		20,000	131,000	79,000	50,000	
12,000		12,000	102,000	55,000	45,000	20,000		20,000	131,000	79,000	50,000	
12,200	15/32	14,000	107,000	60,000	45,000							
12,500		14,000	107,000	60,000	45,000							
12,700		14,000	107,000	60,000	45,000							
13,000		14,000	107,000	60,000	45,000							

SuperV-Bohrer

SuperV-Bohrer mit Innenkühlung



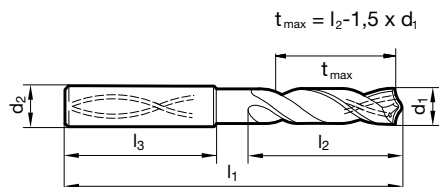
Katalog-Nr. 51772



P	M	K	N	S	H
	●			○	

Arbeitsrichtwerte
Seite 95

- Ausspitzung $\geq \varnothing 3,000$
- Flächenanschliff
- Hauptschneidenform gerade
- optimierte Schneidengeometrie
- besonders geeignet für rostfreie Stähle



d1 mm	inch	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	1/8	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	9/64	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	5/32	6,000	74,000	36,000	36,000
4,000		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	11/64	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	3/16	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
5,160	13/64	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
5,500		6,000	82,000	44,000	36,000
5,550		6,000	82,000	44,000	36,000
5,560	7/32	6,000	82,000	44,000	36,000
5,600		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	15/64	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
6,300		8,000	91,000	53,000	36,000
6,350	1/4	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

d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
6,600		8,000	91,000	53,000	36,000
6,700		8,000	91,000	53,000	36,000
6,750	17/64	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	9/32	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	19/64	8,000	91,000	53,000	36,000
7,600		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	5/16	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	21/64	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	11/32	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	23/64	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
9,400		10,000	103,000	61,000	40,000
9,500		10,000	103,000	61,000	40,000
9,520	3/8	10,000	103,000	61,000	40,000
9,600		10,000	103,000	61,000	40,000
9,700		10,000	103,000	61,000	40,000
9,800		10,000	103,000	61,000	40,000
9,900		10,000	103,000	61,000	40,000
9,920	25/64	10,000	103,000	61,000	40,000
10,000		10,000	103,000	61,000	40,000
10,100		12,000	118,000	71,000	45,000
10,200		12,000	118,000	71,000	45,000
10,300		12,000	118,000	71,000	45,000

d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm	d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
10,320	13/32	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	9/16	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	7/16	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	15/32	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	1/2	14,000	124,000	77,000	45,000						
13,000		14,000	124,000	77,000	45,000						

SuperV-Bohrer

SuperV-Bohrer mit Innenkühlung



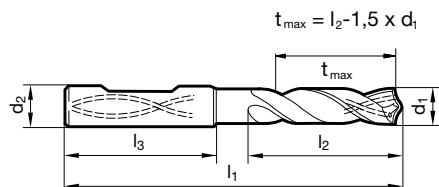
Katalog-Nr. 51773



P	M	K	N	S	H
	●			○	

Arbeitsrichtwerte
Seite 95

- Ausspitzung $\geq \varnothing 3,000$
- Flächenanschliff
- Hauptschneidenform gerade
- optimierte Schneidengeometrie
- besonders geeignet für rostfreie Stähle



d1 mm	inch	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	1/8	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	9/64	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	5/32	6,000	74,000	36,000	36,000
4,000		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	11/64	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	3/16	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
5,160	13/64	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
5,500		6,000	82,000	44,000	36,000
5,550		6,000	82,000	44,000	36,000
5,560	7/32	6,000	82,000	44,000	36,000
5,600		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	15/64	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
6,300		8,000	91,000	53,000	36,000
6,350	1/4	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

d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
6,600		8,000	91,000	53,000	36,000
6,700		8,000	91,000	53,000	36,000
6,750	17/64	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	9/32	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	19/64	8,000	91,000	53,000	36,000
7,600		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	5/16	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	21/64	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	11/32	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	23/64	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
9,400		10,000	103,000	61,000	40,000
9,500		10,000	103,000	61,000	40,000
9,520	3/8	10,000	103,000	61,000	40,000
9,600		10,000	103,000	61,000	40,000
9,700		10,000	103,000	61,000	40,000
9,800		10,000	103,000	61,000	40,000
9,900		10,000	103,000	61,000	40,000
9,920	25/64	10,000	103,000	61,000	40,000
10,000		10,000	103,000	61,000	40,000
10,100		12,000	118,000	71,000	45,000
10,200		12,000	118,000	71,000	45,000
10,300		12,000	118,000	71,000	45,000

d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm	d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm	
10,320	13/32	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	9/16	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	7/16	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	15/32	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, 3-schneidig



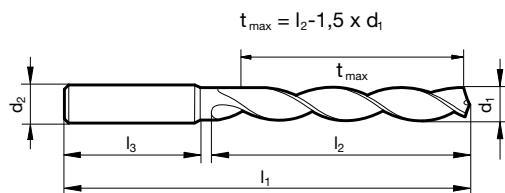
Katalog-Nr. 71862



P	M	K	N	S	H
		•	•		

Arbeitsrichtwerte
Seite 95

- Ausspitzung $\geq \varnothing 3,000$
- Spiropointanschiff
- weite Spannuten
- optimales Zentrieren
- für unterbrochenen Schnitt geeignet



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
3,200	6,000	66,000	28,000	36,000
3,300	6,000	66,000	28,000	36,000
3,500	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
4,000	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
4,500	6,000	74,000	36,000	36,000
4,800	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
5,200	6,000	82,000	44,000	36,000
5,300	6,000	82,000	44,000	36,000
5,500	6,000	82,000	44,000	36,000
5,800	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
6,400	8,000	91,000	53,000	36,000
6,500	8,000	91,000	53,000	36,000
6,700	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
7,400	8,000	91,000	53,000	36,000
7,500	8,000	91,000	53,000	36,000
7,800	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
8,400	10,000	103,000	61,000	40,000
8,500	10,000	103,000	61,000	40,000

d1 mm	d2 mm	l1 mm	l2 mm	l3 mm
8,600	10,000	103,000	61,000	40,000
8,700	10,000	103,000	61,000	40,000
8,800	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
9,500	10,000	103,000	61,000	40,000
9,800	10,000	103,000	61,000	40,000
10,000	10,000	103,000	61,000	40,000
10,100	12,000	118,000	71,000	45,000
10,200	12,000	118,000	71,000	45,000
10,300	12,000	118,000	71,000	45,000
10,500	12,000	118,000	71,000	45,000
11,000	12,000	118,000	71,000	45,000
11,200	12,000	118,000	71,000	45,000
11,500	12,000	118,000	71,000	45,000
11,800	12,000	118,000	71,000	45,000
12,000	12,000	118,000	71,000	45,000
12,100	14,000	124,000	77,000	45,000
12,500	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
14,000	14,000	124,000	77,000	45,000
14,100	16,000	133,000	83,000	48,000
14,500	16,000	133,000	83,000	48,000
15,000	16,000	133,000	83,000	48,000
15,500	16,000	133,000	83,000	48,000
16,000	16,000	133,000	83,000	48,000
16,500	18,000	143,000	93,000	48,000
17,000	18,000	143,000	93,000	48,000
17,500	18,000	143,000	93,000	48,000
18,000	18,000	143,000	93,000	48,000
18,500	20,000	153,000	101,000	50,000
19,000	20,000	153,000	101,000	50,000
19,500	20,000	153,000	101,000	50,000
20,000	20,000	153,000	101,000	50,000

SuperV-Bohrer

SuperV-Bohrer mit Innenkühlung

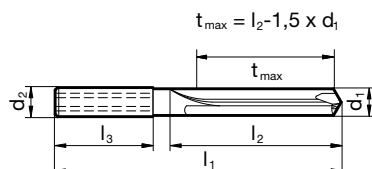


Katalog-Nr. 71995



P	M	K	N	S	H	Arbeitsrichtwerte Seite 93
		●	○			

- Ausspitzung $\geq \varnothing 3,000$
- Kegelmantelanschiff
- enge Durchmessertoleranzen
- sehr gute Bohrungsflächen
- Kühlmitteldruck beachten (s. Diagramm „Kühlmittlempfehlungen“)



d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
3,000		6,000	66,000	24,000	36,000
3,100		6,000	66,000	24,000	36,000
3,200		6,000	66,000	24,000	36,000
3,300		6,000	66,000	24,000	36,000
3,400		6,000	66,000	24,000	36,000
3,500		6,000	66,000	24,000	36,000
3,600		6,000	66,000	24,000	36,000
3,700		6,000	66,000	24,000	36,000
3,800		6,000	74,000	30,000	36,000
3,900		6,000	74,000	30,000	36,000
4,000		6,000	74,000	30,000	36,000
4,100		6,000	74,000	30,000	36,000
4,200		6,000	74,000	30,000	36,000
4,300		6,000	74,000	30,000	36,000
4,400		6,000	74,000	30,000	36,000
4,500		6,000	74,000	30,000	36,000
4,600		6,000	74,000	30,000	36,000
4,700		6,000	74,000	30,000	36,000
4,800		6,000	74,000	36,000	36,000
4,900		6,000	74,000	36,000	36,000
5,000		6,000	74,000	36,000	36,000
5,100		6,000	74,000	36,000	36,000
5,160	13/64	6,000	74,000	36,000	36,000
5,200		6,000	74,000	36,000	36,000
5,300		6,000	74,000	36,000	36,000
5,400		6,000	74,000	36,000	36,000
5,500		6,000	74,000	36,000	36,000
5,560	7/32	6,000	74,000	36,000	36,000
5,600		6,000	74,000	36,000	36,000
5,700		6,000	74,000	36,000	36,000
5,800		6,000	74,000	36,000	36,000
5,900		6,000	74,000	36,000	36,000
5,950	15/64	6,000	74,000	36,000	36,000
6,000		6,000	74,000	36,000	36,000
6,100		8,000	91,000	53,000	36,000
6,200		8,000	91,000	53,000	36,000
6,300		8,000	91,000	53,000	36,000
6,350	1/4	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
6,600		8,000	91,000	53,000	36,000
6,700		8,000	91,000	53,000	36,000
6,750	17/64	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	9/32	8,000	91,000	53,000	36,000

d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
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	19/64	8,000	91,000	53,000	36,000
7,600		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	5/16	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	21/64	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
8,700		10,000	103,000	61,000	40,000
8,730	11/32	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	23/64	10,000	103,000	61,000	40,000
9,200		10,000	103,000	61,000	40,000
9,300		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	3/8	10,000	103,000	61,000	40,000
9,600		10,000	103,000	61,000	40,000
9,700		10,000	103,000	61,000	40,000
9,800		10,000	103,000	61,000	40,000
9,900		10,000	103,000	61,000	40,000
9,920	25/64	10,000	103,000	61,000	40,000
10,000		10,000	103,000	61,000	40,000
10,200		12,000	118,000	71,000	45,000
10,500		12,000	118,000	71,000	45,000
10,720	27/64	12,000	118,000	71,000	45,000
11,000		12,000	118,000	71,000	45,000
11,110	7/16	12,000	118,000	71,000	45,000
11,200		12,000	118,000	71,000	45,000
11,500		12,000	118,000	71,000	45,000
11,510	29/64	12,000	118,000	71,000	45,000
11,910	15/32	12,000	118,000	71,000	45,000
12,000		12,000	118,000	71,000	45,000
12,300	31/64	14,000	124,000	74,000	45,000
12,500		14,000	124,000	74,000	45,000
12,700	1/2	14,000	124,000	74,000	45,000

d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm	d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
13,000		14,000	124,000	74,000	45,000	19,000		20,000	153,000	101,000	50,000
13,500		14,000	124,000	74,000	45,000	19,500		20,000	153,000	101,000	50,000
14,000		14,000	124,000	74,000	45,000	20,000		20,000	153,000	101,000	50,000
14,500		16,000	133,000	83,000	48,000	21,500		25,000	168,000	110,000	56,000
15,000		16,000	133,000	83,000	48,000						
15,500		16,000	133,000	83,000	48,000						
16,000		16,000	133,000	83,000	48,000						
16,500		18,000	143,000	93,000	48,000						
17,000		18,000	143,000	93,000	48,000						
17,500		18,000	143,000	93,000	48,000						
18,000		18,000	143,000	93,000	48,000						
18,500		20,000	153,000	101,000	50,000						

SuperV-Bohrer

SuperV-Bohrer mit Innenkühlung



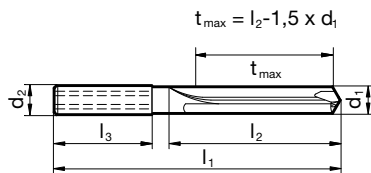
Katalog-Nr. 71994



P	M	K	N	S	H
		●	○		

Arbeitsrichtwerte
Seite 97

- Ausspitzung $\geq \varnothing 3,000$
- Kegelmantelschliff
- enge Durchmessertoleranzen
- sehr gute Bohrungsoberflächen
- Kühlmitteldruck beachten (s. Diagramm „Kühlmittlempfehlungen“)



d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
3,000		6,000	74,000	32,000	36,000
3,100		6,000	74,000	32,000	36,000
3,200		6,000	74,000	32,000	36,000
3,300		6,000	74,000	32,000	36,000
3,500		6,000	74,000	34,000	36,000
3,600		6,000	74,000	34,000	36,000
3,700		6,000	74,000	34,000	36,000
3,800		6,000	97,000	45,000	36,000
3,900		6,000	97,000	45,000	36,000
4,000		6,000	97,000	45,000	36,000
4,100		6,000	97,000	45,000	36,000
4,200		6,000	97,000	45,000	36,000
4,300		6,000	97,000	45,000	36,000
4,400		6,000	97,000	45,000	36,000
4,500		6,000	97,000	45,000	36,000
4,700		6,000	97,000	45,000	36,000
4,800		6,000	97,000	57,000	36,000
4,900		6,000	97,000	57,000	36,000
5,000		6,000	97,000	57,000	36,000
5,500		6,000	97,000	57,000	36,000
6,000		6,000	97,000	57,000	36,000
6,500		8,000	116,000	76,000	36,000
6,800		8,000	116,000	76,000	36,000
7,000		8,000	116,000	76,000	36,000
7,500		8,000	116,000	76,000	36,000
7,800		8,000	116,000	76,000	36,000
8,000		8,000	116,000	76,000	36,000
8,500		10,000	139,000	95,000	40,000
9,000		10,000	139,000	95,000	40,000
9,500		10,000	139,000	95,000	40,000

d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
10,000		10,000	139,000	95,000	40,000
10,200		12,000	163,000	114,000	45,000
10,500		12,000	163,000	114,000	45,000
11,000		12,000	163,000	114,000	45,000
11,500		12,000	163,000	114,000	45,000
12,000		12,000	163,000	114,000	45,000
12,300	31/64	14,000	182,000	133,000	45,000
12,500		14,000	182,000	133,000	45,000
12,700	1/2	14,000	182,000	133,000	45,000
13,000		14,000	182,000	133,000	45,000
13,500		14,000	182,000	133,000	45,000
14,000		14,000	182,000	133,000	45,000
14,500		16,000	204,000	152,000	48,000
15,000		16,000	204,000	152,000	48,000
15,500		16,000	204,000	152,000	48,000
16,000		16,000	204,000	152,000	48,000
16,500		18,000	223,000	171,000	48,000
17,000		18,000	223,000	171,000	48,000
17,500		18,000	223,000	171,000	48,000
18,000		18,000	223,000	171,000	48,000
18,500		20,000	244,000	190,000	50,000
19,000		20,000	244,000	190,000	50,000
19,500		20,000	244,000	190,000	50,000
20,000		20,000	244,000	190,000	50,000

SuperV-Bohrer

SuperV-Bohrer mit Innenkühlung



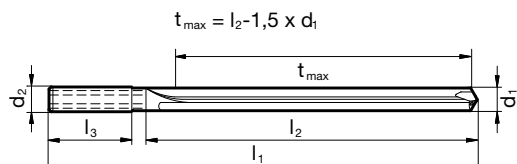
Katalog-Nr. 71996



P	M	K	N	S	H
		●	○		

Arbeitsrichtwerte
Seite 97

- Ausspitzung $\geq \varnothing 3,000$
- Kegelmantelanschliff
- enge Durchmessertoleranzen
- sehr gute Bohrungsoberflächen
- Kühlmitteldruck beachten (s. Diagramm „Kühlmittlempfehlungen“)



d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
3,000		6,000	91,000	42,000	36,000
3,300		6,000	91,000	42,000	36,000
3,500		6,000	91,000	48,000	36,000
3,800		6,000	121,000	77,000	36,000
4,000		6,000	121,000	77,000	36,000
4,200		6,000	121,000	77,000	36,000
4,500		6,000	121,000	77,000	36,000
4,700		6,000	121,000	77,000	36,000
4,800		6,000	121,000	82,000	36,000
5,000		6,000	121,000	82,000	36,000
5,500		6,000	121,000	82,000	36,000
6,000		6,000	121,000	82,000	36,000
6,350	1/4	8,000	146,000	106,000	36,000
6,500		8,000	146,000	106,000	36,000
6,800		8,000	146,000	106,000	36,000
7,000		8,000	146,000	106,000	36,000
7,500		8,000	146,000	106,000	36,000
7,800		8,000	146,000	106,000	36,000
8,000		8,000	146,000	106,000	36,000
8,500		10,000	175,000	130,000	40,000
9,000		10,000	175,000	130,000	40,000
9,500		10,000	175,000	130,000	40,000
10,000		10,000	175,000	130,000	40,000
10,200		12,000	209,000	159,000	45,000

d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
10,500		12,000	209,000	159,000	45,000
11,000		12,000	209,000	159,000	45,000
11,500		12,000	209,000	159,000	45,000
12,000		12,000	209,000	159,000	45,000
12,500		14,000	233,000	183,000	45,000
12,700	1/2	14,000	233,000	183,000	45,000
13,000		14,000	233,000	183,000	45,000
13,500		14,000	233,000	183,000	45,000
14,000		14,000	233,000	183,000	45,000
14,500		16,000	260,000	207,000	48,000
15,000		16,000	260,000	207,000	48,000
15,500		16,000	260,000	207,000	48,000
16,000		16,000	260,000	207,000	48,000
16,500		18,000	284,000	231,000	48,000
17,000		18,000	284,000	231,000	48,000
17,500		18,000	284,000	231,000	48,000
18,000		18,000	284,000	231,000	48,000
18,500		20,000	308,000	255,000	50,000
19,000		20,000	308,000	255,000	50,000
19,500		20,000	308,000	255,000	50,000
20,000		20,000	308,000	255,000	50,000

SuperV-Bohrer

SuperV-Bohrer mit Innenkühlung



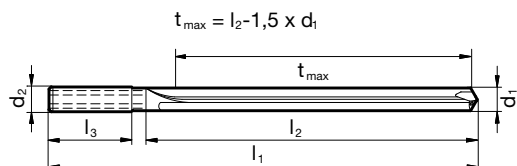
Katalog-Nr. 71997



P	M	K	N	S	H
		●	○		

Arbeitsrichtwerte
Seite 99

- Ausspitzung $\geq \varnothing 5,000$
- Kegelmantelschliff
- negative Steigung
- für sehr maßhaltige Bohrungen
- sehr gute Bohrungsoberflächen
- Kühlmitteldruck beachten (s. Diagramm „Kühlmittlempfehlungen“)

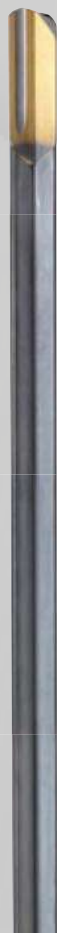


d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
5,000		6,000	145,000	105,000	36,000
6,000		6,000	145,000	105,000	36,000
8,000		8,000	180,000	137,000	36,000
9,000		10,000	217,000	170,000	40,000
10,000		10,000	217,000	170,000	40,000
11,000		12,000	258,000	205,000	45,000

d1 mm	inch	d2 mm	l1 mm	l2 mm	l3 mm
12,000		12,000	258,000	205,000	45,000
14,000		14,000	290,000	236,000	45,000

Weitere Bohrwerkzeuge
finden Sie im Hauptkatalog

SuperV-AP
SuperT





ANWENDUNGSHINWEISE + --- ARBEITSRICHTWERTE

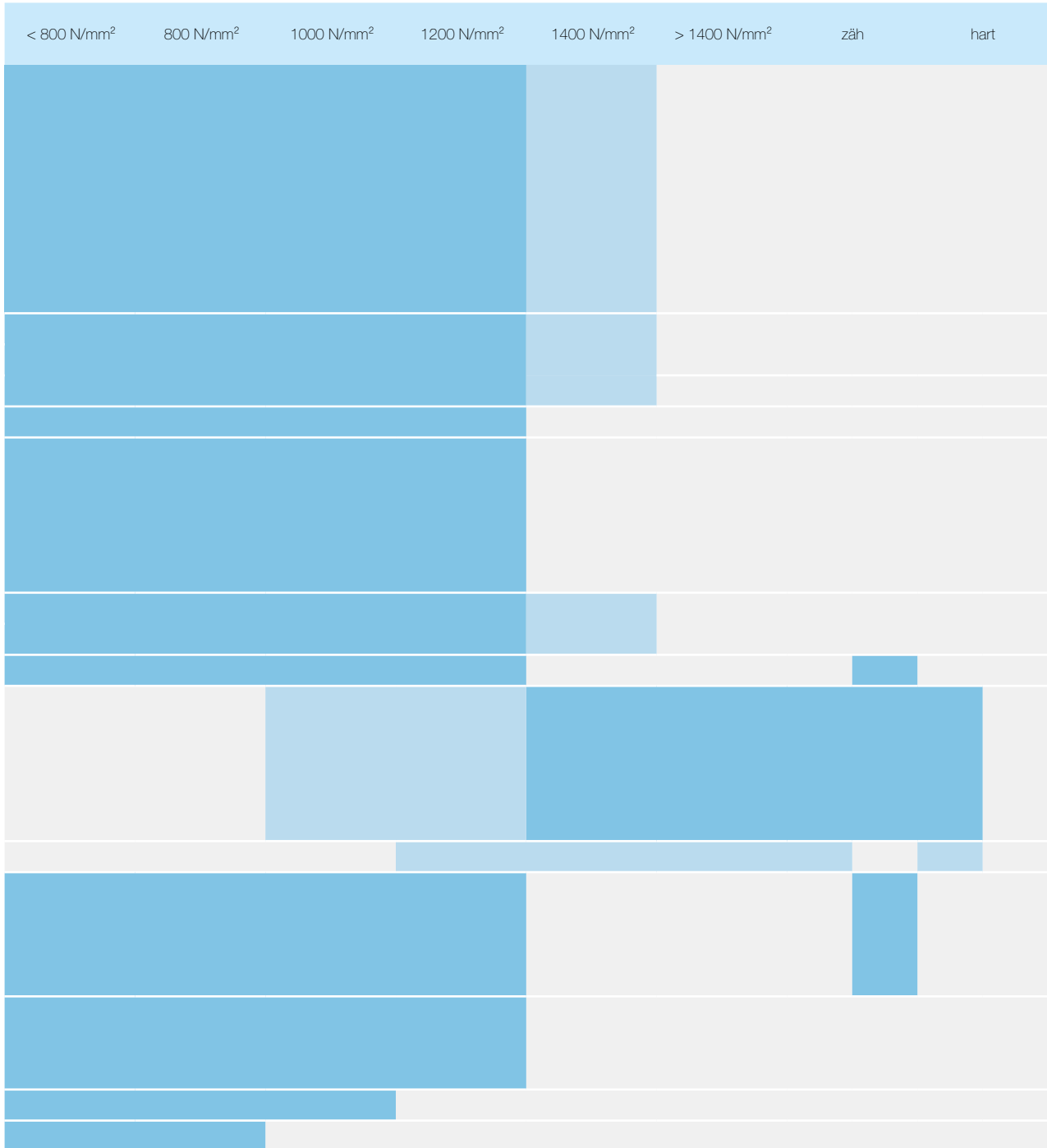
Anwendung

Zuordnung nach Werkstoffen

	Typ	Katalog-Nr.		Nichteisenmetalle, Aluminium	Stähle	GG, GGG	rost- und säurebest. Stähle	Nickel, Ti- Legierungen	Gehärtete Stähle
		ohne IK	mit IK						
Die Universellen	SuperV-U	51873	51776						
		51871	51876						
		51787	51781						
		51887	51881						
		51687	51789						
			51889						
			51893						
			51681						
Die Universellen Kleinen	SuperV-NX	71998	51997						
		71999	51998						
			51999						
Die Universellen Langen	SuperV-M	51720							
	SuperV-T		51764						
			51765						
			51766						
			51767						
			51768						
Die Speziellen	SuperV-UX		51785						
			51790		verbesserte Schnittwerte				
	SuperV70-NX	51783	51784						
	SuperV-S	51750	51752						
			51753						
			51754						
			51755						
			51756						
Die Rostfreien	SuperV-F	61888	61880						
			51770						
			51771						
			51772						
			51773						
Die Leichten	SuperV95-GG		71995						
			71994						
			71996						
	SuperV95-GN		71997						
	SuperV83-GAL	71862							

■ optimal ■ gut geeignet

Zuordnung nach Zugfestigkeit



SuperV-Bohrer

Arbeitsrichtwerte

Vorschubreihen										
Code-Buchstabe	A	B	C	D	E	F	G	H	I	
Werkzeug-Ø mm	0,50	0,004	0,006	0,007	0,008	0,010	0,012	0,014	0,016	0,019
	1,00	0,006	0,008	0,012	0,014	0,016	0,018	0,020	0,023	0,025
	2,00	0,020	0,025	0,032	0,040	0,050	0,063	0,080	0,100	0,125
	2,50	0,025	0,032	0,040	0,050	0,063	0,080	0,100	0,125	0,160
	3,15	0,032	0,040	0,050	0,063	0,080	0,100	0,125	0,160	0,160
	4,00	0,040	0,050	0,063	0,080	0,100	0,125	0,160	0,200	0,200
	5,00	0,040	0,050	0,063	0,080	0,100	0,125	0,160	0,200	0,250
	6,30	0,050	0,063	0,080	0,100	0,125	0,160	0,200	0,250	0,315
	8,00	0,063	0,080	0,100	0,125	0,160	0,200	0,250	0,315	0,315
	10,00	0,080	0,100	0,125	0,160	0,200	0,250	0,315	0,400	0,400
	12,50	0,080	0,100	0,125	0,160	0,200	0,250	0,315	0,400	0,500
	16,00	0,100	0,125	0,160	0,200	0,250	0,315	0,400	0,500	0,630
	20,00	0,125	0,160	0,200	0,250	0,315	0,400	0,500	0,630	0,630
	25,00	0,160	0,200	0,250	0,315	0,400	0,500	0,630	0,800	0,800
	31,50	0,160	0,200	0,250	0,315	0,400	0,500	0,630	0,800	1,000
	40,00	0,200	0,250	0,315	0,400	0,500	0,630	0,800	1,000	1,250

Werkzeuge mit fett gedruckten Vorschubreihen-Codebuchstaben sind für die entsprechende Werkstoffgruppe vorrangig einzusetzen.

K, P, K/P

Die universelle Einsetzbarkeit unserer neuen K-Hartmetalle hat u.a. auch zur Folge, dass wir die HM-Anwendungsgruppen nur noch mit K bzw. K/P definieren.

Bedeutung der Kennbuchstaben bei den Typbezeichnungen:

G für Guss, AlSi-Legierungen

S für hochfeste Werkstoffe

U/F für Universalbearbeitung, Kohlenstoffstähle

VA für rostfreie Werkstoffe

UX für Stahlbearbeitung

* stark verjüngte Werkzeuge einsetzen

Kühlmitteleinsatz:

Schneidöl, hochaktiviert ☒

Bohrölemulsion ☒

ohne Schmiermittel ☐

nur Luftkühlung ☐

Werkstoffgruppe	Werkstoffbeispiele, neue Bezeichnung (in Klammern alte Bezeichnung) Fettgedruckte Zahlen = Werkstoff-Nr. nach DIN EN	Zugfestigkeit MPa (N/mm ²)	Härte	Kühl- mittel
Allgemeine Baustähle	1.0035 S185(St33), 1.0486 P275N(StE285), 1.0345 P235GH(H1), 1.0425 P265GH(H2) 1.0050 E295 (St50-2), 1.0070 E360 (St70-2), 1.8937 P500NH (WStE500)	≤500 >500-850		☒
Automatenstähle	1.0718 11SMnPb30 (9SMnPb28), 1.0736 11SMn37 (9SMn36) 1.0727 46S20 (45S20), 1.0728 (60S20), 1.0757 46SPb20 (45SPb20)	≤850 850-1000		☒
Unlegierte Vergütungsstähle	1.0402 C22, 1.1178 C30E (Ck30) 1.0503 C45, 1.1191 C45E (Ck45) 1.0601 C60, 1.1221 C60E (Ck60)	≤ 700 700-850 850-1000		☒
Legierte Vergütungsstähle	1.5131 50MnSi4, 1.7003 38Cr2, 1.7030 28Cr4 1.5710 36NiCr6, 1.7035 41Cr4, 1.7225 42CrMo4	850-≤1000 1000-1200		☒
Unlegierte Einsatzstähle	1.0301 (C10), 1.1121 C10E (Ck10)	≤750		☒
Legierte Einsatzstähle	1.7043 38Cr4 1.5752 15NiCr13 (15NiCr13), 1.7131 16MnCr5, 1.7264 20CrMo5	850-≤1000 1000-1200		☒
Nitrierstähle	1.8504 34CrAl6 1.8519 31CrMoV9, 1.8550 34CrAlNi7	≥850-≤1000 >1000-1200		☒
Werkzeugstähle	1.1750 C75W, 1.2067 102Cr6, 1.2307 29CrMoV9 1.2080 X210Cr12, 1.2083 X42Cr13, 1.2419 105WCr6, 1.2767 X45NiCrMo4	≤850 >850-1000		☒
Schnellarbeitsstähle	1.3243 S 6-5-2-5, 1.3343 S 6-5-2, 1.3344 S 6-5-3	≥650-1000		☒
Federstähle	1.5026 55Si7, 1.7176 55Cr3, 1.8159 51CrV4 (51CrV4)		≤330 HB	☒
Gehärtete Stähle	-		≤40-48 HRC >48-60 HRC	☒
Rostfreie Stähle, geschwefelt	1.4005 X12CrS13, 1.4104 X14CrMoS17, 1.4105 X6CrMoS17, 1.4305 X8CrNiS18-9	≤850		☒
austenitisch	1.4301 X5CrNi18-10 (V2A), 1.4541 X6CrNiTi18-10, 1.4571 X6CrNiMoTi 17-12-2 (V4A)	≤850		☒
martensitisch	1.4057 X20CrNi 17 2 (X17CrNi16-2), 1.4122 X39CrMo17-1, 1.4521 X2CrMoTi18-2	≤850		☒
Gusseisen	0.6010 EN-GJL-100(GG10), 0.6020 EN-GJL-200(GG20) 0.6025 EN-GJL-250(GG25), 0.6035 EN-GJL-350(GG35)	850-≤1000 1000-1200		☒
Kugelgraphit- und Temperguss	0.7050 EN-GJS-500-7(GGG50), 0.8035 EN-GJMW-350-4(GTW35) 0.7070 EN-GJS-700-2(GGG70), 0.8170 EN-GJMB-700-2(GTS70)		≤240 HB <300 HB	☒
Hartguss	-		≤350 HB	☒
Neue Gusswerkstoffe GGV	EN-GJV250 (GGV25), EN-GJV350 (GGV35) EN-GJV400 (GGV40), EN-GJV500 (GGV50), SiMo6			☒
Neue Gusswerkstoffe ADI	EN-GJS-800-8 (ADI800), EN-GJS-1000-5 (ADI1000) EN-GJS-1200-2 (ADI1200), EN-GJS-1400-1 (ADI1400)	800-1000 1200-1400		☒
Sonderlegierungen	Nimonic, Inconel, Monel, Hastelloy	≤1200		☒
Titan und Titan-Legierungen	3.7024 Ti99,5, 3.7114 TiAl5Sn2,5, 3.7124 TiCu2 3.7154 TiAl6Zr5, 3.7165 TiAl6V4, 3.7184 TiAl4Mo4Sn2,5, - TiAl8Mo1V1	≤850 >850-1200		☒
Aluminium und Al-Legierungen	3.0255 Al99,5, 3.2315 AlMgSi1, 3.3515 AlMg1	≤400		☒
Al-Knetlegierungen	3.0615 AlMgSiPb, 3.1325 AlCuMg1, 3.3245 AlMg3Si, 3.4365 AlZnMgCu1,5	≤450		☒
Al-Gusslegierungen ≤ 10 % Si	3.2131 G-AlSi5Cu1, 3.2153 G-AlSi7Cu3, 3.2573 G-AlSi9	≤600		☒
> 10 % Si	3.2581 G-AlSi12, 3.2583 G-AlSi12Cu, - G-AlSi12CuNiMg	≤600		☒
Magnesium-Legierungen	3.5200 MgMn2, 3.5812.05 G-MgAl8Zn1, 3.5612.05 G-MgAl6Zn1	≤450		☐
Kupfer, niedriglegiert	2.0070 SE-Cu, 2.1020 CuSn6, 2.1096 G-CuSn5ZnNb	≤400		☒
Messing, kurzspanend	2.0380 CuZn39Pb2, 2.0401 CuZn39Pb3, 2.0410 CuZn43Pb2	≤600		☒
langspanend	2.0250 CuZn20, 2.0280 CuZn33, 2.0332 CuZn37Pb0,5	≤600		☒
Bronzen, kurzspanend	2.1090 CuSn7ZnNb, 2.1170 CuPb5Sn5, 2.1176 CuPb10Sn	≤600		☒
langspanend	2.0790 CuNi18Zn19Pb 2.0916 CuAl5, 2.0960 CuAl9Mn, 2.1050 CuSn10 2.0980 CuAl11Ni, 2.1247 CuBe2	>600-850 ≤850 >850-1000		☒
Kunststoffe, duroplastisch	Epoxidharz, Resopal, Pertinax, Moltopren		-	☐
thermoplastisch	Plexiglas, Hostalen, Novodur, Makralon		-	☒
Kunststoffe, aramidfaserverstärkt	Kevlar		-	☐
glas-/kohlefaserverstärkt	GFK/CFK		-	☐

$\leq 3 \times D$ Bohrtiefe

Katalog-Nr.	61888	51873	51871	51750	51776	51876
Schneidstoff	VHM	VHM	VHM	VHM	VHM	VHM
HM-Anwendgsgr.	K/P	K/P	K/P	K/P	K/P	K/P
Oberfläche	TiN	TiAlN nano	TiAlN nano	TiAlSiN	TiAlN nano	TiAlN nano
DIN/Form	6539	6537K	6537K	6537K	6537K	6537K
Typ	F	U	U	S	U	U
Innenkühlung	ohne	ohne	ohne	ohne	mit	mit
Katalogseite	55	18	20	53	28	30



V _c m/min	VR-Code	V _c m/min	VR-Code		V _c m/min	VR-Code	V _c m/min	VR-Code	
100	F	130	G	G	130	G	145	G	G
85	E	110	F	F	110	F	120	F	F
110	G	145	H	H	145	H	170	H	H
85	F	110	G	G	110	G	145	H	H
90	F	120	G	G	120	G	130	H	H
85	F	110	G	G	110	G	125	G	G
80	F	105	G	G	105	G	120	G	G
80	F	105	G	G	105	G	120	G	G
75	E	100	F	F	100	F	105	G	G
100	G	130	H	H	130	H	145	H	H
90	F	120	G	G	120	G	120	G	G
65	D	85	E	E	85	E	85	E	E
75	E	100	F	F	100	F	110	G	G
70	D	90	E	E	90	E	105	E	E
50	E	65	F	F	65	F	80	F	F
40	D	55	E	E	55	E	65	E	E
40	C	55			55	D	60	D	D
35	B	45	C	C	45	C	60	C	C
35	A	40	A	A	40	A	55	C	C
20	A	20	A	A	20	A	35	B	B
40	B	40	B	B			60	E	E
15	B	15	A	A			55	B	B
35	B	35	B	B			45	E	E
160	G	210	H	H			210	I	I
120	G	155	H	H			160	I	I
120	G	155	G	G			140	I	I
95	G	125	G	G			130	H	H
25	B	35	C	C			40	C	C
20	C	25	D	D	25	D	35	D	D
15	A	15	A	A	15	A	45	D	D
15	A	15	A	A	15	A	40	C	C
200	H	260	I	I			310	I	I
200	H	260	I	I			310	I	I
170	H	220	H	H			260	I	I
140	G	180	H	H			220	I	I
200	G	260	H	H			280	H	H
80	F	105	G	G			125	G	G
210	G	270	H	H			325	H	H
140	F	180	G	G			220	G	G
80	E	105	F	F			125	G	G
65	E	85	F	F			105	F	F
60	D	80	E	E			90	F	F
45	D	60	E	E			80	F	F

SuperV-Bohrer

Arbeitsrichtwerte

Vorschubreihen										
Code-Buchstabe	A	B	C	D	E	F	G	H	I	
Werkzeug-Ø mm	0,50	0,004	0,006	0,007	0,008	0,010	0,012	0,014	0,016	0,019
	1,00	0,006	0,008	0,012	0,014	0,016	0,018	0,020	0,023	0,025
	2,00	0,020	0,025	0,032	0,040	0,050	0,063	0,080	0,100	0,125
	2,50	0,025	0,032	0,040	0,050	0,063	0,080	0,100	0,125	0,160
	3,15	0,032	0,040	0,050	0,063	0,080	0,100	0,125	0,160	0,160
	4,00	0,040	0,050	0,063	0,080	0,100	0,125	0,160	0,200	0,200
	5,00	0,040	0,050	0,063	0,080	0,100	0,125	0,160	0,200	0,250
	6,30	0,050	0,063	0,080	0,100	0,125	0,160	0,200	0,250	0,315
	8,00	0,063	0,080	0,100	0,125	0,160	0,200	0,250	0,315	0,315
	10,00	0,080	0,100	0,125	0,160	0,200	0,250	0,315	0,400	0,400
	12,50	0,080	0,100	0,125	0,160	0,200	0,250	0,315	0,400	0,500
	16,00	0,100	0,125	0,160	0,200	0,250	0,315	0,400	0,500	0,630
	20,00	0,125	0,160	0,200	0,250	0,315	0,400	0,500	0,630	0,630
	25,00	0,160	0,200	0,250	0,315	0,400	0,500	0,630	0,800	0,800
	31,50	0,160	0,200	0,250	0,315	0,400	0,500	0,630	0,800	1,000
	40,00	0,200	0,250	0,315	0,400	0,500	0,630	0,800	1,000	1,250

Werkzeuge mit fett gedruckten Vorschubreihen-Codebuchstaben sind für die entsprechende Werkstoffgruppe vorrangig einzusetzen.

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* stark verjüngte Werkzeuge einsetzen

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Bohrölemulsion ☒

ohne Schmiermittel ☐

nur Luftkühlung ☐

Werkstoffgruppe	Werkstoffbeispiele, neue Bezeichnung (in Klammern alte Bezeichnung) Fettgedruckte Zahlen = Werkstoff-Nr. nach DIN EN	Zugfestigkeit MPa (N/mm ²)	Härte	Kühl- mittel
Allgemeine Baustähle	1.0035 S185(St33), 1.0486 P275N(StE285), 1.0345 P235GH(H1), 1.0425 P265GH(H2) 1.0050 E295 (St50-2), 1.0070 E360 (St70-2), 1.8937 P500NH (WStE500)	≤500 >500-850		☒ ☒
Automatenstähle	1.0718 11SMnPb30 (9SMnPb28), 1.0736 11SMn37 (9SMn36) 1.0727 46S20 (45S20), 1.0728 (60S20), 1.0757 46SPb20 (45SPb20)	≤850 850-1000		☒ ☒
Unlegierte Vergütungsstähle	1.0402 C22, 1.1178 C30E (Ck30) 1.0503 C45, 1.1191 C45E (Ck45) 1.0601 C60, 1.1221 C60E (Ck60)	≤ 700 700-850 850-1000		☒ ☒ ☒
Legierte Vergütungsstähle	1.5131 50MnSi4, 1.7003 38Cr2, 1.7030 28Cr4 1.5710 36NiCr6, 1.7035 41Cr4, 1.7225 42CrMo4	850-≤1000 1000-1200		☒ ☒
Unlegierte Einsatzstähle	1.0301 (C10), 1.1121 C10E (Ck10)	≤750		☒
Legierte Einsatzstähle	1.7043 38Cr4 1.5752 15NiCr13 (15NiCr13), 1.7131 16MnCr5, 1.7264 20CrMo5	850-≤1000 1000-1200		☒ ☒
Nitrierstähle	1.8504 34CrAl6 1.8519 31CrMoV9, 1.8550 34CrAlNi7	≥850-≤1000 >1000-1200		☒ ☒
Werkzeugstähle	1.1750 C75W, 1.2067 102Cr6, 1.2307 29CrMoV9 1.2080 X210Cr12, 1.2083 X42Cr13, 1.2419 105WCr6, 1.2767 X45NiCrMo4	≤850 >850-1000		☒ ☒
Schnellarbeitsstähle	1.3243 S 6-5-2-5, 1.3343 S 6-5-2, 1.3344 S 6-5-3	≥650-1000		☒
Federstähle	1.5026 55Si7, 1.7176 55Cr3, 1.8159 51CrV4 (51CrV4)		≤330 HB	☒
Gehärtete Stähle	-		≤40-48 HRC >48-60 HRC	☒ ☒
Rostfreie Stähle, geschwefelt	1.4005 X12CrS13, 1.4104 X14CrMoS17, 1.4105 X6CrMoS17, 1.4305 X8CrNiS18-9	≤850		☒
austenitisch	1.4301 X5CrNi18-10 (V2A), 1.4541 X6CrNiTi18-10, 1.4571 X6CrNiMoTi 17-12-2 (V4A)	≤850		☒
martensitisch	1.4057 X20CrNi 17 2 (X17CrNi16-2), 1.4122 X39CrMo17-1, 1.4521 X2CrMoTi18-2	≤850		☒
Gusseisen	0.6010 EN-GJL-100(GG10), 0.6020 EN-GJL-200(GG20) 0.6025 EN-GJL-250(GG25), 0.6035 EN-GJL-350(GG35)	850-≤1000 1000-1200		☒ ☒
Kugelgraphit- und Temperguss	0.7050 EN-GJS-500-7(GGG50), 0.8035 EN-GJMW-350-4(GTW35) 0.7070 EN-GJS-700-2(GGG70), 0.8170 EN-GJMB-700-2(GTS70)		≤240 HB <300 HB	☒ ☒
Hartguss	-		≤350 HB	☒
Neue Gusswerkstoffe GGV	EN-GJV250 (GGV25), EN-GJV350 (GGV35) EN-GJV400 (GGV40), EN-GJV500 (GGV50), SiMo6			☒ ☒
Neue Gusswerkstoffe ADI	EN-GJS-800-8 (ADI800), EN-GJS-1000-5 (ADI1000) EN-GJS-1200-2 (ADI1200), EN-GJS-1400-1 (ADI1400)	800-1000 1200-1400		☒ ☒
Sonderlegierungen	Nimonic, Inconel, Monel, Hastelloy	≤1200		☒
Titan und Titan-Legierungen	3.7024 Ti99,5, 3.7114 TiAl5Sn2,5, 3.7124 TiCu2 3.7154 TiAl6Zr5, 3.7165 TiAl6V4, 3.7184 TiAl4Mo4Sn2,5, - TiAl8Mo1V1	≤850 >850-1200		☒ ☒
Aluminium und Al-Legierungen	3.0255 Al99,5, 3.2315 AlMgSi1, 3.3515 AlMg1	≤400		☒
Al-Knetlegierungen	3.0615 AlMgSiPb, 3.1325 AlCuMg1, 3.3245 AlMg3Si, 3.4365 AlZnMgCu1,5	≤450		☒
Al-Gusslegierungen ≤ 10 % Si	3.2131 G-AlSi5Cu1, 3.2153 G-AlSi7Cu3, 3.2573 G-AlSi9	≤600		☒
> 10 % Si	3.2581 G-AlSi12, 3.2583 G-AlSi12Cu, - G-AlSi12CuNiMg	≤600		☒
Magnesium-Legierungen	3.5200 MgMn2, 3.5812.05 G-MgAl8Zn1, 3.5612.05 G-MgAl6Zn1	≤450		☐
Kupfer, niedriglegiert	2.0070 SE-Cu, 2.1020 CuSn6, 2.1096 G-CuSn5ZnNb	≤400		☒
Messing, kurzspanend	2.0380 CuZn39Pb2, 2.0401 CuZn39Pb3, 2.0410 CuZn43Pb2	≤600		☒
langspanend	2.0250 CuZn20, 2.0280 CuZn33, 2.0332 CuZn37Pb0,5	≤600		☒
Bronzen, kurzspanend	2.1090 CuSn7ZnNb, 2.1170 CuPb5Sn5, 2.1176 CuPb10Sn	≤600		☒
langspanend	2.0790 CuNi18Zn19Pb 2.0916 CuAl5, 2.0960 CuAl9Mn, 2.1050 CuSn10 2.0980 CuAl11Ni, 2.1247 CuBe2	>600-850 ≤850 >850-1000		☒ ☒ ☒
Kunststoffe, duroplastisch	Epoxidharz, Resopal, Pertinax, Moltopren		-	☐
thermoplastisch	Plexiglas, Hostalen, Novodur, Makralon		-	☒
Kunststoffe, aramidfaserverstärkt	Kevlar		-	☐
glas-/kohlefaserverstärkt	GFK/CFK		-	☐

SuperV-Bohrer

Arbeitsrichtwerte

Vorschubreihen										
Code-Buchstabe	A	B	C	D	E	F	G	H	I	
Werkzeug-Ø mm	0,50	0,004	0,006	0,007	0,008	0,010	0,012	0,014	0,016	0,019
	1,00	0,006	0,008	0,012	0,014	0,016	0,018	0,020	0,023	0,025
	2,00	0,020	0,025	0,032	0,040	0,050	0,063	0,080	0,100	0,125
	2,50	0,025	0,032	0,040	0,050	0,063	0,080	0,100	0,125	0,160
	3,15	0,032	0,040	0,050	0,063	0,080	0,100	0,125	0,160	0,160
	4,00	0,040	0,050	0,063	0,080	0,100	0,125	0,160	0,200	0,200
	5,00	0,040	0,050	0,063	0,080	0,100	0,125	0,160	0,200	0,250
	6,30	0,050	0,063	0,080	0,100	0,125	0,160	0,200	0,250	0,315
	8,00	0,063	0,080	0,100	0,125	0,160	0,200	0,250	0,315	0,315
	10,00	0,080	0,100	0,125	0,160	0,200	0,250	0,315	0,400	0,400
	12,50	0,080	0,100	0,125	0,160	0,200	0,250	0,315	0,400	0,500
	16,00	0,100	0,125	0,160	0,200	0,250	0,315	0,400	0,500	0,630
	20,00	0,125	0,160	0,200	0,250	0,315	0,400	0,500	0,630	0,630
	25,00	0,160	0,200	0,250	0,315	0,400	0,500	0,630	0,800	0,800
	31,50	0,160	0,200	0,250	0,315	0,400	0,500	0,630	0,800	1,000
	40,00	0,200	0,250	0,315	0,400	0,500	0,630	0,800	1,000	1,250

Werkzeuge mit fett gedruckten Vorschubreihen-Codebuchstaben sind für die entsprechende Werkstoffgruppe vorrangig einzusetzen.

K, P, K/P

Die universelle Einsetzbarkeit unserer neuen K-Hartmetalle hat u.a. auch zur Folge, dass wir die HM-Anwendungsgruppen nur noch mit K bzw. K/P definieren.

Bedeutung der Kennbuchstaben bei den Typbezeichnungen:

- G** für Guss, AlSi-Legierungen
- S** für hochfeste Werkstoffe
- U/F** für Universalbearbeitung, Kohlenstoffstähle
- VA** für rostfreie Werkstoffe
- UX** für Stahlbearbeitung
- * stark verjüngte Werkzeuge einsetzen

Kühlmitteleinsatz:

- Schneidöl, hochaktiviert ☒
- Bohrölemulsion ☒
- ohne Schmiermittel ☐
- nur Luftkühlung ☐

Werkstoffgruppe	Werkstoffbeispiele, neue Bezeichnung (in Klammern alte Bezeichnung) Fettgedruckte Zahlen = Werkstoff-Nr. nach DIN EN	Zugfestigkeit MPa (N/mm ²)	Härte	Kühl- mittel
Allgemeine Baustähle	1.0035 S185(S133), 1.0486 P275N(S1E285), 1.0345 P235GH(H1), 1.0425 P265GH(H2) 1.0050 E295 (St50-2), 1.0070 E360 (St70-2), 1.8937 P500NH (WStE500)	≤500 >500-850		☒
Automatenstähle	1.0718 11SMnPb30 (9SMnPb28), 1.0736 11SMn37 (9SMn36) 1.0727 46S20 (45S20), 1.0728 (60S20), 1.0757 46SPb20 (45SPb20)	≤850 850-1000		☒
Unlegierte Vergütungsstähle	1.0402 C22, 1.1178 C30E (Ck30) 1.0503 C45, 1.1191 C45E (Ck45) 1.0601 C60, 1.1221 C60E (Ck60)	≤ 700 700-850 850-1000		☒
Legierte Vergütungsstähle	1.5131 50MnSi4, 1.7003 38Cr2, 1.7030 28Cr4 1.5710 36NiCr6, 1.7035 41Cr4, 1.7225 42CrMo4	850-≤1000 1000-1200		☒
Unlegierte Einsatzstähle	1.0301 (C10), 1.1121 C10E (Ck10)	≤750		☒
Legierte Einsatzstähle	1.7043 38Cr4 1.5752 15NiCr13 (15NiCr13), 1.7131 16MnCr5, 1.7264 20CrMo5	850-≤1000 1000-1200		☒
Nitrierstähle	1.8504 34CrAl6 1.8519 31CrMoV9, 1.8550 34CrAlNi7	≥850-≤1000 >1000-1200		☒
Werkzeugstähle	1.1750 C75W, 1.2067 102Cr6, 1.2307 29CrMoV9 1.2080 X210Cr12, 1.2083 X42Cr13, 1.2419 105WCr6, 1.2767 X45NiCrMo4	≤850 >850-1000		☒
Schnellarbeitsstähle	1.3243 S 6-5-2-5, 1.3343 S 6-5-2, 1.3344 S 6-5-3	≥650-1000		☒
Federstähle	1.5026 55Si7, 1.7176 55Cr3, 1.8159 51CrV4 (51CrV4)		≤330 HB	☒
Gehärtete Stähle	-		≤40-48 HRC >48-60 HRC	☒
Rostfreie Stähle, geschwefelt	1.4005 X12CrS13, 1.4104 X14CrMoS17, 1.4105 X6CrMoS17, 1.4305 X8CrNiS18-9	≤850		☒
austenitisch	1.4301 X5CrNi18-10 (V2A), 1.4541 X6CrNiTi18-10, 1.4571 X6CrNiMoTi 17-12-2 (V4A)	≤850		☒
martensitisch	1.4057 X20CrNi 17 2 (X17CrNi16-2), 1.4122 X39CrMo17-1, 1.4521 X2CrMoTi18-2	≤850		☒
Gusseisen	0.6010 EN-GJL-100(GG10), 0.6020 EN-GJL-200(GG20) 0.6025 EN-GJL-250(GG25), 0.6035 EN-GJL-350(GG35)	850-≤1000 1000-1200		☒
Kugelgraphit- und Temperguss	0.7050 EN-GJS-500-7(GGG50), 0.8035 EN-GJMW-350-4(GTW35) 0.7070 EN-GJS-700-2(GGG70), 0.8170 EN-GJMB-700-2(GTS70)		≤240 HB <300 HB	☒
Hartguss	-		≤350 HB	☒
Neue Gusswerkstoffe GGV	EN-GJV250 (GGV25), EN-GJV350 (GGV35) EN-GJV400 (GGV40), EN-GJV500 (GGV50), SiMo6			☒
Neue Gusswerkstoffe ADI	EN-GJS-800-8 (ADI800), EN-GJS-1000-5 (ADI1000) EN-GJS-1200-2 (ADI1200), EN-GJS-1400-1 (ADI1400)	800-1000 1200-1400		☒
Sonderlegierungen	Nimonic, Inconel, Monel, Hastelloy	≤1200		☒
Titan und Titan-Legierungen	3.7024 Ti99,5, 3.7114 TiAl5Sn2,5, 3.7124 TiCu2 3.7154 TiAl6Zr5, 3.7165 TiAl6V4, 3.7184 TiAl4Mo4Sn2,5, - TiAl8Mo1V1	≤850 >850-1200		☒
Aluminium und Al-Legierungen	3.0255 Al99,5, 3.2315 AlMgSi1, 3.3515 AlMg1	≤400		☒
Al-Knetlegierungen	3.0615 AlMgSiPb, 3.1325 AlCuMg1, 3.3245 AlMg3Si, 3.4365 AlZnMgCu1,5	≤450		☒
Al-Gusslegierungen ≤ 10 % Si	3.2131 G-AlSi5Cu1, 3.2153 G-AlSi7Cu3, 3.2573 G-AlSi9	≤600		☒
> 10 % Si	3.2581 G-AlSi12, 3.2583 G-AlSi12Cu, - G-AlSi12CuNiMg	≤600		☒
Magnesium-Legierungen	3.5200 MgMn2, 3.5812.05 G-MgAl8Zn1, 3.5612.05 G-MgAl6Zn1	≤450		☒
Kupfer, niedriglegiert	2.0070 SE-Cu, 2.1020 CuSn6, 2.1096 G-CuSn5ZnNb	≤400		☒
Messing, kurzspanend	2.0380 CuZn39Pb2, 2.0401 CuZn39Pb3, 2.0410 CuZn43Pb2	≤600		☒
langspanend	2.0250 CuZn20, 2.0280 CuZn33, 2.0332 CuZn37Pb0,5	≤600		☒
Bronzen, kurzspanend	2.1090 CuSn7ZnNb, 2.1170 CuPb5Sn5, 2.1176 CuPb10Sn	≤600		☒
langspanend	2.0790 CuNi18Zn19Pb 2.0916 CuAl5, 2.0960 CuAl9Mn, 2.1050 CuSn10 2.0980 CuAl11Ni, 2.1247 CuBe2	>600-850 ≤850 >850-1000		☒
Kunststoffe, duroplastisch	Epoxidharz, Resopal, Pertinax, Moltopren		-	☐
thermoplastisch	Plexiglas, Hostalen, Novodur, Makralon		-	☒
Kunststoffe, aramidfaserverstärkt	Kevlar		-	☐
glas-/kohlefaserverstärkt	GFK/CFK		-	☐

$\leq 5 \times D$ Bohrtiefe

Katalog-Nr.	51681	51781	51881
Schneidstoff	VHM	VHM	VHM
HM-Anwendgsgr.	K/P	K/P	K/P
Oberfläche	TiAlN nano	TiAlN nano	TiAlN nano
DIN/Form	6537L	6537L	6537L
Typ	U	U	U
Innenkühlung	mit	mit	mit
Katalogseite	36	32	34

51754	51755
VHM	VHM
K/P	K/P
TiAlSiN	TiAlSiN
6537L	6537L
S	S
mit	mit
65	67

51772	51773
VHM	VHM
K/P	K/P
AlTiN nano	AlTiN nano
6537L	6537L
VA	VA
mit	mit
76	78

51785
VHM
K/P
TiAlN nano
6537L
UX
mit
57

71862
VHM
K
blank
6537L
V83-GAL
ohne
80



V _c m/min	VR-Code			V _c m/min	VR-Code		V _c m/min	VR-Code		V _c m/min	VR-Code		V _c m/min	VR-Code	
145	G	G	G	145	G	G				145-230	H				
120	F	F	F	120	F	F				120-220	G				
170	H	H	H	170	H	H				170-260	H				
145	H	H	H	145	H	H				145-230	H				
130	H	H	H	130	H	H				130-220	H				
125	G	G	G	125	G	G				125-210	G				
120	G	G	G	120	G	G				120-200	G				
120	G	G	G	120	G	G				120-210	G				
105	G	G	G	105	G	G				105-200	G				
145	H	H	H	145	H	H				145-230	H				
120	G	G	G	120	G	G				120-210	G				
85	E	E	E	85	E	E				105-200	F				
105	G	G	G	110	G	G				110-150	G				
100	E	E	E	105	E	E				100-150	E				
70	F	F	F	80	F	F				70-120	F				
55	E	E	E	65	E	E				55-100	E				
60	E	E	E	60	D	D				60-100	E				
60	C	C	C	60	C	C				60-100	E				
55	C	C	C	55	C	C									
35	B	B	B	35	B	B									
60	E	E	E				80	E	E						
55	B	B	B				60	B-C	B-C						
50	E	E	E				80	E	E						
195	I	I	I										100	F	
160	I	I	I										80	F	
140	I	I	I										80	F	
130	H	H	H										70	F	
40	C	C	C												
35	D	D	D	35	D	D	30	D	D						
45	D	D	D	45	D	D	45	D	D						
40	C	C	C	40	C	C	40	C	C						
310	I	I	I										180	G	
310	I	I	I										160	G	
260	I	I	I										150	G	
220	I	I	I										120	F	
280	H	H	H										180	F	
125	G	G	G												
325	H	H	H										180	F	
220	G	G	G												
125	G	G	G												
105	F	F	F												
90	F	F	F												
80	F	F	F												

SuperV-Bohrer

Arbeitsrichtwerte

Vorschubreihen										
Code-Buchstabe	A	B	C	D	E	F	G	H	I	
Werkzeug-Ø mm	0,50	0,004	0,006	0,007	0,008	0,010	0,012	0,014	0,016	0,019
	1,00	0,006	0,008	0,012	0,014	0,016	0,018	0,020	0,023	0,025
	2,00	0,020	0,025	0,032	0,040	0,050	0,063	0,080	0,100	0,125
	2,50	0,025	0,032	0,040	0,050	0,063	0,080	0,100	0,125	0,160
	3,15	0,032	0,040	0,050	0,063	0,080	0,100	0,125	0,160	0,160
	4,00	0,040	0,050	0,063	0,080	0,100	0,125	0,160	0,200	0,200
	5,00	0,040	0,050	0,063	0,080	0,100	0,125	0,160	0,200	0,250
	6,30	0,050	0,063	0,080	0,100	0,125	0,160	0,200	0,250	0,315
	8,00	0,063	0,080	0,100	0,125	0,160	0,200	0,250	0,315	0,315
	10,00	0,080	0,100	0,125	0,160	0,200	0,250	0,315	0,400	0,400
	12,50	0,080	0,100	0,125	0,160	0,200	0,250	0,315	0,400	0,500
	16,00	0,100	0,125	0,160	0,200	0,250	0,315	0,400	0,500	0,630
	20,00	0,125	0,160	0,200	0,250	0,315	0,400	0,500	0,630	0,630
	25,00	0,160	0,200	0,250	0,315	0,400	0,500	0,630	0,800	0,800
	31,50	0,160	0,200	0,250	0,315	0,400	0,500	0,630	0,800	1,000
	40,00	0,200	0,250	0,315	0,400	0,500	0,630	0,800	1,000	1,250

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- UX** für Stahlbearbeitung
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Kühlmitteleinsatz:

- Schneidöl, hochaktiviert ☒
- Bohrölemulsion ☒
- ohne Schmiermittel ☐
- nur Luftkühlung ☐

Werkstoffgruppe	Werkstoffbeispiele, neue Bezeichnung (in Klammern alte Bezeichnung) Fettgedruckte Zahlen = Werkstoff-Nr. nach DIN EN	Zugfestigkeit MPa (N/mm ²)	Härte	Kühl- mittel
Allgemeine Baustähle	1.0035 S185(St33), 1.0486 P275N(StE285), 1.0345 P235GH(H1), 1.0425 P265GH(H2) 1.0050 E295 (St50-2), 1.0070 E360 (St70-2), 1.8937 P500NH (WStE500)	≤500 >500-850		☒
Automatenstähle	1.0718 11SMnPb30 (9SMnPb28), 1.0736 11SMn37 (9SMn36) 1.0727 46S20 (45S20), 1.0728 (60S20), 1.0757 46SPb20 (45SPb20)	≤850 850-1000		☒
Unlegierte Vergütungsstähle	1.0402 C22, 1.1178 C30E (Ck30) 1.0503 C45, 1.1191 C45E (Ck45) 1.0601 C60, 1.1221 C60E (Ck60)	≤ 700 700-850 850-1000		☒
Legierte Vergütungsstähle	1.5131 50MnSi4, 1.7003 38Cr2, 1.7030 28Cr4 1.5710 36NiCr6, 1.7035 41Cr4, 1.7225 42CrMo4	850-≤1000 1000-1200		☒
Unlegierte Einsatzstähle	1.0301 (C10), 1.1121 C10E (Ck10)	≤750		☒
Legierte Einsatzstähle	1.7043 38Cr4 1.5752 15NiCr13 (15NiCr13), 1.7131 16MnCr5, 1.7264 20CrMo5	850-≤1000 1000-1200		☒
Nitrierstähle	1.8504 34CrAl6 1.8519 31CrMoV9, 1.8550 34CrAlNi7	≥850-≤1000 >1000-1200		☒
Werkzeugstähle	1.1750 C75W, 1.2067 102Cr6, 1.2307 29CrMoV9 1.2080 X210Cr12, 1.2083 X42Cr13, 1.2419 105WCr6, 1.2767 X45NiCrMo4	≤850 >850-1000		☒
Schnellarbeitsstähle	1.3243 S 6-5-2-5, 1.3343 S 6-5-2, 1.3344 S 6-5-3	≥650-1000		☒
Federstähle	1.5026 55Si7, 1.7176 55Cr3, 1.8159 51CrV4 (51CrV4)		≤330 HB	☒
Gehärtete Stähle	-		≤40-48 HRC >48-60 HRC	☒
Rostfreie Stähle, geschwefelt	1.4005 X12CrS13, 1.4104 X14CrMoS17, 1.4105 X6CrMoS17, 1.4305 X8CrNiS18-9	≤850		☒
austenitisch	1.4301 X5CrNi18-10 (V2A), 1.4541 X6CrNiTi18-10, 1.4571 X6CrNiMoTi 17-12-2 (V4A)	≤850		☒
martensitisch	1.4057 X20CrNi 17 2 (X17CrNi16-2), 1.4122 X39CrMo17-1, 1.4521 X2CrMoTi18-2	≤850		☒
Gusseisen	0.6010 EN-GJL-100(GG10), 0.6020 EN-GJL-200(GG20) 0.6025 EN-GJL-250(GG25), 0.6035 EN-GJL-350(GG35)	850-≤1000 1000-1200		☒
Kugelgraphit- und Temperguss	0.7050 EN-GJS-500-7(GGG50), 0.8035 EN-GJMW-350-4(GTW35) 0.7070 EN-GJS-700-2(GGG70), 0.8170 EN-GJMB-700-2(GTS70)		≤240 HB <300 HB	☒
Hartguss	-		≤350 HB	☒
Neue Gusswerkstoffe GGV	EN-GJV250 (GGV25), EN-GJV350 (GGV35) EN-GJV400 (GGV40), EN-GJV500 (GGV50), SiMo6			☒
Neue Gusswerkstoffe ADI	EN-GJS-800-8 (ADI800), EN-GJS-1000-5 (ADI1000) EN-GJS-1200-2 (ADI1200), EN-GJS-1400-1 (ADI1400)	800-1000 1200-1400		☒
Sonderlegierungen	Nimonic, Inconel, Monel, Hastelloy	≤1200		☒
Titan und Titan-Legierungen	3.7024 Ti99,5, 3.7114 TiAl5Sn2,5, 3.7124 TiCu2 3.7154 TiAl6Zr5, 3.7165 TiAl6V4, 3.7184 TiAl4Mo4Sn2,5, - TiAl8Mo1V1	≤850 >850-1200		☒
Aluminium und Al-Legierungen	3.0255 Al99,5, 3.2315 AlMgSi1, 3.3515 AlMg1	≤400		☒
Al-Knetlegierungen	3.0615 AlMgSiPb, 3.1325 AlCuMg1, 3.3245 AlMg3Si, 3.4365 AlZnMgCu1,5	≤450		☒
Al-Gusslegierungen ≤ 10 % Si	3.2131 G-AlSi5Cu1, 3.2153 G-AlSi7Cu3, 3.2573 G-AlSi9	≤600		☒
> 10 % Si	3.2581 G-AlSi12, 3.2583 G-AlSi12Cu, - G-AlSi12CuNiMg	≤600		☒
Magnesium-Legierungen	3.5200 MgMn2, 3.5812.05 G-MgAl8Zn1, 3.5612.05 G-MgAl6Zn1	≤450		☒
Kupfer, niedriglegiert	2.0070 SE-Cu, 2.1020 CuSn6, 2.1096 G-CuSn5ZnNb	≤400		☒
Messing, kurzspanend	2.0380 CuZn39Pb2, 2.0401 CuZn39Pb3, 2.0410 CuZn43Pb2	≤600		☒
langspanend	2.0250 CuZn20, 2.0280 CuZn33, 2.0332 CuZn37Pb0,5	≤600		☒
Bronzen, kurzspanend	2.1090 CuSn7ZnNb, 2.1170 CuPb5Sn5, 2.1176 CuPb10Sn	≤600		☒
langspanend	2.0790 CuNi18Zn19Pb 2.0916 CuAl5, 2.0960 CuAl9Mn, 2.1050 CuSn10 2.0980 CuAl11Ni, 2.1247 CuBe2	>600-850 ≤850 >850-1000		☒
Kunststoffe, duroplastisch	Epoxidharz, Resopal, Pertinax, Moltopren		-	☐
thermoplastisch	Plexiglas, Hostalen, Novodur, Makralon		-	☒
Kunststoffe, aramidfaserverstärkt	Kevlar		-	☐
glas-/kohlefaserverstärkt	GFK/CFK		-	☐

SuperV-Bohrer

Arbeitsrichtwerte

Vorschubreihen										
Code-Buchstabe	A	B	C	D	E	F	G	H	I	
Werkzeug-Ø mm	0,50	0,004	0,006	0,007	0,008	0,010	0,012	0,014	0,016	0,019
	1,00	0,006	0,008	0,012	0,014	0,016	0,018	0,020	0,023	0,025
	2,00	0,020	0,025	0,032	0,040	0,050	0,063	0,080	0,100	0,125
	2,50	0,025	0,032	0,040	0,050	0,063	0,080	0,100	0,125	0,160
	3,15	0,032	0,040	0,050	0,063	0,080	0,100	0,125	0,160	0,160
	4,00	0,040	0,050	0,063	0,080	0,100	0,125	0,160	0,200	0,200
	5,00	0,040	0,050	0,063	0,080	0,100	0,125	0,160	0,200	0,250
	6,30	0,050	0,063	0,080	0,100	0,125	0,160	0,200	0,250	0,315
	8,00	0,063	0,080	0,100	0,125	0,160	0,200	0,250	0,315	0,315
	10,00	0,080	0,100	0,125	0,160	0,200	0,250	0,315	0,400	0,400
	12,50	0,080	0,100	0,125	0,160	0,200	0,250	0,315	0,400	0,500
	16,00	0,100	0,125	0,160	0,200	0,250	0,315	0,400	0,500	0,630
	20,00	0,125	0,160	0,200	0,250	0,315	0,400	0,500	0,630	0,630
	25,00	0,160	0,200	0,250	0,315	0,400	0,500	0,630	0,800	0,800
	31,50	0,160	0,200	0,250	0,315	0,400	0,500	0,630	0,800	1,000
	40,00	0,200	0,250	0,315	0,400	0,500	0,630	0,800	1,000	1,250

Werkzeuge mit fett gedruckten Vorschubreihen-Codebuchstaben sind für die entsprechende Werkstoffgruppe vorrangig einzusetzen.

K, P, K/P

Die universelle Einsetzbarkeit unserer neuen K-Hartmetalle hat u.a. auch zur Folge, dass wir die HM-Anwendungsgruppen nur noch mit K bzw. K/P definieren.

Bedeutung der Kennbuchstaben bei den Typbezeichnungen:

G für Guss, AlSi-Legierungen

S für hochfeste Werkstoffe

U/F für Universalbearbeitung, Kohlenstoffstähle

VA für rostfreie Werkstoffe

UX für Stahlbearbeitung

* stark verjüngte Werkzeuge einsetzen

Einsatzhinweise SuperV-T-Bohrer:

Um bei tiefen Bohrungen optimale Bearbeitungsergebnisse zu erzielen, empfehlen wir:

1. Herstellen einer zylindrischen Pilotbohrung (Toleranz F9), Bohrtiefe 1 x D mit unseren SuperV-Bohrern Typ U bzw. VA (140° Spitzenwinkel, Ø-Toleranz m7). Alternativ kann auch der Pilotbohrfräser Artikel-Nr. 54700 eingesetzt werden.
2. Einfahren in Pilotbohrung: Drehzahl ca. 300 U/min, Vorschub ca. 500 mm/min.
3. Einstellen des Kühlschmierstoffdruckes und der Drehzahl.
4. Kontinuierliches Bohren auf volle Bohrtiefe ohne Entspanzyklus.
5. Bei Durchgangsbohrungen mit geradem (90°) Austritt, v_f ca. 1 mm vor dem Durchbrechen auf 50% reduzieren.
6. Bei Durchgangsbohrungen mit schrägem Austritt, v_f ca. 1 mm vor dem Durchbrechen auf 40% reduzieren.
7. Nach Erreichen der Bohrtiefe Drehzahl und Kühlschmierstoff abschalten, Ausfahren im Eilgang.

Kühlmitteleinsatz:

Schneidöl, hochaktiviert ☒

Bohrölemulsion ☒

ohne Schmiermittel ☐

nur Luftkühlung ☐

Werkstoffgruppe	Werkstoffbeispiele, neue Bezeichnung (in Klammern alte Bezeichnung) Fettgedruckte Zahlen = Werkstoff-Nr. nach DIN EN	Zugfestigkeit MPa (N/mm ²)	Härte	Kühl- mittel
Allgemeine Baustähle	1.0035 S185(S133), 1.0486 P275N(StE285), 1.0345 P235GH(H1), 1.0425 P265GH(H2) 1.0050 E295 (St50-2), 1.0070 E360 (St70-2), 1.8937 P500NH (WStE500)	≤500 >500-850		☒
Automatenstähle	1.0718 11SMnPB30 (9SMnPB28), 1.0736 11SMn37 (9SMn36) 1.0727 46S20 (45S20), 1.0728 (60S20), 1.0757 46SPb20 (45SPb20)	≤850 850-1000		☒
Unlegierte Vergütungsstähle	1.0402 C22, 1.1178 C30E (Ck30) 1.0503 C45, 1.1191 C45E (Ck45) 1.0601 C60, 1.1221 C60E (Ck60)	≤ 700 700-850 850-1000		☒
Legierte Vergütungsstähle	1.5131 50MnSi4, 1.7003 38Cr2, 1.7030 28Cr4 1.5710 36NiCr6, 1.7035 41Cr4, 1.7225 42CrMo4	850-≤1000 1000-1200		☒
Unlegierte Einsatzstähle	1.0301 (C10), 1.1121 C10E (Ck10)	≤750		☒
Legierte Einsatzstähle	1.7043 38Cr4 1.5752 15NiCr13 (15NiCr13), 1.7131 16MnCr5, 1.7264 20CrMo5	850-≤1000 1000-1200		☒
Nitrierstähle	1.8504 34CrAl6 1.8519 31CrMoV9, 1.8550 34CrAlNi7	≥850-≤1000 >1000-1200		☒
Werkzeugstähle	1.1750 C75W, 1.2067 102Cr6, 1.2307 29CrMoV9 1.2080 X210Cr12, 1.2083 X42Cr13, 1.2419 105WCr6, 1.2767 X45NiCrMo4	≤850 >850-1000		☒
Schnellarbeitsstähle	1.3243 S 6-5-2-5, 1.3343 S 6-5-2, 1.3344 S 6-5-3	≥650-1000		☒
Federstähle	1.5026 55Si7, 1.7176 55Cr3, 1.8159 51CrV4 (51CrV4)		≤330 HB	☒
Gehärtete Stähle	-		≤40-48 HRC >48-60 HRC	☒
Rostfreie Stähle, geschwefelt	1.4005 X12CrS13, 1.4104 X14CrMoS17, 1.4105 X6CrMoS17, 1.4305 X8CrNiS18-9	≤850		☒
austenitisch	1.4301 X5CrNi18-10 (V2A), 1.4541 X6CrNiTi18-10, 1.4571 X6CrNiMoTi 17-12-2 (V4A)	≤850		☒
martensitisch	1.4057 X20CrNi 17 2 (X17CrNi16-2), 1.4122 X39CrMo17-1, 1.4521 X2CrMoTi18-2	≤850		☒
Gusseisen	0.6010 EN-GJL-100(GG10), 0.6020 EN-GJL-200(GG20) 0.6025 EN-GJL-250(GG25), 0.6035 EN-GJL-350(GG35)	850-≤1000 1000-1200		☒
Kugelgraphit- und Temperguss	0.7050 EN-GJS-500-7(GGG50), 0.8035 EN-GJMW-350-4(GTW35) 0.7070 EN-GJS-700-2(GGG70), 0.8170 EN-GJMB-700-2(GTS70)		≤240 HB <300 HB	☒
Hartguss	-		≤350 HB	☒
Neue Gusswerkstoffe GGV	EN-GJV250 (GGV25), EN-GJV350 (GGV35) EN-GJV400 (GGV40), EN-GJV500 (GGV50), SiMo6			☒
Neue Gusswerkstoffe ADI	EN-GJS-800-8 (ADI800), EN-GJS-1000-5 (ADI1000) EN-GJS-1200-2 (ADI1200), EN-GJS-1400-1 (ADI1400)	800-1000 1200-1400		☒
Sonderlegierungen	Nimonic, Inconel, Monel, Hastelloy	≤1200		☒
Titan und Titan-Legierungen	3.7024 Ti99,5, 3.7114 TiAl5Sn2,5, 3.7124 TiCu2 3.7154 TiAl6Zr5, 3.7165 TiAl6V4, 3.7184 TiAl4Mo4Sn2,5, - TiAl8Mo1V1	≤850 >850-1200		☒
Aluminium und Al-Legierungen	3.0255 Al99,5, 3.2315 AlMgSi1, 3.3515 AlMg1	≤400		☒
Al-Knetlegierungen	3.0615 AlMgSiPb, 3.1325 AlCuMg1, 3.3245 AlMg3Si, 3.4365 AlZnMgCu1,5	≤450		☒
Al-Gusslegierungen ≤ 10 % Si	3.2131 G-AlSi5Cu1, 3.2153 G-AlSi7Cu3, 3.2573 G-AlSi9	≤600		☒
> 10 % Si	3.2581 G-AlSi12, 3.2583 G-AlSi12Cu, - G-AlSi12CuNiMg	≤600		☒
Magnesium-Legierungen	3.5200 MgMn2, 3.5812.05 G-MgAl8Zn1, 3.5612.05 G-MgAl6Zn1	≤450		☒
Kupfer, niedriglegiert	2.0070 SE-Cu, 2.1020 CuSn6, 2.1096 G-CuSn5ZnPB	≤400		☒
Messing, kurzspanend	2.0380 CuZn39Pb2, 2.0401 CuZn39Pb3, 2.0410 CuZn43Pb2	≤600		☒
langspanend	2.0250 CuZn20, 2.0280 CuZn33, 2.0332 CuZn37Pb0,5	≤600		☒
Bronzen, kurzspanend	2.1090 CuSn7ZnPB, 2.1170 CuPb5Sn5, 2.1176 CuPb10Sn	≤600		☒
langspanend	2.0790 CuNi18Zn19Pb 2.0916 CuAl5, 2.0960 CuAl9Mn, 2.1050 CuSn10 2.0980 CuAl11Ni, 2.1247 CuBe2	>600-850 ≤850 >850-1000		☒
Kunststoffe, duroplastisch	Epoxidharz, Resopal, Pertinax, Moltopren		-	☐
thermoplastisch	Plexiglas, Hostalen, Novodur, Makralon		-	☒
Kunststoffe, aramidfaserverstärkt	Kevlar		-	☐
glas-/kohlefaserverstärkt	GFK/CFK		-	☐

$\leq 12 \times D$
 $\leq 15 \times D$
 $\leq 20 \times D$
 $\leq 25 \times D$
 $\leq 30 \times D$
 $\leq 40 \times D$

Katalog-Nr.
Schneidstoff
HM-Anwendgsgr.
Oberfläche
DIN/Form
Typ
Innenkühlung
Katalogeseite

51893
VHM

K/P

TiAlN nano

WN

U

mit

40

71997
VHM

K

blank

WN

V95-GN

mit

85

51764
VHM

K/P

AlTiN

WN

T

mit

47

51765
VHM

K/P

AlTiN

WN

T

mit

48

51766
VHM

K/P

AlTiN

WN

T

mit

49

51767
VHM

K/P

AlTiN

WN

T

mit

50

51768
VHM

K/P

AlTiN

WN

T

mit

51



V _C m/min	VR-Code	V _C m/min	VR-Code	V _C m/min	VR-Code	V _C m/min	VR-Code	V _C m/min	VR-Code	V _C m/min	VR-Code	V _C m/min	VR-Code
110	F			110	H	110	H	100	H	80	G	80	G
110	E			110	H	110	H	100	H	80	G	80	G
110	G			120	H	120	H	120	H	100	H	100	H
100	G			120	H	120	H	100	H	100	H	100	H
110	G			110	F	110	F	110	F	110	F	110	F
110	F			110	H	110	H	100	H	80	G	80	G
100	F			100	G	100	G	100	G	80	G	80	G
110	F			110	G	110	G	100	G	80	G	80	F-G
105	F			110	F	110	F	100	F	80	F	80	F
110	G			110	H	110	H	100	H	80	G	80	G
110	F			110	G	110	G	100	G	80	F	80	F
85	D			110	F	110	F	100	F	80	F	80	F
100	F			100	E	100	E	80	E	80	E	80	E
80	D			80	E	80	E	60	E	60	E	60	E
80	E			100	F-G	100	F	90	F	80	F	80	F-G
65	D			80	E	80	E	70	D	70	D	70	D
50	D			50	E	50	E	50	D	50	D	50	D
50	B			50	E	50	E	50	D	50	D	50	D
				50	D	50	D	50	D	50	D	50	D
60	D			100	E	100	E	100	E	80	E	80	E
55	B			70	B-C	60	C	60	C	60	C	70	B-C
45	D			100	E	100	E	100	E	80	E	80	E
120	H	120	E	140	H	140	H	130	H	120	H	120	H
120	H	100	E	100	H	100	H	90	H	80	H	80	H
100	H	90	E	140	H	140	H	130	H	120	H	120	H
90	G	80	E	100	H	100	H	90	H	80	H	80	H
		40	A										
				100	F	100	F	90	F	80	F	80	F
				100	F	100	F	90	F	80	F	80	F
				90	H	90	H	80	H	70	H	70	H
				30	B	30	B	30	B	30	B	30	B
150	H	410	F										
150	H	410	F										
150	H	380	G										
120	H	330	G										
150	H												
80	F			120	A	120	A	120	A	120	A	120	A
120	G	280	F	120	H	120	H	110	H	100	H	100	H
120	F												
40	F	110	E										
		80	D										
40	E									F	F	F	F
										H	H	H	H

SuperV-NX Hochleistungs-Kleinstbohrer

Arbeitsrichtwerte

Vorschubreihen für Hochleistungs-Kleinstbohrer														
Vorschub-Code	A	B	C	D	E	F	G	H	I	J	K	L	M	
Werkzeug-Ø mm	0,50	0,006	0,012	0,018	0,022	0,030	0,035	0,040	0,045	0,050	0,050	0,055	0,060	0,060
	0,80	0,008	0,016	0,024	0,032	0,040	0,050	0,060	0,070	0,080	0,080	0,080	0,090	0,090
	1,00	0,012	0,022	0,032	0,042	0,060	0,070	0,080	0,090	0,100	0,100	0,110	0,110	0,120
	1,50	0,021	0,036	0,051	0,066	0,090	0,100	0,120	0,130	0,150	0,150	0,160	0,170	0,180
	2,00	0,032	0,052	0,072	0,092	0,120	0,140	0,160	0,180	0,200	0,210	0,220	0,230	0,240
	2,50	0,045	0,070	0,095	0,120	0,150	0,170	0,200	0,220	0,250	0,260	0,270	0,280	0,300
	3,00	0,060	0,090	0,120	0,150	0,180	0,210	0,240	0,270	0,300	0,310	0,330	0,340	0,360

Werkzeuge mit **fett gedruckten** Vorschubreihen-Codebuchstaben sind für die entsprechende Werkstoffgruppe vorrangig einzusetzen.

Sicherheitshinweise: Enorm wichtig ist, dass aus Sicherheitsgründen kein Bohrer ohne Abstützung mit einer höheren Drehzahl als $n = 6.000$ U/min frei drehen darf. Die Zentrifugalkräfte könnten sonst die langen Werkzeuge schon vor dem Erreichen der Werkstückoberfläche brechen!

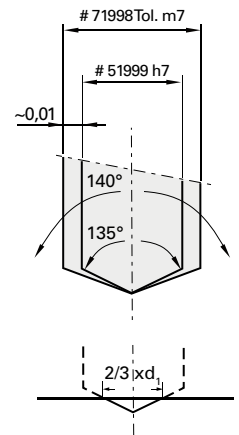
Allgemeine Hinweise: Spielarme Spindeln, fluchtungsgenaue Werkzeugaufnahmen. Wir empfehlen die Anwendung von Hydraulik-Dehnspannfuttern oder Schrumpffuttern sowie Kühlschmierung durch Emulsion oder Öl, Druck min. 40 bar.

Pilotbohrung

Beim Einsatz des SuperV-NX-Bohrers 15xD empfehlen wir die Herstellung einer Pilotbohrung mit 1xD bis 2xD Tiefe. Der SuperV-NX-Bohrer 4xD ist optimal für diese Pilotbohrung geeignet. Sein Spitzenwinkel und seine Durchmesser-toleranz sind darauf abgestimmt.

Zentrieren

Um bei den SuperV-NX-Bohrern ab 8xD Bohrtiefe die volle Leistung zu erreichen, empfehlen wir das Zentrieren. Hierzu kann der SuperV-NX-Bohrer bis 4xD, Katalog-Nr. 71998, verwendet werden. Der Zentrierdurchmesser sollte ca. $2/3 \times d$ haben. Alternativ kann die Zentrierung auch mit dem Stock NC-Anbohrer 142°, Katalog-Nr. 71189, erstellt werden.



Kühlmitteleinsatz:

- Schneidöl, hochaktiviert ■
- Bohrölemulsion ■
- ohne Schmiermittel
- nur Luftkühlung

Werkstoffgruppe	Werkstoffbeispiele, neue Bezeichnung (in Klammern alte Bezeichnung) Fettgedruckte Zahlen = Werkstoff-Nr. nach DIN EN	Zugfestigkeit MPa (N/mm²)	Härte	Kühl- mittel
Allgemeine Baustähle	1.0035 S185 (St33), 1.0486 P275N (StE285), 1.0345 P235GH (H1), 1.0425 P265GH (H2) 1.0050 E295 (St50-2), 1.0070 E360 (St70-2), 1.8937 P500NH (WStE500)	≤500 >500-850		■
Automatenstähle	1.0718 11SMnPb30 (9SMnPb28), 1.0736 11SMn37 (9SMn36) 1.0727 46S20 (45S20), 1.0728 60S20, 1.0757 46SPb20 (45SPb20)	≤850 850-1000		■
Unlegierte Vergütungsstähle	1.0402 C22, 1.1178 C30E (Ck30) 1.0503 C45, 1.1191 C45E (Ck45) 1.0601 C60, 1.1221 C60E (Ck60)	≤ 700 700-850 850-1000		■
Legierte Vergütungsstähle	1.5131 50MnSi4, 1.7003 38Cr2, 1.7030 28Cr4 1.5710 36NiCr6, 1.7035 41Cr4, 1.7225 42CrMo4	850-≤1000 1000-1200		■
Unlegierte Einsatzstähle	1.0301 (C10), 1.1121 C10E (Ck10)	≤750		■
Legierte Einsatzstähle	1.7043 38Cr4 1.5752 15NiCr13 (15NiCr13), 1.7131 16MnCr5, 1.7264 20CrMo5	850-≤1000 1000-1200		■
Nitrierstähle	1.8504 34CrAl6 1.8519 31CrMoV9, 1.8550 34CrAlNi7	≥850-≤1000 >1000-1200		■
Werkzeugstähle	1.1750 C75W, 1.2067 102Cr6, 1.2307 29CrMoV9 1.2080 X210Cr12, 1.2083 X42Cr13, 1.2419 105WCr6, 1.2767 X45NiCrMo4	≤850 >850-1000		■
Schnellarbeitsstähle	1.3243 S 6-5-2-5, 1.3343 S 6-5-2, 1.3344 S 6-5-3	≥650-1000		■
Federstähle	1.5026 55Si7, 1.7176 55Cr3, 1.8159 51CrV4 (51CrV4)		≤330 HB	■
Gehärtete Stähle	-		≤40-48 HRC >48-60 HRC	■
Rostfreie Stähle, geschwefelt austenitisch martensitisch	1.4005 X12CrS13, 1.4104 X14CrMoS17, 1.4105 X6CrMoS17, 1.4305 X8CrNiS18-9 1.4301 X5CrNi18-10 (V2A), 1.4541 X6CrNiTi18-10, 1.4571 X6CrNiMoTi 17-12-2 (V4A) 1.4057 X20CrNi 17.2 (X17CrNi16-2), 1.4122 X39CrMo17-1, 1.4521 X2CrMoTi18-2	≤850 ≤850 ≤850		■
Gusseisen	0.6010 EN-GJL-100 (GG10), 0.6020 EN-GJL-200 (GG20) 0.6025 EN-GJL-250 (GG25), 0.6035 EN-GJL-350 (GG35)	850-≤1000 1000-1200		■
Kugelgraphit- und Temporguss	0.7050 EN-GJS-500-7 (GGG50), 0.8035 EN-GJMW-350-4 (GTW35) 0.7070 EN-GJS-700-2 (GGG70), 0.8170 EN-GJMB-700-2 (GTS70)		≤240 HB <300 HB	■
Hartguss	-		≤350 HB	■
Neue Gusswerkstoffe GGV	EN-GJV250 (GGV25), EN-GJV350 (GGV35) EN-GJV400 (GGV40), EN-GJV500 (GGV50), SiMo6			■
Neue Gusswerkstoffe ADI	EN-GJS-800-8 (ADI800), EN-GJS-1000-5 (ADI1000) EN-GJS-1200-2 (ADI1200), EN-GJS-1400-1 (ADI1400)	800-1000 1200-1400		■
Sonderlegierungen	Nimonic, Inconel, Monel, Hastelloy	≤1200		■
Titan und Titan-Legierungen	3.7024 Ti99,5, 3.7114 TiAl5Sn2,5, 3.7124 TiCu2 3.7154 TiAl6Zr5, 3.7165 TiAl6V4, 3.7184 TiAl4Mo4Sn2,5, - TiAl8Mo1V1	≤850 >850-1200		■
Aluminium und Al-Legierungen	3.0255 Al99,5, 3.2315 AlMgSi1, 3.3515 AlMg1	≤400		■
Al-Knetlegierungen	3.0615 AlMgSiPb, 3.1325 AlCuMg1, 3.3245 AlMg3Si, 3.4365 AlZnMgCu1,5	≤450		■
Al-Gusslegierungen ≤ 10 % Si > 10 % Si	3.2131 G-AlSi5Cu1, 3.2153 G-AlSi7Cu3, 3.2573 G-AlSi9 3.2581 G-AlSi12, 3.2583 G-AlSi12Cu, - G-AlSi12CuNiMg	≤600 ≤600		■
Magnesium-Legierungen	3.5200 MgMn2, 3.5812.05 G-MgAl8Zn1, 3.5612.05 G-MgAl6Zn1	≤450		■
Kupfer, niedriglegiert	2.0070 SE-Cu, 2.1020 CuSn6, 2.1096 G-CuSn5ZnNb	≤400		■
Messing, kurzspanend	2.0380 CuZn39Pb2, 2.0401 CuZn39Pb3, 2.0410 CuZn43Pb2	≤600		■
langspanend	2.0250 CuZn20, 2.0280 CuZn33, 2.0332 CuZn37Pb0,5	≤600		■
Bronzen, kurzspanend	2.1090 CuSn7ZnNb, 2.1170 CuPb5Sn5, 2.1176 CuPb10Sn	≤600		■
langspanend	2.0916 CuAl5, 2.0960 CuAl9Mn, 2.1050 CuSn10 2.0980 CuAl11Ni, 2.1247 CuBe2	≤850 >850-1000		■

$\leq 4 \times D$
 $\leq 7 \times D$
 $\leq 5 \times D$
 $\leq 8 \times D$
 $\leq 15 \times D$

Katalog-Nr.	51720	71998	71999	51997	51998	51999
Schneidstoff	VHM	VHM	VHM	VHM	VHM	VHM
Oberfläche	AlTiN	AlTiN+	AlTiN+	AlTiN	AlTiN	AlTiN
DIN/Form	WN	WN	WN	WN	WN	WN
Typ	M	NX	NX	NX	NX	NX
Innenkühlung	ohne	ohne	ohne	mit	mit	mit
Katalogseite	41	42	43	44	45	46



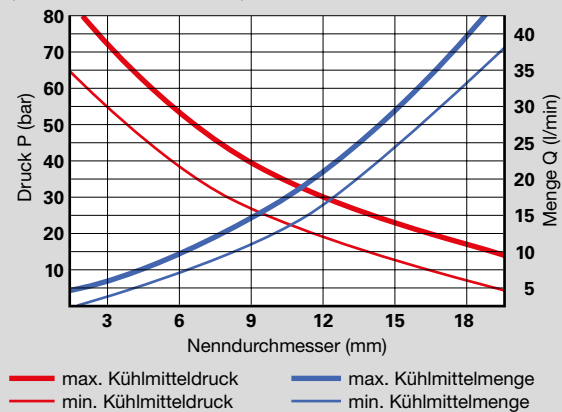
V _c m/min	VR- Code	V _c m/min	VR- Code	V _c m/min	VR- Code	V _c m/min	VR- Code	V _c m/min	VR- Code	V _c m/min	VR- Code
100	G	100	I	100	G			105	C	105	C
100	G	100	I	100	G			100	C	100	C
100	G	100	I	100	G			105	D	105	D
90	F	90	H	90	F			90	D	90	D
90	G	90	I	90	G			95	C	95	C
90	G	90	I	90	G			95	C	95	C
90	F	90	H	90	F			90	C	90	C
90	F	90	H	90	F			90	C	90	C
70	E	70	G	70	E			70	C	70	C
100	F	100	H	100	F			100	B	100	B
85	F	85	H	85	F			85	C	85	C
70	E	70	G	70	E			70	C	70	C
70	E	70	G	70	E			70	B	70	B
60	E	60	G	60	E			60	B	60	B
50	E	50	G	50	E			50	C	50	C
60	E	60	G	60	E			50	C	50	C
		60	B	60	B			50	B	50	B
		60	B	60	B			50	B	50	B
		30	B	30	B			70	B	70	B
		15	A	15	A			60	A	60	A
		30	B	30	B			70	B	70	B
130	K	130	M	130	K	120	E	150	E	150	E
130	K	130	M	130	K	100	E	140	E	140	E
130	K	130	M	130	K	90	E	140	E	140	E
120	J	120	L	120	J	80	E	130	E	130	E
						40	A				
		10	A	10	A			25	A	25	A
		15	A	15	A			35	A	35	A
		15	A	15	A			35	A	35	A
		70	M	70	M	410	F	70	M	70	M
		70	M	70	M	410	F	70	M	70	M
		135	D	135	D	380	G	135	D	135	D
		135	D	135	D	330	G	135	D	135	D
						280	F				
						110	E				
						80	D				

SuperV-Bohrer

Kühlmittelempfehlungen

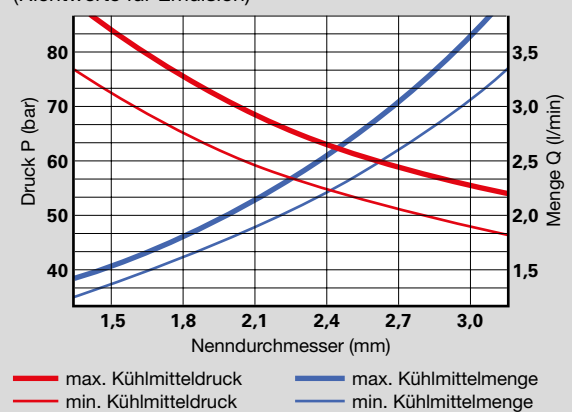
Kühlmittel-Werte SuperV-T

(Richtwerte für Emulsion)



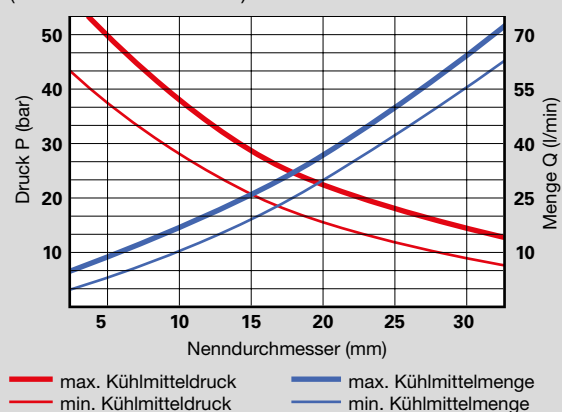
Kühlmittel-Werte SuperV-NX

(Richtwerte für Emulsion)



Kühlmittel-Werte SuperV 95-GG/GN

(Richtwerte für Emulsion)



Katalog-Nr.	Seite	Norm	Oberfläche	Bezeichnung	Schneidstoff	Typ
51681	36	DIN 6537L	TiAIN nano	SuperV-Bohrer mit Innenkühlung	VHM	SuperV-IK-U
51687	26	DIN 6537L	TiAIN nano	SuperV-Bohrer ohne Innenkühlung	VHM	SuperV-U
51720	41	Werksnorm	AlTiN	SuperV-M Universal-Kleinstbohrer	VHM	SuperV-M
51750	53	DIN 6537K	TiAlSiN	SuperV-Bohrer ohne Innenkühlung	VHM	SuperV-S
51752	61	DIN 6537K	TiAlSiN	SuperV-Bohrer mit Innenkühlung	VHM	SuperV-S
51753	63	DIN 6537K	TiAlSiN	SuperV-Bohrer mit Innenkühlung	VHM	SuperV-S
51754	65	DIN 6537L	TiAlSiN	SuperV-Bohrer mit Innenkühlung	VHM	SuperV-S
51755	67	DIN 6537L	TiAlSiN	SuperV-Bohrer mit Innenkühlung	VHM	SuperV-S
51756	69	Werksnorm	TiAlSiN	SuperV-Bohrer mit Innenkühlung	VHM	SuperV-S
51764	47	Werksnorm	AlTiN	SuperV-Bohrer mit Innenkühlung	VHM	SuperV-T
51765	48	Werksnorm	AlTiN	SuperV-Bohrer mit Innenkühlung	VHM	SuperV-T
51766	49	Werksnorm	AlTiN	SuperV-Bohrer mit Innenkühlung	VHM	SuperV-T
51767	50	Werksnorm	AlTiN	SuperV-Bohrer mit Innenkühlung	VHM	SuperV-T
51768	51	Werksnorm	AlTiN	SuperV-Bohrer mit Innenkühlung	VHM	SuperV-T
51770	72	DIN 6537K	AlTiN nano	SuperV-Bohrer mit Innenkühlung	VHM	SuperV-VA
51771	74	DIN 6537K	AlTiN nano	SuperV-Bohrer mit Innenkühlung	VHM	SuperV-VA
51772	76	DIN 6537L	AlTiN nano	SuperV-Bohrer mit Innenkühlung	VHM	SuperV-VA
51773	78	DIN 6537L	AlTiN nano	SuperV-Bohrer mit Innenkühlung	VHM	SuperV-VA
51776	28	DIN 6537K	TiAIN nano	SuperV-Bohrer mit Innenkühlung	VHM	SuperV-IK-U
51781	32	DIN 6537L	TiAIN nano	SuperV-Bohrer mit Innenkühlung	VHM	SuperV-IK-U
51785	57	DIN 6537L	TiAIN nano	SuperV-Bohrer mit Innenkühlung	VHM	SuperV-UX
51787	22	DIN 6537L	TiAIN nano	SuperV-Bohrer ohne Innenkühlung	VHM	SuperV-U
51789	38	Werksnorm	TiAIN nano	SuperV-Bohrer mit Innenkühlung	VHM	SuperV-IK-U
51790	59	Werksnorm	TiAIN nano	SuperV-Bohrer mit Innenkühlung	VHM	SuperV-UX
51871	20	DIN 6537K	TiAIN nano	SuperV-Bohrer ohne Innenkühlung	VHM	SuperV-U
51873	18	DIN 6537K	TiAIN nano	SuperV-Bohrer ohne Innenkühlung	VHM	SuperV-U
51876	30	DIN 6537K	TiAIN nano	SuperV-Bohrer mit Innenkühlung	VHM	SuperV-IK-U
51881	34	DIN 6537L	TiAIN nano	SuperV-Bohrer mit Innenkühlung	VHM	SuperV-IK-U
51887	24	DIN 6537L	TiAIN nano	SuperV-Bohrer ohne Innenkühlung	VHM	SuperV-U
51889	39	Werksnorm	TiAIN nano	SuperV-Bohrer mit Innenkühlung	VHM	SuperV-IK-U
51893	40	Werksnorm	TiAIN nano	SuperV-Bohrer mit Innenkühlung	VHM	SuperV-IK-U
51997	44	Werksnorm	AlTiN	SuperV-NX Hochleistungs-Kleinstbohrer mit Innenkühlung	VHM	SuperV-IK-NX
51998	45	Werksnorm	AlTiN	SuperV-NX Hochleistungs-Kleinstbohrer mit Innenkühlung	VHM	SuperV-IK-NX
51999	46	Werksnorm	AlTiN	SuperV-NX Hochleistungs-Kleinstbohrer mit Innenkühlung	VHM	SuperV-IK-NX
61880	70	DIN 6537L	TiN	SuperV-Bohrer mit Innenkühlung	VHM	SuperV-IK-F
61888	55	DIN 6539	TiN	SuperV-Bohrer ohne Innenkühlung	VHM	SuperV-F
71862	80	DIN 6537L	blank	SuperV-Bohrer, 3-schneidig	VHM	SuperV83-GAL
71994	83	Werksnorm	blank	SuperV-Bohrer mit Innenkühlung	VHM	SuperV95-GG
71995	81	Werksnorm	blank	SuperV-Bohrer mit Innenkühlung	VHM	SuperV95-GG
71996	84	Werksnorm	blank	SuperV-Bohrer mit Innenkühlung	VHM	SuperV95-GG
71997	85	Werksnorm	blank	SuperV-Bohrer mit Innenkühlung	VHM	SuperV95-GN
71998	42	Werksnorm	AlTiN+	SuperV-NX Hochleistungs-Kleinstbohrer ohne Innenkühlung	VHM	SuperV-NX
71999	43	Werksnorm	AlTiN+	SuperV-NX Hochleistungs-Kleinstbohrer ohne Innenkühlung	VHM	SuperV-NX



SuperV Vollhartmetall- Bohrerprogramm

Unser Programm

Produkte

Bohrwerkzeuge
Gewindewerkzeuge
Fräswerkzeuge
Reibwerkzeuge
Senkwerkzeuge
Faswerkzeuge
Sonderwerkzeuge aus HSS, PKD und Hartmetall
(nach Zeichnung oder Eigenentwicklung)
Werkzeugaufnahmen

Dienstleistungen

Nachschleifen
Sonderanschliffe
Nachbeschichten
Lohnbeschichten
Entschichten
Intelligente Werkzeugdepotsysteme
Anwendungstechnische Beratung

Ihr Ansprechpartner vor Ort:



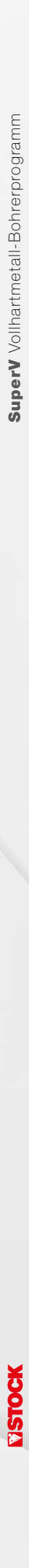
R. Stock AG

Lengeder Straße 29–35 • 13407 Berlin, Deutschland • Telefon: +49 30 40 90 3-33 300

Fax Inland: +49 30 40 90 3-33 378 • Mail Inland: verkauf@stock.de

Fax Export: +49 30 40 90 3-33 324 • Mail Export: sales@stock.de

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