

# GÜHRING

| Ausgabe 02/2022









**PRODUKT  
NEUHEITEN  
ERWEITERUNGEN**

# Onlineshop

Preis- und Bestandsabfragen in Echtzeit

Download von Werkzeugdaten

automatisches Nachbestellen dank Abo-Funktion

-  Individuelles Berechtigungsmanagement und maximale Zugangssicherheit für Ihren Account
-  Persönliche Einkaufskonditionen sind im System hinterlegt
-  Bereitstellung von CAD-Daten und Schnittwerten
-  Informationen zur Werkzeugverfügbarkeit und Bestandsauskunft
-  Intelligente Suchfunktion dank erweiterten Suchkriterien sowie Bestellung über eigene Materialnummern
-  Detaillierte Dokumentation und Historie Ihrer Bestellvorgänge sowie Merkliste für künftige Einkäufe
-  Warenkörbe zur Genehmigung und Freigabe einfach weiterleiten
-  OCI-Schnittstelle, Daten-Schnittstelle

# INHALT

## PRODUKTNEUHEITEN

### Bohrwerkzeuge

Inhaltsübersicht .....	Seite 6
Programm .....	Seite 15

### Fräswerkzeuge

Inhaltsübersicht .....	Seite 7
Programm .....	Seite 41

### Gewindewerkzeuge

Inhaltsübersicht .....	Seite 8
Programm .....	Seite 48

### Werkzeugaufnahmen

Inhaltsübersicht .....	Seite 9-10
Programm .....	Seite 69

### Stechwerkzeuge

Inhaltsübersicht .....	Seite 10-11
Programm .....	Seite 87

## PRODUKTERWEITERUNGEN

Inhaltsübersicht .....	Seite 106
Programm .....	Seite 107

# NEW

Ausgabe 02/2022



## FT 200 U

### **VHM-Bohrwerkzeug**

Dreischneider für reduzierte  
Zykluszeiten, in 5xD

..... ab Seite 15



## RT 100 XF

### **VHM-Bohrwerkzeug**

Erweiterung der XF-Familie um 12xD

..... ab Seite 19



## RT 100 T AL

### **VHM-Tieflochbohrer**

Die spiralisierte Spezialisten für Alu,  
in 15xD, 20xD und 25xD

..... ab Seite 21



## RT 100 FB

### **VHM-Bohrwerkzeug**

180°-Spitzenanschliff für einen ebenen Bohrungsgrund, in 3xD

..... ab Seite 28



## VB 100 P

### **VHM-Bohrwerkzeug**

Vierschneider speziell für die Gussbearbeitung, in 5xD

..... ab Seite 31

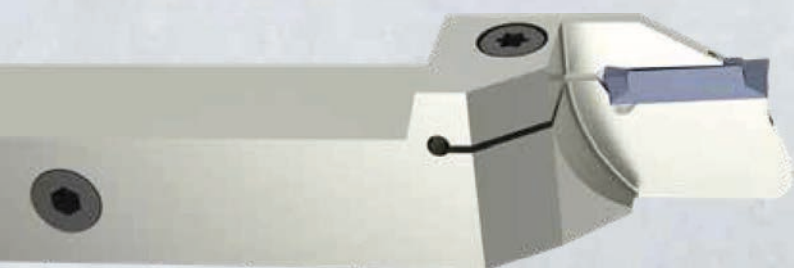


## EXCLUSIVELINE

### **Kleinstbohrer XL mit Kühlkanälen**

in 20xD

..... ab Seite 37



## SYSTEM 222

### **Abstechsystem**

Umfangreiche Erweiterung bei Klemmhaltern und Wendeschneidplatten

..... ab Seite 87

















## SYSTEM 106/108, TYP QG

### **Kleinstwerkzeuge zum Drehen**

Bohren ins Volle und Ausdrehen mit nur einem Werkzeug

..... ab Seite 97

P	M	K	N	S	H	Werkzeug-Darstellung	Bohrtiefe	Schaft- form	Typ	Norm	Schneid- stoff	Ober- fläche	d1/mm	Artikel- Nr.	Seite
Ratiobohrer mit Kühlkanälen, 3-schneidig															
•	○	•	○	○	○		5xD	HA	FT 200 U	DIN 6537L	VHM	F	4,000 - 20,000	6590	15
Ratiobohrer mit Kühlkanälen															
•	○	○	○	○	○		3xD	HA	RT 100 XF	DIN 6537K	VHM	F	3,000 - 20,000	6498	17
•	○	○	○	○	○		12xD	HA	RT 100 XF	WN	VHM	F	3,000 - 20,000	6499	19
			•				15xD	HA	RT 100 T AL	WN	VHM	○	3,000 - 14,000	6515	21
			•				20xD	HA	RT 100 T AL	WN	VHM	○	3,000 - 14,000	6516	23
			•				25xD	HA	RT 100 T AL	WN	VHM	○	3,000 - 14,000	6517	25
Ratiobohrer mit Kühlkanälen, Flat Bottom															
•	•	•	○	○	○		3xD	HA	RT 100 FB	WN	VHM	F	3,000 - 20,000	6596	28
Bohrer, 4-schneidig, VB 100 P															
	•	○					5xD	HA	VB 100 P	WN	VHM	Y	8,000 - 28,000	6045	31
ExclusiveLine-Kleinstbohrer VA ohne Kühlkanäle															
○	•	○	•				3xD	Cyl	VA	WN	VHM	X	0,500 - 3,000	6487	32
ExclusiveLine-Kleinstbohrer VA mit Kühlkanälen															
○	•	○	•				3xD	Cyl	VA	WN	VHM	X	1,000 - 3,000	6488	33
○	•	○	•				6xD	Cyl	VA	WN	VHM	X	1,000 - 3,000	6489	34
○	•	○	•				10xD	Cyl	VA	WN	VHM	X	1,000 - 3,000	6490	35
○	•	○	•				15xD	Cyl	VA	WN	VHM	X	1,000 - 3,000	6491	36
ExclusiveLine-Kleinstbohrer XL mit Kühlkanälen															
•	•	•	○	○			20xD	-HA	N	WN	VHM	A	1,000 - 3,000	6493	37

P	M	K	N	S	H	Werkzeug-Darstellung	Z	Härte	Schaft- form	Länge	Schneid- stoff	Ober- fläche	d1/mm	Artikel- Nr.	Seite
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### Ratiofräser RF 100 Sharp

•	•	•	•	•					HA		VHM		1,000 - 20,000	6478	41
•	•	•	•	•					HB		VHM		1,000 - 20,000	6479	41
•	•	•	•	•					HA		VHM		1,000 - 20,000	6480	42
•	•	•	•	•					HB		VHM		1,000 - 20,000	6481	42

### Ratiofräser RF 100 Mikrodiver

•	•	•	•	•	○			48 HRC	Cyl		VHM		0,790 - 3,175	6808	43
•	•	•	•	•	○			48 HRC	Cyl		VHM		1,000 - 3,175	6809	44

P	M	K	N	S	H	Werkzeug-Darstellung	Norm	Typ	Form	Ø-Toleranz	Schneidstoff	Oberfläche	d1/mm	Artikel-Nr.	Seite
Gewindebohrer für Metrische ISO-Gewinde															
			•	○			DIN 371/376	NR45	C	6HX	HSS-E	Cb	M2 - M16	4670	48
			•	○			DIN 371/376	N	B	6HX	HSS-E	Cb	M2 - M16	4672	49
			•	○			DIN 371/376	NR45	E	6HX	HSS-E	Cb	M2 - M16	4671	50
			•				DIN 371/376	NR15	C	6HX	VHM	Cb	M3 - M16	4673	51
			•				DIN 371/376	NR15	E	6HX	VHM	Cb	M3 - M16	4674	51
			•				DIN 371/376	N	C	6HX	VHM	Cb	M3 - M16	4675	52
Gewindebohrer für Whitworth-Rohrgewinde															
					○		DIN 371	H	D		HSS-E-PM	C	G1/8 - G1/2	4607	53
					•		~DIN 371	H	D		VHM	C	G1/8 - G1/2	4599	54
•	•	○	○	○			DIN 5156	VA R45	C		HSS-E	A	Rp1/16 - Rp1	4681	56
•	•	○	○	○			DIN 5156	VA	B		HSS-E	S	Rp1/16 - Rp1	4682	57
Gewindebohrer für BSW-Gewinde															
•	•	○	○	○			~DIN 371	VA R45	C		HSS-E	A	W1/8 - W1	4679	58
•	•	○	○	○			~DIN 371	VA	B		HSS-E	S	W1/8 - W1	4680	59
Gewindeformer für Metrische ISO-Gewinde															
			•				~DIN 371/376	N	C	6HX	HSS-E	Cb	M2 - M16	4676	60
			•				~DIN 371/376	N	E	6HX	HSS-E	Cb	M2 - M16	4677	61
			•				~DIN 371/376	N	C	6HX	VHM	Cb	M3 - M16	4678	62
Mikro-Gewindefräser															
•	•	•	•	•	•		WN	MTMH3-Z			VHM		UNF No 1 - UNF 5/8	4700	63
•	•	•	•	•	•		WN	MTMH3-Z			VHM		G1/16-G1/8 - G1/2-G5/8-G3/4	4780	64
Mehrbereichs-Gewindefräser für Rc-Gewinde															
•	•	•	•	•	○		WN	TMU SP			VHM	C	Rc1/8 - Rc 1-Rc 2	4770	65



Hydraulik-Dehnspannfutter HSK-A, schlanke Ausführung 3°



4596

69

Hydraulik-Dehnspannfutter SK, schlanke Ausführung 3°



4597

70

Schrumpffutter HSK-A, schlanke Ausführung 3°



4787

71

Schrumpffutter SK, schlanke Ausführung 3°



4788

72

Schrumpffutter HSK-E, schlanke Ausführung 3°



4789

73

Präzisionsspannzangenaufnahme HSK-A



4476

74

Präzisionsspannzangenaufnahme HSK-E



4475

75

Präzisionsspannzangen für Präzisionsspannzangenaufnahmen



4574

76

Präzisionsspannzangen für Präzisionsspannzangenaufnahmen, abgedichtet



4575

77

Rollenschlüssel für Präzisionsspannzangenaufnahmen



4994

78

Rollenschlüsseleinsatz für Drehmomentschlüssel



4995

79

Drehmomentschlüssel



4981

80

Hydraulik-Dehnspannfutter MAS/BT DC mit Plananlage



4598

82

Schrumpffutter MAS/BT DC mit Plananlage



4790

83

Vierkantschafthalter gerade, Außenbearbeitung, ohne IK



26100

87



26101

87

Vierkantschafthalter gerade, Außenbearbeitung, mit IK



26102

89



26103

89

Abstechschwert, ohne IK



26200

91

Abstechschwert, mit IK



26201

92

WSP zum Abstechen



26601

93



26602

94



26603

94



26604

95



26605

96

Rundschafthalter, Spannschraube oben, vier Spannflächen



25325

97

Rundschafthalter, Spannschraube oben, vier Spannflächen



27018

98

Schneideinsatz zum Bohren ins Volle und Ausdrehen



26906

99

Schneideinsatz zum Bohren ins Volle und Ausdrehen

**27290**

100

Vierkantschafthalter 90° gekröpft und abgesetzt, ohne IK

**25004**

101

Vierkantschafthalter 90° gekröpft und abgesetzt, mit IK

**25005**

102

Vierkantschafthalter 90° gekröpft und abgesetzt, ohne IK

**25303**

103

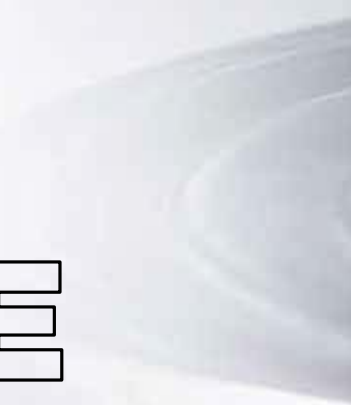
Vierkantschafthalter 90° gekröpft und abgesetzt, mit IK

**25306**

104



# **BOHR** **WERKZEUGE**





NEW

# FT 200 U

## DREISCHNEIDER

Der 3-schneidige VHM-Bohrer FT 200 U sorgt mit seiner Pyramidenspitze für **gute Selbstzentrierung** und weist in Kombination mit der eigens konzipierten Ausspitzung **perfektes Materialeindringverhalten** auf. Durch den speziell entwickelten **Spiropoint-Anschliff** formt sich der Spitzenwinkel ähnlich eines Trichters und ermöglicht **punktgenaues Anbohren**. Den optimalen Span erreicht der FT 200 U mit einem angepassten Nutprofil, das die Späne eng einrollt und prozesssicher bricht. In Kombination mit einer sichelförmigen Schneide wird die Aufhärtung im Randbereich und somit der Stressfaktor des Materials signifikant reduziert.

### IHRE VORTEILE

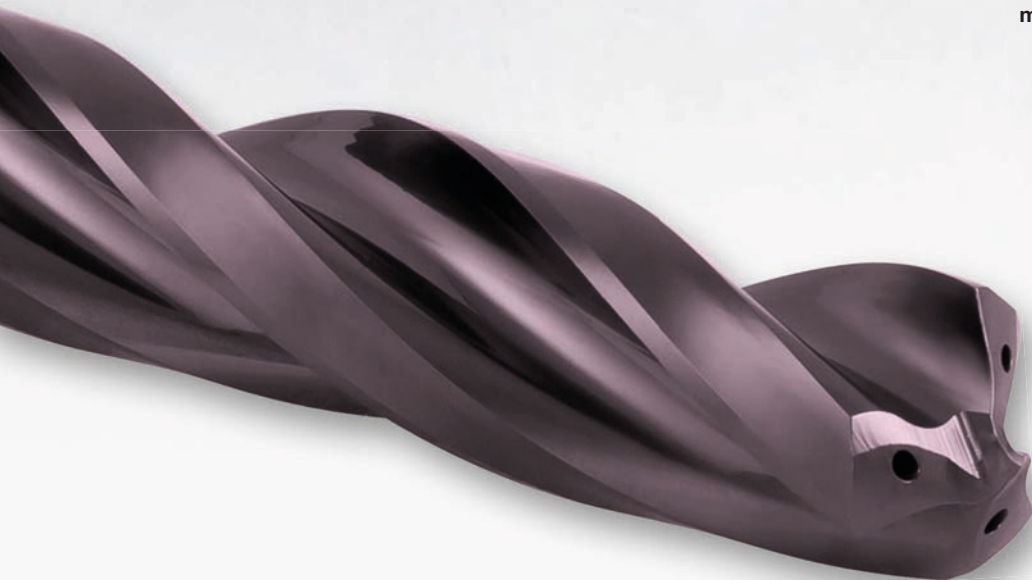
- leistungsstark & laufig unter allen Einsatzbedingungen
- Hochvorschubbohren für reduzierte Zykluszeiten und eine kosteneffiziente Bearbeitung
- reduzierte Aufhärtung der Randschicht



**Pyramidenspitze unterbindet die radiale Abdrängung beim Anbohren**

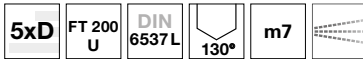


**maximaler Kühlkanal-Querschnitt für effektiven Spantransport und Thermo-Management**





## Ratioboherer mit Kühlkanälen, 3-schneidig

Schneidstoff **VHM**Oberfläche **F**Schaffform **HA**

**P** • Spiropointanschliff • optimales Zentrieren • für unterbrochenen Schnitt geeignet • höchste Leistungsfähigkeit

**M** ○

**K** •

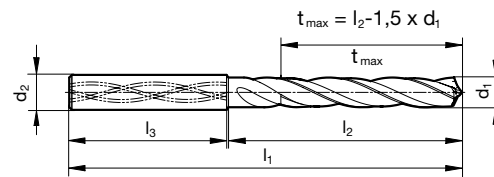
**N** ○ Bau- und Einsatzstähle • Automatenstähle, Vergütungsstähle • Stähle (legiert/unleg.) bis 1400 N/mm<sup>2</sup> • Gusswerkstoffe

**S** ○

**H** ○

**GUHRING NAVIGATOR**

Schnittdaten finden Sie in unserem Online-Navigator unter <https://webnavigator.guehring.de>.

Artikel-Nr. **6590**

d1		d2 h6	l1	l2	l3	d1		d2 h6	l1	l2	l3
mm	inch	mm	mm	mm	mm	mm	inch	mm	mm	mm	mm
4,000		6,000	74,000	36,000	36,000	6,800		8,000	91,000	53,000	36,000
4,040		6,000	74,000	36,000	36,000	6,900		8,000	91,000	53,000	36,000
4,100		6,000	74,000	36,000	36,000	7,000		8,000	91,000	53,000	36,000
4,200		6,000	74,000	36,000	36,000	7,100		8,000	91,000	53,000	36,000
4,300		6,000	74,000	36,000	36,000	7,140	9/32	8,000	91,000	53,000	36,000
4,370	11/64	6,000	74,000	36,000	36,000	7,200		8,000	91,000	53,000	36,000
4,400		6,000	74,000	36,000	36,000	7,300		8,000	91,000	53,000	36,000
4,500		6,000	74,000	36,000	36,000	7,400		8,000	91,000	53,000	36,000
4,600		6,000	74,000	36,000	36,000	7,500		8,000	91,000	53,000	36,000
4,650		6,000	74,000	36,000	36,000	7,540	19/64	8,000	91,000	53,000	36,000
4,700		6,000	74,000	36,000	36,000	7,550		8,000	91,000	53,000	36,000
4,760	3/16	6,000	82,000	44,000	36,000	7,600		8,000	91,000	53,000	36,000
4,800		6,000	82,000	44,000	36,000	7,650		8,000	91,000	53,000	36,000
4,900		6,000	82,000	44,000	36,000	7,700		8,000	91,000	53,000	36,000
5,000		6,000	82,000	44,000	36,000	7,800		8,000	91,000	53,000	36,000
5,100		6,000	82,000	44,000	36,000	7,900		8,000	91,000	53,000	36,000
5,110		6,000	82,000	44,000	36,000	7,940	5/16	8,000	91,000	53,000	36,000
5,160	13/64	6,000	82,000	44,000	36,000	8,000		8,000	91,000	53,000	36,000
5,200		6,000	82,000	44,000	36,000	8,100		10,000	103,000	61,000	40,000
5,300		6,000	82,000	44,000	36,000	8,200		10,000	103,000	61,000	40,000
5,400		6,000	82,000	44,000	36,000	8,300		10,000	103,000	61,000	40,000
5,410		6,000	82,000	44,000	36,000	8,330	21/64	10,000	103,000	61,000	40,000
5,500		6,000	82,000	44,000	36,000	8,400		10,000	103,000	61,000	40,000
5,550		6,000	82,000	44,000	36,000	8,500		10,000	103,000	61,000	40,000
5,560	7/32	6,000	82,000	44,000	36,000	8,600		10,000	103,000	61,000	40,000
5,600		6,000	82,000	44,000	36,000	8,700		10,000	103,000	61,000	40,000
5,700		6,000	82,000	44,000	36,000	8,730	11/32	10,000	103,000	61,000	40,000
5,800		6,000	82,000	44,000	36,000	8,800		10,000	103,000	61,000	40,000
5,900		6,000	82,000	44,000	36,000	8,900		10,000	103,000	61,000	40,000
5,950	15/64	6,000	82,000	44,000	36,000	9,000		10,000	103,000	61,000	40,000
6,000		6,000	82,000	44,000	36,000	9,100		10,000	103,000	61,000	40,000
6,100		8,000	91,000	53,000	36,000	9,130	23/64	10,000	103,000	61,000	40,000
6,200		8,000	91,000	53,000	36,000	9,200		10,000	103,000	61,000	40,000
6,300		8,000	91,000	53,000	36,000	9,250		10,000	103,000	61,000	40,000
6,350	1/4	8,000	91,000	53,000	36,000	9,300		10,000	103,000	61,000	40,000
6,400		8,000	91,000	53,000	36,000	9,340		10,000	103,000	61,000	40,000
6,500		8,000	91,000	53,000	36,000	9,400		10,000	103,000	61,000	40,000
6,530		8,000	91,000	53,000	36,000	9,500		10,000	103,000	61,000	40,000
6,550		8,000	91,000	53,000	36,000	9,520	3/8	10,000	103,000	61,000	40,000
6,600		8,000	91,000	53,000	36,000	9,550		10,000	103,000	61,000	40,000
6,700		8,000	91,000	53,000	36,000	9,600		10,000	103,000	61,000	40,000
6,750	17/64	8,000	91,000	53,000	36,000	9,700		10,000	103,000	61,000	40,000



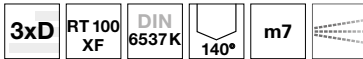
d1		d2 h6	l1	l2	l3
mm	inch	mm	mm	mm	mm
9,800		10,000	103,000	61,000	40,000
9,900		10,000	103,000	61,000	40,000
9,920	25/64	10,000	103,000	61,000	40,000
10,000		10,000	103,000	61,000	40,000
10,100		12,000	118,000	71,000	45,000
10,200		12,000	118,000	71,000	45,000
10,300		12,000	118,000	71,000	45,000
10,320	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
10,720	27/64	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	7/16	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
11,510	29/64	12,000	118,000	71,000	45,000
11,550		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	15/32	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
12,300	31/64	14,000	124,000	77,000	45,000
12,400		14,000	124,000	77,000	45,000
12,500		14,000	124,000	77,000	45,000
12,600		14,000	124,000	77,000	45,000
12,700	1/2	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
13,100	33/64	14,000	124,000	77,000	45,000
13,200		14,000	124,000	77,000	45,000
13,300		14,000	124,000	77,000	45,000
13,400		14,000	124,000	77,000	45,000
13,490	17/32	14,000	124,000	77,000	45,000
13,500		14,000	124,000	77,000	45,000
13,600		14,000	124,000	77,000	45,000
13,700		14,000	124,000	77,000	45,000
13,800		14,000	124,000	77,000	45,000
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
14,100		16,000	133,000	83,000	48,000
14,200		16,000	133,000	83,000	48,000

d1		d2 h6	l1	l2	l3
mm	inch	mm	mm	mm	mm
14,290	9/16	16,000	133,000	83,000	48,000
14,300		16,000	133,000	83,000	48,000
14,400		16,000	133,000	83,000	48,000
14,500		16,000	133,000	83,000	48,000
14,600		16,000	133,000	83,000	48,000
14,680	37/64	16,000	133,000	83,000	48,000
14,700		16,000	133,000	83,000	48,000
14,800		16,000	133,000	83,000	48,000
14,900		16,000	133,000	83,000	48,000
15,000		16,000	133,000	83,000	48,000
15,080	19/32	16,000	133,000	83,000	48,000
15,100		16,000	133,000	83,000	48,000
15,200		16,000	133,000	83,000	48,000
15,300		16,000	133,000	83,000	48,000
15,400		16,000	133,000	83,000	48,000
15,480	39/64	16,000	133,000	83,000	48,000
15,500		16,000	133,000	83,000	48,000
15,550		16,000	133,000	83,000	48,000
15,600		16,000	133,000	83,000	48,000
15,700		16,000	133,000	83,000	48,000
15,800		16,000	133,000	83,000	48,000
15,870	5/8	16,000	133,000	83,000	48,000
15,900		16,000	133,000	83,000	48,000
16,000		16,000	133,000	83,000	48,000
16,270	41/64	18,000	143,000	93,000	48,000
16,300		18,000	143,000	93,000	48,000
16,500		18,000	143,000	93,000	48,000
16,670	21/32	18,000	143,000	93,000	48,000
16,700		18,000	143,000	93,000	48,000
16,900		18,000	143,000	93,000	48,000
17,000		18,000	143,000	93,000	48,000
17,070	43/64	18,000	143,000	93,000	48,000
17,460	11/16	18,000	143,000	93,000	48,000
17,500		18,000	143,000	93,000	48,000
17,550		18,000	143,000	93,000	48,000
17,700		18,000	143,000	93,000	48,000
17,860	45/64	18,000	143,000	93,000	48,000
18,000		18,000	143,000	93,000	48,000
18,260	23/32	20,000	153,000	101,000	50,000
18,500		20,000	153,000	101,000	50,000
18,700		20,000	153,000	101,000	50,000
18,900		20,000	153,000	101,000	50,000
19,000		20,000	153,000	101,000	50,000
19,050	3/4	20,000	153,000	101,000	50,000
19,250		20,000	153,000	101,000	50,000
19,300		20,000	153,000	101,000	50,000
19,450	49/64	20,000	153,000	101,000	50,000
19,500		20,000	153,000	101,000	50,000
19,550		20,000	153,000	101,000	50,000
19,700		20,000	153,000	101,000	50,000
19,800		20,000	153,000	101,000	50,000
19,840	25/32	20,000	153,000	101,000	50,000
20,000		20,000	153,000	101,000	50,000





## Ratioboherer mit Kühlkanälen

Schneidstoff **VHM**Oberfläche **F**Schaffform **HA**

**P** • Kegelmantelschliff • Hauptschneidenform konkav • optimierte Schneidengeometrie • höchste Leistungsfähigkeit • vier Führungsfasen

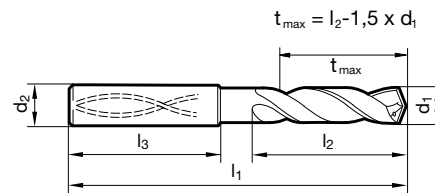
**M** ○**K** ○

**N** Bau- und Einsatzstähle • Automatenstähle, Vergütungsstähle • Stähle (legiert/unleg.) bis 1400 N/mm<sup>2</sup>

**S** ○**H** ○

## GÜHRING NAVIGATOR

Schnittdaten finden Sie in unserem Online-Navigator unter <https://webnavigator.guehring.de>.

Artikel-Nr. **6498**

d1		d2	l1	l2	l3	d1		d2	l1	l2	l3
mm	inch	mm	mm	mm	mm	mm	inch	mm	mm	mm	mm
3,000		6,000	62,000	20,000	36,000	5,900		6,000	66,000	28,000	36,000
3,100		6,000	62,000	20,000	36,000	5,950	15/64	6,000	66,000	28,000	36,000
3,170	1/8	6,000	62,000	20,000	36,000	6,000		6,000	66,000	28,000	36,000
3,200		6,000	62,000	20,000	36,000	6,100		8,000	79,000	34,000	36,000
3,250		6,000	62,000	20,000	36,000	6,200		8,000	79,000	34,000	36,000
3,300		6,000	62,000	20,000	36,000	6,300		8,000	79,000	34,000	36,000
3,400		6,000	62,000	20,000	36,000	6,350	1/4	8,000	79,000	34,000	36,000
3,500		6,000	62,000	20,000	36,000	6,400		8,000	79,000	34,000	36,000
3,570	9/64	6,000	62,000	20,000	36,000	6,500		8,000	79,000	34,000	36,000
3,600		6,000	62,000	20,000	36,000	6,530		8,000	79,000	34,000	36,000
3,700		6,000	62,000	20,000	36,000	6,550		8,000	79,000	34,000	36,000
3,800		6,000	66,000	24,000	36,000	6,600		8,000	79,000	34,000	36,000
3,900		6,000	66,000	24,000	36,000	6,700		8,000	79,000	34,000	36,000
3,970	5/32	6,000	66,000	24,000	36,000	6,750	17/64	8,000	79,000	34,000	36,000
4,000		6,000	66,000	24,000	36,000	6,800		8,000	79,000	34,000	36,000
4,040		6,000	66,000	24,000	36,000	6,900		8,000	79,000	34,000	36,000
4,100		6,000	66,000	24,000	36,000	7,000		8,000	79,000	34,000	36,000
4,200		6,000	66,000	24,000	36,000	7,100		8,000	79,000	41,000	36,000
4,300		6,000	66,000	24,000	36,000	7,140	9/32	8,000	79,000	41,000	36,000
4,370	11/64	6,000	66,000	24,000	36,000	7,200		8,000	79,000	41,000	36,000
4,400		6,000	66,000	24,000	36,000	7,300		8,000	79,000	41,000	36,000
4,500		6,000	66,000	24,000	36,000	7,400		8,000	79,000	41,000	36,000
4,600		6,000	66,000	24,000	36,000	7,500		8,000	79,000	41,000	36,000
4,650		6,000	66,000	24,000	36,000	7,540	19/64	8,000	79,000	41,000	36,000
4,700		6,000	66,000	24,000	36,000	7,550		8,000	79,000	41,000	36,000
4,760	3/16	6,000	66,000	28,000	36,000	7,600		8,000	79,000	41,000	36,000
4,800		6,000	66,000	28,000	36,000	7,650		8,000	79,000	41,000	36,000
4,900		6,000	66,000	28,000	36,000	7,700		8,000	79,000	41,000	36,000
5,000		6,000	66,000	28,000	36,000	7,800		8,000	79,000	41,000	36,000
5,100		6,000	66,000	28,000	36,000	7,900		8,000	79,000	41,000	36,000
5,110		6,000	66,000	28,000	36,000	7,940	5/16	8,000	79,000	41,000	36,000
5,160	13/64	6,000	66,000	28,000	36,000	8,000		8,000	79,000	41,000	36,000
5,200		6,000	66,000	28,000	36,000	8,100		10,000	89,000	47,000	40,000
5,300		6,000	66,000	28,000	36,000	8,200		10,000	89,000	47,000	40,000
5,400		6,000	66,000	28,000	36,000	8,300		10,000	89,000	47,000	40,000
5,410		6,000	66,000	28,000	36,000	8,330	21/64	10,000	89,000	47,000	40,000
5,500		6,000	66,000	28,000	36,000	8,400		10,000	89,000	47,000	40,000
5,550		6,000	66,000	28,000	36,000	8,500		10,000	89,000	47,000	40,000
5,560	7/32	6,000	66,000	28,000	36,000	8,600		10,000	89,000	47,000	40,000
5,600		6,000	66,000	28,000	36,000	8,700		10,000	89,000	47,000	40,000
5,700		6,000	66,000	28,000	36,000	8,730	11/32	10,000	89,000	47,000	40,000
5,800		6,000	66,000	28,000	36,000	8,800		10,000	89,000	47,000	40,000



d1		d2	l1	l2	l3
mm	inch	mm	mm	mm	mm
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
9,340		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
9,550		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
10,720	27/64	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
11,110	7/16	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
11,510	29/64	12,000	102,000	55,000	45,000
11,550		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
11,910	15/32	12,000	102,000	55,000	45,000
12,000		12,000	102,000	55,000	45,000
12,100		14,000	107,000	60,000	45,000
12,200		14,000	107,000	60,000	45,000
12,300	31/64	14,000	107,000	60,000	45,000
12,400		14,000	107,000	60,000	45,000
12,500		14,000	107,000	60,000	45,000
12,600		14,000	107,000	60,000	45,000
12,700	1/2	14,000	107,000	60,000	45,000
12,800		14,000	107,000	60,000	45,000
12,900		14,000	107,000	60,000	45,000
13,000		14,000	107,000	60,000	45,000
13,100	33/64	14,000	107,000	60,000	45,000
13,200		14,000	107,000	60,000	45,000
13,300		14,000	107,000	60,000	45,000
13,400		14,000	107,000	60,000	45,000
13,490	17/32	14,000	107,000	60,000	45,000
13,500		14,000	107,000	60,000	45,000
13,600		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
13,890	35/64	14,000	107,000	60,000	45,000
13,900		14,000	107,000	60,000	45,000
14,000		14,000	107,000	60,000	45,000

d1		d2	l1	l2	l3
mm	inch	mm	mm	mm	mm
14,100		16,000	115,000	65,000	48,000
14,200		16,000	115,000	65,000	48,000
14,290	9/16	16,000	115,000	65,000	48,000
14,300		16,000	115,000	65,000	48,000
14,400		16,000	115,000	65,000	48,000
14,500		16,000	115,000	65,000	48,000
14,600		16,000	115,000	65,000	48,000
14,680	37/64	16,000	115,000	65,000	48,000
14,700		16,000	115,000	65,000	48,000
14,800		16,000	115,000	65,000	48,000
14,900		16,000	115,000	65,000	48,000
15,000		16,000	115,000	65,000	48,000
15,080	19/32	16,000	115,000	65,000	48,000
15,100		16,000	115,000	65,000	48,000
15,200		16,000	115,000	65,000	48,000
15,300		16,000	115,000	65,000	48,000
15,400		16,000	115,000	65,000	48,000
15,480	39/64	16,000	115,000	65,000	48,000
15,500		16,000	115,000	65,000	48,000
15,550		16,000	115,000	65,000	48,000
15,600		16,000	115,000	65,000	48,000
15,700		16,000	115,000	65,000	48,000
15,800		16,000	115,000	65,000	48,000
15,870	5/8	16,000	115,000	65,000	48,000
15,900		16,000	115,000	65,000	48,000
16,000		16,000	115,000	65,000	48,000
16,270	41/64	18,000	123,000	73,000	48,000
16,300		18,000	123,000	73,000	48,000
16,500		18,000	123,000	73,000	48,000
16,670	21/32	18,000	123,000	73,000	48,000
16,700		18,000	123,000	73,000	48,000
16,900		18,000	123,000	73,000	48,000
17,000		18,000	123,000	73,000	48,000
17,070	43/64	18,000	123,000	73,000	48,000
17,460	11/16	18,000	123,000	73,000	48,000
17,500		18,000	123,000	73,000	48,000
17,550		18,000	123,000	73,000	48,000
17,700		18,000	123,000	73,000	48,000
17,860	45/64	18,000	123,000	73,000	48,000
18,000		18,000	123,000	73,000	48,000
18,260	23/32	20,000	131,000	79,000	50,000
18,500		20,000	131,000	79,000	50,000
18,700		20,000	131,000	79,000	50,000
18,900		20,000	131,000	79,000	50,000
19,000		20,000	131,000	79,000	50,000
19,050	3/4	20,000	131,000	79,000	50,000
19,250		20,000	131,000	79,000	50,000
19,300		20,000	131,000	79,000	50,000
19,450	49/64	20,000	131,000	79,000	50,000
19,500		20,000	131,000	79,000	50,000
19,550		20,000	131,000	79,000	50,000
19,700		20,000	131,000	79,000	50,000
19,800		20,000	131,000	79,000	50,000
19,840	25/32	20,000	131,000	79,000	50,000
20,000		20,000	131,000	79,000	50,000



## Ratioboherer mit Kühlkanälen

Schneidstoff **VHM**Oberfläche **F**

Schaffform HA

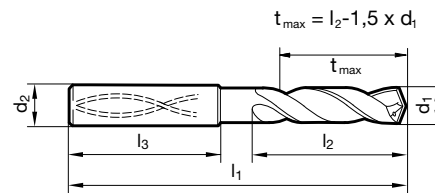
**P** • Kegelmantelschliff • Hauptschneidenform konkav • optimierte Schneidengeometrie • höchste Leistungsfähigkeit • vier Führungsfasen

**M** ○**K** ○**N** ○

Bau- und Einsatzstähle • Automatenstähle, Vergütungsstähle • Stähle (legiert/unleg.) bis 1400 N/mm<sup>2</sup>

**S** ○**H** ○**NEW**

Produktneuheiten

**GUHRING NAVIGATOR**Schnittdaten finden Sie in unserem Online-Navigator unter <https://webnavigator.guehring.de>.Artikel-Nr. **6499**

d1		d2	l1	l2	l3	d1		d2	l1	l2	l3
mm	inch	mm	mm	mm	mm	mm	inch	mm	mm	mm	mm
3,000		6,000	95,000	55,000	36,000	5,900		6,000	130,000	90,000	36,000
3,100		6,000	95,000	55,000	36,000	5,950	15/64	6,000	130,000	90,000	36,000
3,170	1/8	6,000	95,000	55,000	36,000	6,000		6,000	130,000	90,000	36,000
3,200		6,000	95,000	55,000	36,000	6,100		8,000	158,000	118,000	36,000
3,250		6,000	95,000	55,000	36,000	6,200		8,000	158,000	118,000	36,000
3,300		6,000	95,000	55,000	36,000	6,300		8,000	158,000	118,000	36,000
3,400		6,000	95,000	55,000	36,000	6,350	1/4	8,000	158,000	118,000	36,000
3,500		6,000	102,000	62,000	36,000	6,400		8,000	158,000	118,000	36,000
3,570	9/64	6,000	102,000	62,000	36,000	6,500		8,000	158,000	118,000	36,000
3,600		6,000	102,000	62,000	36,000	6,530		8,000	158,000	118,000	36,000
3,700		6,000	102,000	62,000	36,000	6,550		8,000	158,000	118,000	36,000
3,800		6,000	102,000	62,000	36,000	6,600		8,000	158,000	118,000	36,000
3,900		6,000	102,000	62,000	36,000	6,700		8,000	158,000	118,000	36,000
3,970	5/32	6,000	102,000	62,000	36,000	6,750	17/64	8,000	158,000	118,000	36,000
4,000		6,000	102,000	62,000	36,000	6,800		8,000	158,000	118,000	36,000
4,040		6,000	109,000	69,000	36,000	6,900		8,000	158,000	118,000	36,000
4,100		6,000	109,000	69,000	36,000	7,000		8,000	158,000	118,000	36,000
4,200		6,000	109,000	69,000	36,000	7,100		8,000	158,000	118,000	36,000
4,300		6,000	109,000	69,000	36,000	7,140	9/32	8,000	158,000	118,000	36,000
4,370	11/64	6,000	109,000	69,000	36,000	7,200		8,000	158,000	118,000	36,000
4,400		6,000	109,000	69,000	36,000	7,300		8,000	158,000	118,000	36,000
4,500		6,000	116,000	76,000	36,000	7,400		8,000	158,000	118,000	36,000
4,600		6,000	116,000	76,000	36,000	7,500		8,000	158,000	118,000	36,000
4,650		6,000	116,000	76,000	36,000	7,540	19/64	8,000	158,000	118,000	36,000
4,700		6,000	116,000	76,000	36,000	7,550		8,000	158,000	118,000	36,000
4,760	3/16	6,000	116,000	76,000	36,000	7,600		8,000	158,000	118,000	36,000
4,800		6,000	116,000	76,000	36,000	7,650		8,000	158,000	118,000	36,000
4,900		6,000	116,000	76,000	36,000	7,700		8,000	158,000	118,000	36,000
5,000		6,000	116,000	76,000	36,000	7,800		8,000	158,000	118,000	36,000
5,100		6,000	123,000	83,000	36,000	7,900		8,000	158,000	118,000	36,000
5,110		6,000	123,000	83,000	36,000	7,940	5/16	8,000	158,000	118,000	36,000
5,160	13/64	6,000	123,000	83,000	36,000	8,000		8,000	158,000	118,000	36,000
5,200		6,000	123,000	83,000	36,000	8,100		10,000	190,000	146,000	40,000
5,300		6,000	123,000	83,000	36,000	8,200		10,000	190,000	146,000	40,000
5,400		6,000	123,000	83,000	36,000	8,300		10,000	190,000	146,000	40,000
5,410		6,000	123,000	83,000	36,000	8,330	21/64	10,000	190,000	146,000	40,000
5,500		6,000	130,000	90,000	36,000	8,400		10,000	190,000	146,000	40,000
5,550		6,000	130,000	90,000	36,000	8,500		10,000	190,000	146,000	40,000
5,560	7/32	6,000	130,000	90,000	36,000	8,600		10,000	190,000	146,000	40,000
5,600		6,000	130,000	90,000	36,000	8,700		10,000	190,000	146,000	40,000
5,700		6,000	130,000	90,000	36,000	8,730	11/32	10,000	190,000	146,000	40,000
5,800		6,000	130,000	90,000	36,000	8,800		10,000	190,000	146,000	40,000



d1		d2	l1	l2	l3
mm	inch	mm	mm	mm	mm
8,900		10,000	190,000	146,000	40,000
9,000		10,000	190,000	146,000	40,000
9,100		10,000	190,000	146,000	40,000
9,130	23/64	10,000	190,000	146,000	40,000
9,200		10,000	190,000	146,000	40,000
9,250		10,000	190,000	146,000	40,000
9,300		10,000	190,000	146,000	40,000
9,340		10,000	190,000	146,000	40,000
9,400		10,000	190,000	146,000	40,000
9,500		10,000	190,000	146,000	40,000
9,520	3/8	10,000	190,000	146,000	40,000
9,550		10,000	190,000	146,000	40,000
9,600		10,000	190,000	146,000	40,000
9,700		10,000	190,000	146,000	40,000
9,800		10,000	190,000	146,000	40,000
9,900		10,000	190,000	146,000	40,000
9,920	25/64	10,000	190,000	146,000	40,000
10,000		10,000	190,000	146,000	40,000
10,100		12,000	223,000	174,000	45,000
10,200		12,000	223,000	174,000	45,000
10,300		12,000	223,000	174,000	45,000
10,320	13/32	12,000	223,000	174,000	45,000
10,400		12,000	223,000	174,000	45,000
10,500		12,000	223,000	174,000	45,000
10,600		12,000	223,000	174,000	45,000
10,700		12,000	223,000	174,000	45,000
10,720	27/64	12,000	223,000	174,000	45,000
10,800		12,000	223,000	174,000	45,000
10,900		12,000	223,000	174,000	45,000
11,000		12,000	223,000	174,000	45,000
11,100		12,000	223,000	174,000	45,000
11,110	7/16	12,000	223,000	174,000	45,000
11,200		12,000	223,000	174,000	45,000
11,300		12,000	223,000	174,000	45,000
11,400		12,000	223,000	174,000	45,000
11,500		12,000	223,000	174,000	45,000
11,510	29/64	12,000	223,000	174,000	45,000
11,550		12,000	223,000	174,000	45,000
11,600		12,000	223,000	174,000	45,000
11,700		12,000	223,000	174,000	45,000
11,800		12,000	223,000	174,000	45,000
11,900		12,000	223,000	174,000	45,000
11,910	15/32	12,000	223,000	174,000	45,000
12,000		12,000	223,000	174,000	45,000
12,100		14,000	251,000	202,000	45,000
12,200		14,000	251,000	202,000	45,000
12,300	31/64	14,000	251,000	202,000	45,000
12,400		14,000	251,000	202,000	45,000
12,500		14,000	251,000	202,000	45,000
12,600		14,000	251,000	202,000	45,000
12,700	1/2	14,000	251,000	202,000	45,000
12,800		14,000	251,000	202,000	45,000
12,900		14,000	251,000	202,000	45,000
13,000		14,000	251,000	202,000	45,000
13,100	33/64	14,000	251,000	202,000	45,000
13,200		14,000	251,000	202,000	45,000
13,300		14,000	251,000	202,000	45,000
13,400		14,000	251,000	202,000	45,000
13,490	17/32	14,000	251,000	202,000	45,000
13,500		14,000	251,000	202,000	45,000
13,600		14,000	251,000	202,000	45,000
13,700		14,000	251,000	202,000	45,000
13,800		14,000	251,000	202,000	45,000
13,890	35/64	14,000	251,000	202,000	45,000
13,900		14,000	251,000	202,000	45,000
14,000		14,000	251,000	202,000	45,000

d1		d2	l1	l2	l3
mm	inch	mm	mm	mm	mm
14,100		16,000	282,000	230,000	48,000
14,200		16,000	282,000	230,000	48,000
14,290	9/16	16,000	282,000	230,000	48,000
14,300		16,000	282,000	230,000	48,000
14,400		16,000	282,000	230,000	48,000
14,500		16,000	282,000	230,000	48,000
14,600		16,000	282,000	230,000	48,000
14,680	37/64	16,000	282,000	230,000	48,000
14,700		16,000	282,000	230,000	48,000
14,800		16,000	282,000	230,000	48,000
14,900		16,000	282,000	230,000	48,000
15,000		16,000	282,000	230,000	48,000
15,080	19/32	16,000	282,000	230,000	48,000
15,100		16,000	282,000	230,000	48,000
15,200		16,000	282,000	230,000	48,000
15,300		16,000	282,000	230,000	48,000
15,400		16,000	282,000	230,000	48,000
15,480	39/64	16,000	282,000	230,000	48,000
15,500		16,000	282,000	230,000	48,000
15,550		16,000	282,000	230,000	48,000
15,600		16,000	282,000	230,000	48,000
15,700		16,000	282,000	230,000	48,000
15,800		16,000	282,000	230,000	48,000
15,870	5/8	16,000	282,000	230,000	48,000
15,900		16,000	282,000	230,000	48,000
16,000		16,000	282,000	230,000	48,000
16,270	41/64	18,000	310,000	258,000	48,000
16,300		18,000	310,000	258,000	48,000
16,500		18,000	310,000	258,000	48,000
16,670	21/32	18,000	310,000	258,000	48,000
16,700		18,000	310,000	258,000	48,000
16,900		18,000	310,000	258,000	48,000
17,000		18,000	310,000	258,000	48,000
17,070	43/64	18,000	310,000	258,000	48,000
17,460	11/16	18,000	310,000	258,000	48,000
17,500		18,000	310,000	258,000	48,000
17,550		18,000	310,000	258,000	48,000
17,700		18,000	310,000	258,000	48,000
17,860	45/64	18,000	310,000	258,000	48,000
18,000		18,000	310,000	258,000	48,000
18,260	23/32	20,000	340,000	286,000	50,000
18,500		20,000	340,000	286,000	50,000
18,700		20,000	340,000	286,000	50,000
18,900		20,000	340,000	286,000	50,000
19,000		20,000	340,000	286,000	50,000
19,050	3/4	20,000	340,000	286,000	50,000
19,250		20,000	340,000	286,000	50,000
19,300		20,000	340,000	286,000	50,000
19,450	49/64	20,000	340,000	286,000	50,000
19,500		20,000	340,000	286,000	50,000
19,550		20,000	340,000	286,000	50,000
19,700		20,000	340,000	286,000	50,000
19,800		20,000	340,000	286,000	50,000
19,840	25/32	20,000	340,000	286,000	50,000
20,000		20,000	340,000	286,000	50,000



## Ratioboherer mit Kühlkanälen

Schneidstoff **VHM**

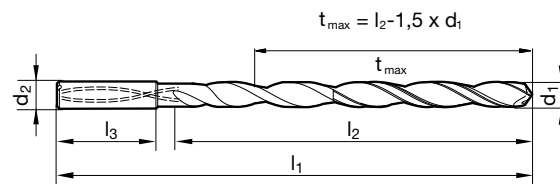
Oberfläche ○

Schaffform HA



<b>P</b>	Flächenanschliff • Hauptschneidenform konkav • optimierter Nutquerschnitt
<b>M</b>	• maximaler Kühlkanalquerschnitt • Kühlmitteldruck beachten • zum Pilotieren empfehlen wir RT 100 Al , Artikel-Nr. 5768, oder RT 100 FB, Artikel-Nr. 6596
<b>K</b>	
<b>N</b>	• Aluminium und Al-Legierungen
<b>S</b>	
<b>H</b>	

## GÜHRING NAVIGATOR

Schnittdaten finden Sie in unserem Online-Navigator unter <https://webnavigator.guehring.de>.Artikel-Nr. **6515**

d1		d2	l1	l2	l3	d1		d2	l1	l2	l3
mm	inch	mm	mm	mm	mm	mm	inch	mm	mm	mm	mm
3,000		6,000	95,000	55,000	36,000	6,100		8,000	167,000	127,000	36,000
3,100		6,000	106,000	66,000	36,000	6,200		8,000	167,000	127,000	36,000
3,170	1/8	6,000	106,000	66,000	36,000	6,300		8,000	167,000	127,000	36,000
3,200		6,000	106,000	66,000	36,000	6,350	1/4	8,000	167,000	127,000	36,000
3,250		6,000	106,000	66,000	36,000	6,400		8,000	167,000	127,000	36,000
3,300		6,000	106,000	66,000	36,000	6,500		8,000	167,000	127,000	36,000
3,400		6,000	106,000	66,000	36,000	6,600		8,000	167,000	127,000	36,000
3,500		6,000	116,000	76,000	36,000	6,700		8,000	167,000	127,000	36,000
3,570	9/64	6,000	116,000	76,000	36,000	6,750	17/64	8,000	167,000	127,000	36,000
3,600		6,000	116,000	76,000	36,000	6,800		8,000	167,000	127,000	36,000
3,700		6,000	116,000	76,000	36,000	6,900		8,000	167,000	127,000	36,000
3,800		6,000	116,000	76,000	36,000	7,000		8,000	167,000	127,000	36,000
3,900		6,000	116,000	76,000	36,000	7,100		8,000	183,000	143,000	36,000
3,970	5/32	6,000	116,000	76,000	36,000	7,140	9/32	8,000	183,000	143,000	36,000
4,000		6,000	116,000	76,000	36,000	7,200		8,000	183,000	143,000	36,000
4,100		6,000	133,000	93,000	36,000	7,300		8,000	183,000	143,000	36,000
4,200		6,000	133,000	93,000	36,000	7,400		8,000	183,000	143,000	36,000
4,300		6,000	133,000	93,000	36,000	7,500		8,000	183,000	143,000	36,000
4,370	11/64	6,000	133,000	93,000	36,000	7,540	19/64	8,000	183,000	143,000	36,000
4,400		6,000	133,000	93,000	36,000	7,600		8,000	183,000	143,000	36,000
4,500		6,000	133,000	93,000	36,000	7,700		8,000	183,000	143,000	36,000
4,600		6,000	133,000	93,000	36,000	7,800		8,000	183,000	143,000	36,000
4,650		6,000	133,000	93,000	36,000	7,900		8,000	183,000	143,000	36,000
4,700		6,000	133,000	93,000	36,000	7,940	5/16	8,000	183,000	143,000	36,000
4,760	3/16	6,000	133,000	93,000	36,000	8,000		8,000	183,000	143,000	36,000
4,800		6,000	133,000	93,000	36,000	8,100		10,000	204,000	160,000	40,000
4,900		6,000	133,000	93,000	36,000	8,200		10,000	204,000	160,000	40,000
5,000		6,000	133,000	93,000	36,000	8,300		10,000	204,000	160,000	40,000
5,100		6,000	150,000	110,000	36,000	8,330	21/64	10,000	204,000	160,000	40,000
5,160	13/64	6,000	150,000	110,000	36,000	8,400		10,000	204,000	160,000	40,000
5,200		6,000	150,000	110,000	36,000	8,500		10,000	204,000	160,000	40,000
5,300		6,000	150,000	110,000	36,000	8,600		10,000	204,000	160,000	40,000
5,400		6,000	150,000	110,000	36,000	8,700		10,000	204,000	160,000	40,000
5,500		6,000	150,000	110,000	36,000	8,730	11/32	10,000	204,000	160,000	40,000
5,550		6,000	150,000	110,000	36,000	8,800		10,000	204,000	160,000	40,000
5,560	7/32	6,000	150,000	110,000	36,000	8,900		10,000	204,000	160,000	40,000
5,600		6,000	150,000	110,000	36,000	9,000		10,000	204,000	160,000	40,000
5,700		6,000	150,000	110,000	36,000	9,100		10,000	221,000	177,000	40,000
5,800		6,000	150,000	110,000	36,000	9,130	23/64	10,000	221,000	177,000	40,000
5,900		6,000	150,000	110,000	36,000	9,200		10,000	221,000	177,000	40,000
5,950	15/64	6,000	150,000	110,000	36,000	9,250		10,000	221,000	177,000	40,000
6,000		6,000	150,000	110,000	36,000	9,300		10,000	221,000	177,000	40,000



d1		d2	l1	l2	l3
mm	inch	mm	mm	mm	mm
9,340		10,000	221,000	177,000	40,000
9,400		10,000	221,000	177,000	40,000
9,500		10,000	221,000	177,000	40,000
9,520	3/8	10,000	221,000	177,000	40,000
9,600		10,000	221,000	177,000	40,000
9,700		10,000	221,000	177,000	40,000
9,800		10,000	221,000	177,000	40,000
9,900		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
10,100		12,000	247,000	198,000	45,000
10,200		12,000	247,000	198,000	45,000
10,300		12,000	247,000	198,000	45,000
10,320	13/32	12,000	247,000	198,000	45,000
10,400		12,000	247,000	198,000	45,000
10,500		12,000	247,000	198,000	45,000
10,600		12,000	247,000	198,000	45,000
10,700		12,000	247,000	198,000	45,000
10,800		12,000	247,000	198,000	45,000
10,900		12,000	247,000	198,000	45,000
11,000		12,000	247,000	198,000	45,000
11,100		12,000	263,000	214,000	45,000
11,110	7/16	12,000	263,000	214,000	45,000
11,200		12,000	263,000	214,000	45,000

d1		d2	l1	l2	l3
mm	inch	mm	mm	mm	mm
11,300		12,000	263,000	214,000	45,000
11,400		12,000	263,000	214,000	45,000
11,500		12,000	263,000	214,000	45,000
11,600		12,000	263,000	214,000	45,000
11,700		12,000	263,000	214,000	45,000
11,800		12,000	263,000	214,000	45,000
11,900		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
12,100		14,000	297,000	248,000	45,000
12,200		14,000	297,000	248,000	45,000
12,500		14,000	297,000	248,000	45,000
12,600		14,000	297,000	248,000	45,000
12,700	1/2	14,000	297,000	248,000	45,000
12,800		14,000	297,000	248,000	45,000
12,900		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
13,300		14,000	297,000	248,000	45,000
13,400		14,000	297,000	248,000	45,000
13,500		14,000	297,000	248,000	45,000
13,700		14,000	297,000	248,000	45,000
13,800		14,000	297,000	248,000	45,000
14,000		14,000	297,000	248,000	45,000



## Ratiobohrer mit Kühlkanälen

Schneidstoff **VHM**

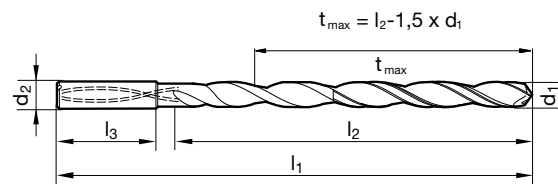
Oberfläche ○

Schaffform HA



**P** Flächenanschliff • Hauptschneidenform konkav • optimierter Nutquerschnitt  
 • maximaler Kühlkanalquerschnitt • Kühlmitteldruck beachten • zum  
**M** Pilotieren empfehlen wir RT 100 Al , Artikel-Nr. 5768, oder RT 100 FB,  
 Artikel-Nr. 6596

**N** • Aluminium und Al-Legierungen

**S****H****GUHRING NAVIGATOR**Schnittdaten finden Sie in unserem Online-Navigator unter <https://webnavigator.guehring.de>.Artikel-Nr. **6516**

d1		d2	l1	l2	l3	d1		d2	l1	l2	l3
mm	inch	mm	mm	mm	mm	mm	inch	mm	mm	mm	mm
3,000		6,000	110,000	70,000	36,000	6,100		8,000	202,000	162,000	36,000
3,100		6,000	123,000	83,000	36,000	6,200		8,000	202,000	162,000	36,000
3,170	1/8	6,000	123,000	83,000	36,000	6,300		8,000	202,000	162,000	36,000
3,200		6,000	123,000	83,000	36,000	6,350	1/4	8,000	202,000	162,000	36,000
3,250		6,000	123,000	83,000	36,000	6,400		8,000	202,000	162,000	36,000
3,300		6,000	123,000	83,000	36,000	6,500		8,000	202,000	162,000	36,000
3,400		6,000	123,000	83,000	36,000	6,600		8,000	202,000	162,000	36,000
3,500		6,000	136,000	96,000	36,000	6,700		8,000	202,000	162,000	36,000
3,570	9/64	6,000	136,000	96,000	36,000	6,750	17/64	8,000	202,000	162,000	36,000
3,600		6,000	136,000	96,000	36,000	6,800		8,000	202,000	162,000	36,000
3,700		6,000	136,000	96,000	36,000	6,900		8,000	202,000	162,000	36,000
3,800		6,000	136,000	96,000	36,000	7,000		8,000	202,000	162,000	36,000
3,900		6,000	136,000	96,000	36,000	7,100		8,000	223,000	183,000	36,000
3,970	5/32	6,000	136,000	96,000	36,000	7,140	9/32	8,000	223,000	183,000	36,000
4,000		6,000	136,000	96,000	36,000	7,200		8,000	223,000	183,000	36,000
4,100		6,000	158,000	118,000	36,000	7,300		8,000	223,000	183,000	36,000
4,200		6,000	158,000	118,000	36,000	7,400		8,000	223,000	183,000	36,000
4,300		6,000	158,000	118,000	36,000	7,500		8,000	223,000	183,000	36,000
4,370	11/64	6,000	158,000	118,000	36,000	7,540	19/64	8,000	223,000	183,000	36,000
4,400		6,000	158,000	118,000	36,000	7,600		8,000	223,000	183,000	36,000
4,500		6,000	158,000	118,000	36,000	7,700		8,000	223,000	183,000	36,000
4,600		6,000	158,000	118,000	36,000	7,800		8,000	223,000	183,000	36,000
4,650		6,000	158,000	118,000	36,000	7,900		8,000	223,000	183,000	36,000
4,700		6,000	158,000	118,000	36,000	7,940	5/16	8,000	223,000	183,000	36,000
4,760	3/16	6,000	158,000	118,000	36,000	8,000		8,000	223,000	183,000	36,000
4,800		6,000	158,000	118,000	36,000	8,100		10,000	249,000	205,000	40,000
4,900		6,000	158,000	118,000	36,000	8,200		10,000	249,000	205,000	40,000
5,000		6,000	158,000	118,000	36,000	8,300		10,000	249,000	205,000	40,000
5,100		6,000	180,000	140,000	36,000	8,330	21/64	10,000	249,000	205,000	40,000
5,160	13/64	6,000	180,000	140,000	36,000	8,400		10,000	249,000	205,000	40,000
5,200		6,000	180,000	140,000	36,000	8,500		10,000	249,000	205,000	40,000
5,300		6,000	180,000	140,000	36,000	8,600		10,000	249,000	205,000	40,000
5,400		6,000	180,000	140,000	36,000	8,700		10,000	249,000	205,000	40,000
5,500		6,000	180,000	140,000	36,000	8,730	11/32	10,000	249,000	205,000	40,000
5,550		6,000	180,000	140,000	36,000	8,800		10,000	249,000	205,000	40,000
5,560	7/32	6,000	180,000	140,000	36,000	8,900		10,000	249,000	205,000	40,000
5,600		6,000	180,000	140,000	36,000	9,000		10,000	249,000	205,000	40,000
5,700		6,000	180,000	140,000	36,000	9,100		10,000	271,000	227,000	40,000
5,800		6,000	180,000	140,000	36,000	9,130	23/64	10,000	271,000	227,000	40,000
5,900		6,000	180,000	140,000	36,000	9,200		10,000	271,000	227,000	40,000
5,950	15/64	6,000	180,000	140,000	36,000	9,250		10,000	271,000	227,000	40,000
6,000		6,000	180,000	140,000	36,000	9,300		10,000	271,000	227,000	40,000



d1		d2	l1	l2	l3
mm	inch	mm	mm	mm	mm
9,340		10,000	271,000	227,000	40,000
9,400		10,000	271,000	227,000	40,000
9,500		10,000	271,000	227,000	40,000
9,520	3/8	10,000	271,000	227,000	40,000
9,600		10,000	271,000	227,000	40,000
9,700		10,000	271,000	227,000	40,000
9,800		10,000	271,000	227,000	40,000
9,900		10,000	271,000	227,000	40,000
9,920	25/64	10,000	271,000	227,000	40,000
10,000		10,000	271,000	227,000	40,000
10,100		12,000	302,000	253,000	45,000
10,200		12,000	302,000	253,000	45,000
10,300		12,000	302,000	253,000	45,000
10,320	13/32	12,000	302,000	253,000	45,000
10,400		12,000	302,000	253,000	45,000
10,500		12,000	302,000	253,000	45,000
10,600		12,000	302,000	253,000	45,000
10,700		12,000	302,000	253,000	45,000
10,800		12,000	302,000	253,000	45,000
10,900		12,000	302,000	253,000	45,000
11,000		12,000	302,000	253,000	45,000
11,100		12,000	323,000	274,000	45,000
11,110	7/16	12,000	323,000	274,000	45,000
11,200		12,000	323,000	274,000	45,000

d1		d2	l1	l2	l3
mm	inch	mm	mm	mm	mm
11,300		12,000	323,000	274,000	45,000
11,400		12,000	323,000	274,000	45,000
11,500		12,000	323,000	274,000	45,000
11,600		12,000	323,000	274,000	45,000
11,700		12,000	323,000	274,000	45,000
11,800		12,000	323,000	274,000	45,000
11,900		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
12,100		14,000	367,000	318,000	45,000
12,200		14,000	367,000	318,000	45,000
12,500		14,000	367,000	318,000	45,000
12,600		14,000	367,000	318,000	45,000
12,700	1/2	14,000	367,000	318,000	45,000
12,800		14,000	367,000	318,000	45,000
12,900		14,000	367,000	318,000	45,000
13,000		14,000	367,000	318,000	45,000
13,100	33/64	14,000	367,000	318,000	45,000
13,300		14,000	367,000	318,000	45,000
13,400		14,000	367,000	318,000	45,000
13,500		14,000	367,000	318,000	45,000
13,700		14,000	367,000	318,000	45,000
13,800		14,000	367,000	318,000	45,000
14,000		14,000	367,000	318,000	45,000





## Ratioboherer mit Kühlkanälen

Schneidstoff **VHM**

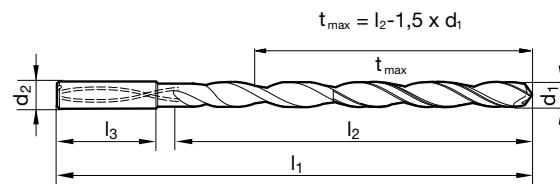
Oberfläche ○

Schaftform HA



<b>P</b>	Flächenanschliff • Hauptschneidenform konkav • optimierter Nutquerschnitt
<b>M</b>	• maximaler Kühlkanalquerschnitt • Kühlmitteldruck beachten • zum Pilotieren empfehlen wir RT 100 Al , Artikel-Nr. 5768, oder RT 100 FB, Artikel-Nr. 6596
<b>K</b>	
<b>N</b>	• Aluminium und Al-Legierungen
<b>S</b>	
<b>H</b>	

## GÜHRING NAVIGATOR

Schnittdaten finden Sie in unserem Online-Navigator unter <https://webnavigator.guehring.de>.Artikel-Nr. **6517**

d1		d2	l1	l2	l3	d1		d2	l1	l2	l3
mm	inch	mm	mm	mm	mm	mm	inch	mm	mm	mm	mm
3,000		6,000	125,000	85,000	36,000	6,100		8,000	237,000	197,000	36,000
3,100		6,000	141,000	101,000	36,000	6,200		8,000	237,000	197,000	36,000
3,170	1/8	6,000	141,000	101,000	36,000	6,300		8,000	237,000	197,000	36,000
3,200		6,000	141,000	101,000	36,000	6,350	1/4	8,000	237,000	197,000	36,000
3,250		6,000	141,000	101,000	36,000	6,400		8,000	237,000	197,000	36,000
3,300		6,000	141,000	101,000	36,000	6,500		8,000	237,000	197,000	36,000
3,400		6,000	141,000	101,000	36,000	6,600		8,000	237,000	197,000	36,000
3,500		6,000	156,000	116,000	36,000	6,700		8,000	237,000	197,000	36,000
3,570	9/64	6,000	156,000	116,000	36,000	6,750	17/64	8,000	237,000	197,000	36,000
3,600		6,000	156,000	116,000	36,000	6,800		8,000	237,000	197,000	36,000
3,700		6,000	156,000	116,000	36,000	6,900		8,000	237,000	197,000	36,000
3,800		6,000	156,000	116,000	36,000	7,000		8,000	237,000	197,000	36,000
3,900		6,000	156,000	116,000	36,000	7,100		8,000	263,000	223,000	36,000
3,970	5/32	6,000	156,000	116,000	36,000	7,140	9/32	8,000	263,000	223,000	36,000
4,000		6,000	156,000	116,000	36,000	7,200		8,000	263,000	223,000	36,000
4,100		6,000	183,000	143,000	36,000	7,300		8,000	263,000	223,000	36,000
4,200		6,000	183,000	143,000	36,000	7,400		8,000	263,000	223,000	36,000
4,300		6,000	183,000	143,000	36,000	7,500		8,000	263,000	223,000	36,000
4,370	11/64	6,000	183,000	143,000	36,000	7,540	19/64	8,000	263,000	223,000	36,000
4,400		6,000	183,000	143,000	36,000	7,600		8,000	263,000	223,000	36,000
4,500		6,000	183,000	143,000	36,000	7,700		8,000	263,000	223,000	36,000
4,600		6,000	183,000	143,000	36,000	7,800		8,000	263,000	223,000	36,000
4,650		6,000	183,000	143,000	36,000	7,900		8,000	263,000	223,000	36,000
4,700		6,000	183,000	143,000	36,000	7,940	5/16	8,000	263,000	223,000	36,000
4,760	3/16	6,000	183,000	143,000	36,000	8,000		8,000	263,000	223,000	36,000
4,800		6,000	183,000	143,000	36,000	8,100		10,000	294,000	250,000	40,000
4,900		6,000	183,000	143,000	36,000	8,200		10,000	294,000	250,000	40,000
5,000		6,000	183,000	143,000	36,000	8,300		10,000	294,000	250,000	40,000
5,100		6,000	210,000	170,000	36,000	8,330	21/64	10,000	294,000	250,000	40,000
5,160	13/64	6,000	210,000	170,000	36,000	8,400		10,000	294,000	250,000	40,000
5,200		6,000	210,000	170,000	36,000	8,500		10,000	294,000	250,000	40,000
5,300		6,000	210,000	170,000	36,000	8,600		10,000	294,000	250,000	40,000
5,400		6,000	210,000	170,000	36,000	8,700		10,000	294,000	250,000	40,000
5,500		6,000	210,000	170,000	36,000	8,730	11/32	10,000	294,000	250,000	40,000
5,550		6,000	210,000	170,000	36,000	8,800		10,000	294,000	250,000	40,000
5,560	7/32	6,000	210,000	170,000	36,000	8,900		10,000	294,000	250,000	40,000
5,600		6,000	210,000	170,000	36,000	9,000		10,000	294,000	250,000	40,000
5,700		6,000	210,000	170,000	36,000	9,100		10,000	321,000	277,000	40,000
5,800		6,000	210,000	170,000	36,000	9,130	23/64	10,000	321,000	277,000	40,000
5,900		6,000	210,000	170,000	36,000	9,200		10,000	321,000	277,000	40,000
5,950	15/64	6,000	210,000	170,000	36,000	9,250		10,000	321,000	277,000	40,000
6,000		6,000	210,000	170,000	36,000	9,300		10,000	321,000	277,000	40,000



d1		d2	l1	l2	l3
mm	inch	mm	mm	mm	mm
9,340		10,000	321,000	277,000	40,000
9,400		10,000	321,000	277,000	40,000
9,500		10,000	321,000	277,000	40,000
9,520	3/8	10,000	321,000	277,000	40,000
9,600		10,000	321,000	277,000	40,000
9,700		10,000	321,000	277,000	40,000
9,800		10,000	321,000	277,000	40,000
9,900		10,000	321,000	277,000	40,000
9,920	25/64	10,000	321,000	277,000	40,000
10,000		10,000	321,000	277,000	40,000
10,100		12,000	359,000	310,000	45,000
10,200		12,000	359,000	310,000	45,000
10,300		12,000	359,000	310,000	45,000
10,320	13/32	12,000	359,000	310,000	45,000
10,400		12,000	359,000	310,000	45,000
10,500		12,000	359,000	310,000	45,000
10,600		12,000	359,000	310,000	45,000
10,700		12,000	359,000	310,000	45,000
10,800		12,000	359,000	310,000	45,000
10,900		12,000	359,000	310,000	45,000
11,000		12,000	359,000	310,000	45,000
11,100		12,000	386,000	337,000	45,000
11,110	7/16	12,000	386,000	337,000	45,000
11,200		12,000	386,000	337,000	45,000

d1		d2	l1	l2	l3
mm	inch	mm	mm	mm	mm
11,300		12,000	386,000	337,000	45,000
11,400		12,000	386,000	337,000	45,000
11,500		12,000	386,000	337,000	45,000
11,600		12,000	386,000	337,000	45,000
11,700		12,000	386,000	337,000	45,000
11,800		12,000	386,000	337,000	45,000
11,900		12,000	386,000	337,000	45,000
11,910	15/32	12,000	386,000	337,000	45,000
12,000		12,000	386,000	337,000	45,000
12,100		14,000	437,000	388,000	45,000
12,200		14,000	437,000	388,000	45,000
12,500		14,000	437,000	388,000	45,000
12,600		14,000	437,000	388,000	45,000
12,700	1/2	14,000	437,000	388,000	45,000
12,800		14,000	437,000	388,000	45,000
12,900		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
13,300		14,000	437,000	388,000	45,000
13,400		14,000	437,000	388,000	45,000
13,500		14,000	437,000	388,000	45,000
13,700		14,000	437,000	388,000	45,000
13,800		14,000	437,000	388,000	45,000
14,000		14,000	437,000	388,000	45,000

NEW

# RT 100 FB

FLAT BOTTOM

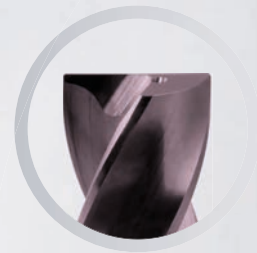
Der VHM-Flachbohrer RT 100 FB ist ideal zum **Bohren von schrägen oder gewölbten Oberflächen** geeignet. Das Anspiegeln mit einem Fräser entfällt. Der 180°-Spitzenwinkel sorgt für **Bohrungen mit einem ebenen Bohrungsgrund**. Folgebohrungen sind daher vibrationsarm, positions- und fluchtungsgenau.

## IHRE VORTEILE

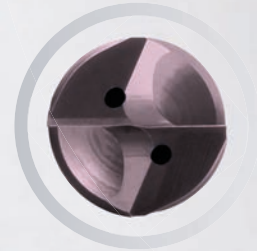
- reduzierte Prozesskosten, da das Anstirnen entfällt
- Bohren schräger oder gewölbter Oberfläche bis 45° ohne Abdrängung
- kaum Gratbildung beim Bohrungsaustritt, daher optimal für Querbohrungen
- hohe Prozesssicherheit durch präzise zentrierte Folgebohrung mit hoher Rundheit und Oberflächenqualität

## ANWENDUNGEN

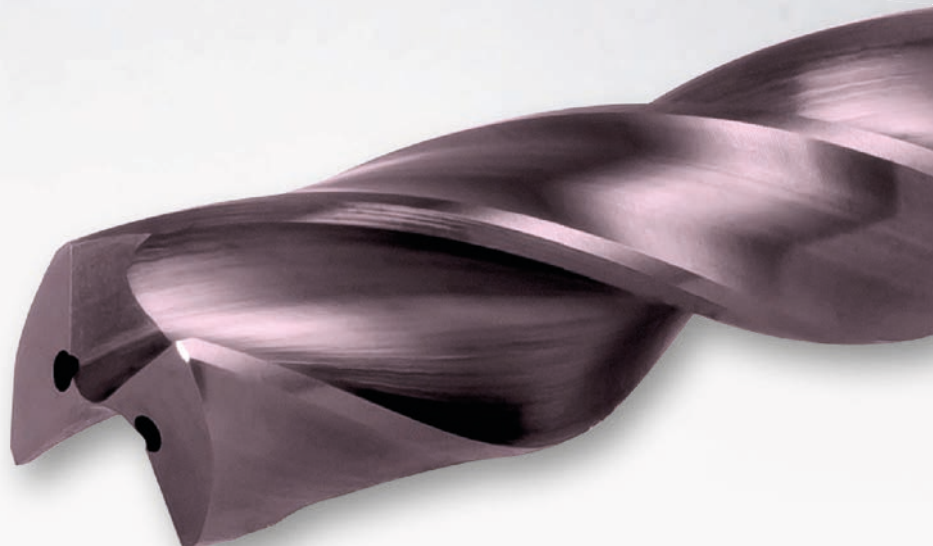
- schräge Oberflächen
- gewölbte Oberflächen
- Anstirnen
- Aufbohren
- Pilotbohrung
- schräger Austritt
- gewölbter Ein- und Austritt
- Bleche
- halbe Bohrung
- Versatz
- Grundlochbohrung
- Querbohrung



180°-Spitzenwinkel  
für ebenen Bohrungsgrund



gerade Hauptschneide



**Ratioboherer mit Kühlkanälen, Flat Bottom**

 Schneidstoff **VHM**

 Oberfläche **F**

 Schaftform **HA**


**P** • 180° Spitzenanschliff für ebenen Bohrungsgrund • zum Pilotieren, Bohren, Anspiegeln • geringe Gratbildung • Pilotieren in allen Lagen und Werkstoffen

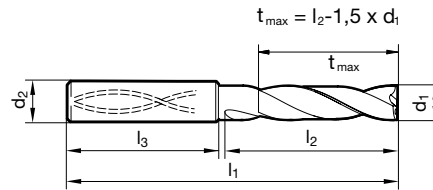
**M** •

**K** •

**N** ○ Einsatzempfehlung:

**S** ○ Zum prozesssicheren Einsatz beim Anbohren auf ebenen Flächen ist das Setzen einer Pilotbohrung, Anzentrieren oder das sogenannte Stottern (G73) erforderlich. Beim Anbohren von geneigten Flächen bis 15° = Vorschub um 25%, bis 30° = Vorschub um 50% und bis max. 45° = Vorschub um 75% reduzieren. Bei voller Umschlingung kann der angegebene Vorschubwert eingesetzt werden.

**GUHRING NAVIGATOR**

 Schnittdaten finden Sie in unserem Online-Navigator unter <https://webnavigator.guehring.de>.

 Artikel-Nr. **6596**

d1		d2	l1	l2	l3	d1		d2	l1	l2	l3
mm	inch	mm	mm	mm	mm	mm	inch	mm	mm	mm	mm
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3,100		6,000	61,000	16,000	36,000	5,950	15/64	6,000	65,000	26,000	36,000
3,170	1/8	6,000	61,000	16,000	36,000	6,000		6,000	65,000	26,000	36,000
3,200		6,000	61,000	16,000	36,000	6,100		8,000	78,000	31,000	36,000
3,250		6,000	61,000	16,000	36,000	6,200		8,000	78,000	31,000	36,000
3,300		6,000	61,000	16,000	36,000	6,300		8,000	78,000	31,000	36,000
3,400		6,000	61,000	16,000	36,000	6,350	1/4	8,000	78,000	31,000	36,000
3,500		6,000	61,000	16,000	36,000	6,400		8,000	78,000	31,000	36,000
3,570	9/64	6,000	61,000	16,000	36,000	6,500		8,000	78,000	31,000	36,000
3,600		6,000	61,000	16,000	36,000	6,530		8,000	78,000	31,000	36,000
3,700		6,000	61,000	16,000	36,000	6,550		8,000	78,000	31,000	36,000
3,800		6,000	65,000	18,000	36,000	6,600		8,000	78,000	31,000	36,000
3,900		6,000	65,000	18,000	36,000	6,700		8,000	78,000	31,000	36,000
3,970	5/32	6,000	65,000	18,000	36,000	6,750	17/64	8,000	78,000	31,000	36,000
4,000		6,000	65,000	18,000	36,000	6,800		8,000	78,000	31,000	36,000
4,040		6,000	65,000	18,000	36,000	6,900		8,000	78,000	31,000	36,000
4,100		6,000	65,000	18,000	36,000	7,000		8,000	78,000	31,000	36,000
4,200		6,000	65,000	18,000	36,000	7,100		8,000	78,000	35,000	36,000
4,300		6,000	65,000	21,000	36,000	7,140	9/32	8,000	78,000	35,000	36,000
4,370	11/64	6,000	65,000	21,000	36,000	7,200		8,000	78,000	35,000	36,000
4,400		6,000	65,000	21,000	36,000	7,300		8,000	78,000	35,000	36,000
4,500		6,000	65,000	21,000	36,000	7,400		8,000	78,000	35,000	36,000
4,600		6,000	65,000	21,000	36,000	7,500		8,000	78,000	35,000	36,000
4,650		6,000	65,000	21,000	36,000	7,540	19/64	8,000	78,000	35,000	36,000
4,700		6,000	65,000	21,000	36,000	7,550		8,000	78,000	35,000	36,000
4,760	3/16	6,000	65,000	26,000	36,000	7,600		8,000	78,000	35,000	36,000
4,800		6,000	65,000	26,000	36,000	7,650		8,000	78,000	35,000	36,000
4,900		6,000	65,000	26,000	36,000	7,700		8,000	78,000	35,000	36,000
5,000		6,000	65,000	26,000	36,000	7,800		8,000	78,000	35,000	36,000
5,100		6,000	65,000	26,000	36,000	7,900		8,000	78,000	35,000	36,000
5,110		6,000	65,000	26,000	36,000	7,940	5/16	8,000	78,000	35,000	36,000
5,160	13/64	6,000	65,000	26,000	36,000	8,000		8,000	78,000	35,000	36,000
5,200		6,000	65,000	26,000	36,000	8,100		10,000	87,000	43,000	40,000
5,300		6,000	65,000	26,000	36,000	8,200		10,000	87,000	43,000	40,000
5,400		6,000	65,000	26,000	36,000	8,300		10,000	87,000	43,000	40,000
5,410		6,000	65,000	26,000	36,000	8,330	21/64	10,000	87,000	43,000	40,000
5,500		6,000	65,000	26,000	36,000	8,400		10,000	87,000	43,000	40,000
5,550		6,000	65,000	26,000	36,000	8,500		10,000	87,000	43,000	40,000
5,560	7/32	6,000	65,000	26,000	36,000	8,600		10,000	87,000	43,000	40,000
5,600		6,000	65,000	26,000	36,000	8,700		10,000	87,000	43,000	40,000
5,700		6,000	65,000	26,000	36,000	8,730	11/32	10,000	87,000	43,000	40,000
5,800		6,000	65,000	26,000	36,000	8,800		10,000	87,000	43,000	40,000



d1		d2	l1	l2	l3
mm	inch	mm	mm	mm	mm
8,900		10,000	87,000	43,000	40,000
9,000		10,000	87,000	43,000	40,000
9,100		10,000	87,000	43,000	40,000
9,130	23/64	10,000	87,000	43,000	40,000
9,200		10,000	87,000	43,000	40,000
9,250		10,000	87,000	43,000	40,000
9,300		10,000	87,000	43,000	40,000
9,340		10,000	87,000	43,000	40,000
9,400		10,000	87,000	43,000	40,000
9,500		10,000	87,000	43,000	40,000
9,520	3/8	10,000	87,000	43,000	40,000
9,550		10,000	87,000	43,000	40,000
9,600		10,000	87,000	43,000	40,000
9,700		10,000	87,000	43,000	40,000
9,800		10,000	87,000	43,000	40,000
9,900		10,000	87,000	43,000	40,000
9,920	25/64	10,000	87,000	43,000	40,000
10,000		10,000	87,000	43,000	40,000
10,100		12,000	100,000	52,000	45,000
10,200		12,000	100,000	52,000	45,000
10,300		12,000	100,000	52,000	45,000
10,320	13/32	12,000	100,000	52,000	45,000
10,400		12,000	100,000	52,000	45,000
10,500		12,000	100,000	52,000	45,000
10,600		12,000	100,000	52,000	45,000
10,700		12,000	100,000	52,000	45,000
10,720	27/64	12,000	100,000	52,000	45,000
10,800		12,000	100,000	52,000	45,000
10,900		12,000	100,000	52,000	45,000
11,000		12,000	100,000	52,000	45,000
11,100		12,000	100,000	52,000	45,000
11,110	7/16	12,000	100,000	52,000	45,000
11,200		12,000	100,000	52,000	45,000
11,300		12,000	100,000	52,000	45,000
11,400		12,000	100,000	52,000	45,000
11,500		12,000	100,000	52,000	45,000
11,510	29/64	12,000	100,000	52,000	45,000
11,550		12,000	100,000	52,000	45,000
11,600		12,000	100,000	52,000	45,000
11,700		12,000	100,000	52,000	45,000
11,800		12,000	100,000	52,000	45,000
11,900		12,000	100,000	52,000	45,000
11,910	15/32	12,000	100,000	52,000	45,000
12,000		12,000	100,000	52,000	45,000
12,100		14,000	104,000	57,000	45,000
12,200		14,000	104,000	57,000	45,000
12,300	31/64	14,000	104,000	57,000	45,000
12,400		14,000	104,000	57,000	45,000
12,500		14,000	104,000	57,000	45,000
12,600		14,000	104,000	57,000	45,000
12,700	1/2	14,000	104,000	57,000	45,000
12,800		14,000	104,000	57,000	45,000
12,900		14,000	104,000	57,000	45,000
13,000		14,000	104,000	57,000	45,000
13,100	33/64	14,000	104,000	57,000	45,000
13,200		14,000	104,000	57,000	45,000
13,300		14,000	104,000	57,000	45,000
13,400		14,000	104,000	57,000	45,000
13,490	17/32	14,000	104,000	57,000	45,000
13,500		14,000	104,000	57,000	45,000
13,600		14,000	104,000	57,000	45,000
13,700		14,000	104,000	57,000	45,000
13,800		14,000	104,000	57,000	45,000
13,890	35/64	14,000	104,000	57,000	45,000
13,900		14,000	104,000	57,000	45,000
14,000		14,000	104,000	57,000	45,000

d1		d2	l1	l2	l3
mm	inch	mm	mm	mm	mm
14,100		16,000	112,000	62,000	48,000
14,200		16,000	112,000	62,000	48,000
14,290	9/16	16,000	112,000	62,000	48,000
14,300		16,000	112,000	62,000	48,000
14,400		16,000	112,000	62,000	48,000
14,500		16,000	112,000	62,000	48,000
14,600		16,000	112,000	62,000	48,000
14,680	37/64	16,000	112,000	62,000	48,000
14,700		16,000	112,000	62,000	48,000
14,800		16,000	112,000	62,000	48,000
14,900		16,000	112,000	62,000	48,000
15,000		16,000	112,000	62,000	48,000
15,080	19/32	16,000	112,000	62,000	48,000
15,100		16,000	112,000	62,000	48,000
15,200		16,000	112,000	62,000	48,000
15,300		16,000	112,000	62,000	48,000
15,400		16,000	112,000	62,000	48,000
15,480	39/64	16,000	112,000	62,000	48,000
15,500		16,000	112,000	62,000	48,000
15,550		16,000	112,000	62,000	48,000
15,600		16,000	112,000	62,000	48,000
15,700		16,000	112,000	62,000	48,000
15,800		16,000	112,000	62,000	48,000
15,870	5/8	16,000	112,000	62,000	48,000
15,900		16,000	112,000	62,000	48,000
16,000		16,000	112,000	62,000	48,000
16,270	41/64	18,000	120,000	70,000	48,000
16,300		18,000	120,000	70,000	48,000
16,500		18,000	120,000	70,000	48,000
16,670	21/32	18,000	120,000	70,000	48,000
16,700		18,000	120,000	70,000	48,000
16,900		18,000	120,000	70,000	48,000
17,000		18,000	120,000	70,000	48,000
17,070	43/64	18,000	120,000	70,000	48,000
17,460	11/16	18,000	120,000	70,000	48,000
17,500		18,000	120,000	70,000	48,000
17,550		18,000	120,000	70,000	48,000
17,700		18,000	120,000	70,000	48,000
17,860	45/64	18,000	120,000	70,000	48,000
18,000		18,000	120,000	70,000	48,000
18,260	23/32	20,000	128,000	76,000	50,000
18,500		20,000	128,000	76,000	50,000
18,700		20,000	128,000	76,000	50,000
18,900		20,000	128,000	76,000	50,000
19,000		20,000	128,000	76,000	50,000
19,050	3/4	20,000	128,000	76,000	50,000
19,250		20,000	128,000	76,000	50,000
19,300		20,000	128,000	76,000	50,000
19,450	49/64	20,000	128,000	76,000	50,000
19,500		20,000	128,000	76,000	50,000
19,550		20,000	128,000	76,000	50,000
19,700		20,000	128,000	76,000	50,000
19,800		20,000	128,000	76,000	50,000
19,840	25/32	20,000	128,000	76,000	50,000
20,000		20,000	128,000	76,000	50,000

NEW

# VB 100 P

## VIERSCHNEIDER

Der VB 100 P, ein vierschneidiger VHM-Bohrer, besticht durch die **wirtschaftliche Bearbeitung von Gusswerkstoffen mit extremer Zerspanleistung.**

Die Auslegung des Bohrers erfolgt 2+4-schneidig, um großen Spanvolumen zu begegnen. Im ersten Schritt zerspanen und zentrieren die beiden inneren Schneiden mit stark erhöhter Zerspanrate. Im zweiten Schritt werden die hohen Vorschubkräfte dann auf die äußeren vier Schneiden aufgeteilt, um Verschleiß zu minimieren und Qualität zu maximieren. Kürzere Späne, höhere Schnittparameter und mehr Prozesssicherheit sind die Folge.

### IHRE VORTEILE

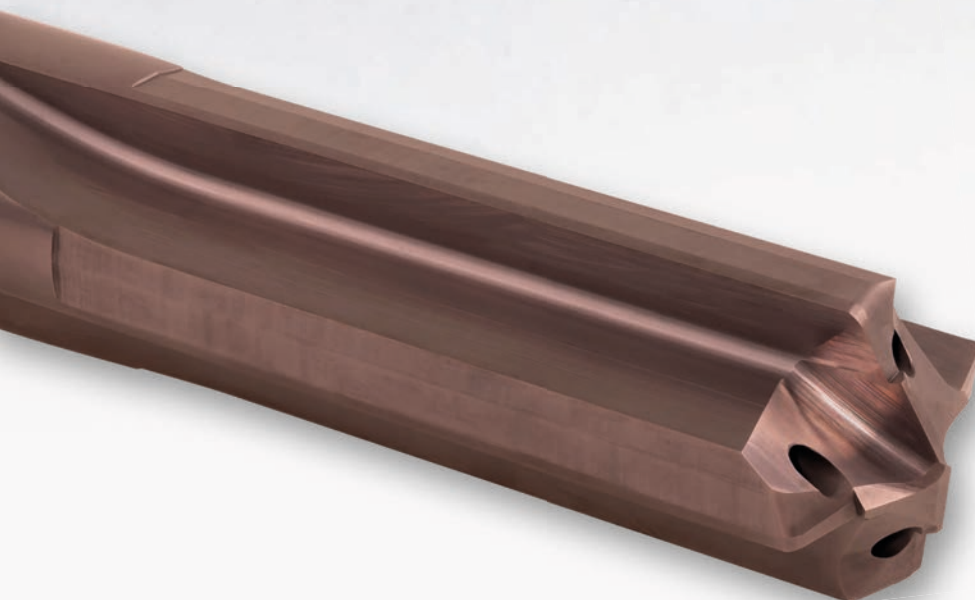
- Hochvorschubbohren für reduzierte Zykluszeiten und eine kosteneffiziente Bearbeitung
- optimaler Abtransport der Späne
- erhöhte Positionsgenauigkeit
- maximale Standzeit durch reduzierte Eingriffszeit



patentierter 2+4-Schneidenaufteilung für große Spanvolumen



optimale Wärme- und Späneabfuhr durch Y-Kühlkanalverteilung





## Bohrer, 4-schneidig, VB 100 P

Schneidstoff **VHM**Oberfläche **Y**

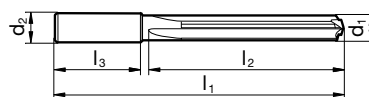
Schaffform HA



**P** 2+4 Schneidengeometrie • mit Eckenradius • höchste Bohrungsqualitäten  
• höchste Leistungsfähigkeit

**M****K** •

**N** ◦ Gusswerkstoffe wie Grauguss, Temperguss, Kugelgraphitguss • Hartguss  
• Vermikularguss GGK und ADI, CDI

**S****H****GUHRING** NAVIGATORSchnittdaten finden Sie in unserem Online-Navigator unter <https://webnavigator.guehring.de>.Artikel-Nr. **6045**

d1	d2	l1	l2	l3
mm	mm	mm	mm	mm
8,000	8,000	110,000	72,000	36,000
12,000	12,000	145,000	98,000	45,000
16,000	16,000	175,000	125,000	48,000
18,000	20,000	190,000	137,000	50,000
20,000	20,000	200,000	148,000	50,000
26,000	32,000	250,000	185,000	60,000

d1	d2	l1	l2	l3
mm	mm	mm	mm	mm
28,000	32,000	260,000	196,000	60,000

**Exclusiveline-Kleinbohrer VA ohne Kühlkanäle**

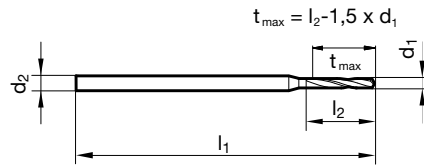


<b>P</b>	○	Ausspitzung ≥ Ø 0,500 • Flächenanschliff • Hauptschneidenform leicht konkav • optimierte Schneidengeometrie
<b>M</b>	●	
<b>K</b>		
<b>N</b>	○	rost-/säure-/hitzebeständige Stähle • Titan und Titanlegierungen
<b>S</b>	●	• Inconel, Hastelloy, Monel • Kupfer-, Messing-, und Bronze-Legierungen
<b>H</b>		

Schneidstoff	<b>VHM</b>
Oberfläche	
Schneidrichtung	

**GUHRING NAVIGATOR**

Schnittdaten finden Sie in unserem Online-Navigator unter <https://webnavigator.guehring.de>.



Artikel-Nr. **6487**

d1	d2 h6	l1	l2
mm	mm	mm	mm
0,500	3,000	38,000	2,800
0,550	3,000	38,000	3,100
0,600	3,000	38,000	3,300
0,650	3,000	38,000	3,600
0,660	3,000	38,000	3,700
0,700	3,000	38,000	3,900
0,740	3,000	38,000	4,100
0,750	3,000	38,000	4,200
0,790	3,000	38,000	4,400
0,800	3,000	38,000	4,400
0,820	3,000	38,000	4,600
0,850	3,000	38,000	4,700
0,900	3,000	38,000	5,000
0,950	3,000	38,000	5,300
1,000	3,000	38,000	5,500
1,020	3,000	38,000	5,700
1,050	3,000	38,000	5,800
1,100	3,000	38,000	6,100
1,150	3,000	38,000	6,400
1,180	3,000	38,000	6,500
1,190	3,000	38,000	6,600
1,200	3,000	38,000	6,600
1,250	3,000	38,000	6,900
1,280	3,000	38,000	7,100
1,300	3,000	38,000	7,200
1,350	3,000	38,000	7,500
1,400	4,000	46,000	7,700
1,450	4,000	46,000	8,000
1,460	4,000	46,000	8,100
1,500	4,000	46,000	8,300
1,550	4,000	46,000	8,600
1,560	4,000	46,000	8,600
1,590	4,000	46,000	8,800
1,600	4,000	46,000	8,800
1,650	4,000	46,000	9,100
1,660	4,000	46,000	9,200

d1	d2 h6	l1	l2
mm	mm	mm	mm
1,700	4,000	46,000	9,400
1,750	4,000	46,000	9,700
1,800	4,000	46,000	9,900
1,850	4,000	46,000	10,200
1,900	4,000	46,000	10,500
1,950	4,000	46,000	10,800
1,980	4,000	46,000	10,900
2,000	4,000	46,000	11,000
2,050	4,000	46,000	11,300
2,100	4,000	50,000	11,600
2,150	4,000	50,000	11,900
2,200	4,000	50,000	12,100
2,250	4,000	50,000	12,400
2,300	4,000	50,000	12,700
2,350	4,000	50,000	13,000
2,380	4,000	50,000	13,100
2,400	4,000	50,000	13,200
2,450	4,000	50,000	13,500
2,500	4,000	50,000	13,800
2,550	4,000	50,000	14,100
2,600	4,000	50,000	14,300
2,650	4,000	50,000	14,600
2,700	4,000	50,000	14,900
2,750	4,000	50,000	15,200
2,780	4,000	50,000	15,300
2,800	4,000	50,000	15,400
2,850	4,000	50,000	15,700
2,900	4,000	50,000	16,000
2,950	4,000	50,000	16,300
3,000	4,000	50,000	16,500




**ExklusiveLine-Kleinbohrer VA mit Kühlkanälen**
Schneidstoff **VHM**

Oberfläche

Schneidrichtung

**P** ○ Ausspitzung  $\geq \varnothing 1,000$  • Flächenanschliff • Hauptschneidenform leicht konkav • optimierte Schneidengeometrie

**M** ●

**K** ●

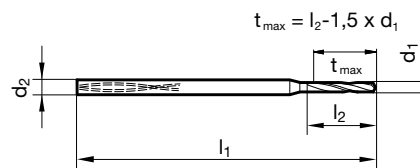
**N** ○ rost-/säure-/hitzebeständige Stähle • Titan und Titanlegierungen  
• Inconel, Hastelloy, Monel • Kupfer-, Messing-, und Bronze-Legierungen

**S** ●

**H** ●

**GUHRING NAVIGATOR**

Schnittdaten finden Sie in unserem Online-Navigator unter <https://webnavigator.guehring.de>.


 Artikel-Nr. **6488**

d1	d2 h6	l1	l2
mm	mm	mm	mm
1,000	3,000	38,000	5,500
1,020	3,000	38,000	5,700
1,050	3,000	38,000	5,800
1,100	3,000	38,000	6,100
1,150	3,000	38,000	6,400
1,180	3,000	38,000	6,500
1,190	3,000	38,000	6,600
1,200	3,000	38,000	6,600
1,250	3,000	38,000	6,900
1,280	3,000	38,000	7,100
1,300	3,000	38,000	7,200
1,350	3,000	38,000	7,500
1,400	4,000	46,000	7,700
1,450	4,000	46,000	8,000
1,460	4,000	46,000	8,100
1,500	4,000	46,000	8,300
1,550	4,000	46,000	8,600
1,560	4,000	46,000	8,600
1,590	4,000	46,000	8,800
1,600	4,000	46,000	8,800
1,650	4,000	46,000	9,100
1,660	4,000	46,000	9,200
1,700	4,000	46,000	9,400
1,750	4,000	46,000	9,700
1,800	4,000	46,000	9,900
1,850	4,000	46,000	10,200
1,900	4,000	46,000	10,500
1,950	4,000	46,000	10,800
1,980	4,000	46,000	10,900
2,000	4,000	46,000	11,000

d1	d2 h6	l1	l2
mm	mm	mm	mm
2,050	4,000	46,000	11,300
2,100	4,000	50,000	11,600
2,150	4,000	50,000	11,900
2,200	4,000	50,000	12,100
2,250	4,000	50,000	12,400
2,300	4,000	50,000	12,700
2,350	4,000	50,000	13,000
2,380	4,000	50,000	13,100
2,400	4,000	50,000	13,200
2,450	4,000	50,000	13,500
2,500	4,000	50,000	13,800
2,550	4,000	50,000	14,100
2,600	4,000	50,000	14,300
2,650	4,000	50,000	14,600
2,700	4,000	50,000	14,900
2,750	4,000	50,000	15,200
2,780	4,000	50,000	15,300
2,800	4,000	50,000	15,400
2,850	4,000	50,000	15,700
2,900	4,000	50,000	16,000
2,950	4,000	50,000	16,300
3,000	4,000	50,000	16,500

**ExklusiveLine-Kleinbohrer VA mit Kühlkanälen**

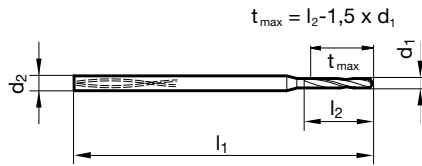


<b>P</b>	○	Ausspitzung ≥ Ø 1,000 • Flächenanschliff • Hauptschneidenform leicht konkav • optimierte Schneidengeometrie
<b>M</b>	●	
<b>K</b>		
<b>N</b>	○	rost-/säure-/hitzebeständige Stähle • Titan und Titanlegierungen
<b>S</b>	●	• Inconel, Hastelloy, Monel • Kupfer-, Messing-, und Bronze-Legierungen
<b>H</b>		

Schneidstoff	<b>VHM</b>
Oberfläche	
Schneidrichtung	

**GUHRING NAVIGATOR**

Schnittdaten finden Sie in unserem Online-Navigator unter <https://webnavigator.guehring.de>.



Artikel-Nr. **6489**

d1	d2 h6	l1	l2	d1	d2 h6	l1	l2
mm	mm	mm	mm	mm	mm	mm	mm
1,000	3,000	48,000	9,000	2,050	4,000	61,000	18,500
1,050	3,000	48,000	9,500	2,100	4,000	66,000	18,900
1,100	3,000	48,000	9,900	2,150	4,000	66,000	19,400
1,150	3,000	48,000	10,400	2,200	4,000	66,000	19,800
1,190	3,000	48,000	10,800	2,250	4,000	66,000	20,300
1,200	3,000	51,000	10,800	2,300	4,000	66,000	20,700
1,250	3,000	51,000	11,300	2,350	4,000	66,000	21,200
1,300	3,000	51,000	11,700	2,380	4,000	66,000	21,500
1,350	3,000	51,000	12,200	2,400	4,000	66,000	21,600
1,400	4,000	56,000	12,600	2,450	4,000	66,000	22,100
1,450	4,000	56,000	13,100	2,500	4,000	66,000	22,500
1,500	4,000	56,000	13,500	2,550	4,000	66,000	23,000
1,550	4,000	56,000	14,000	2,600	4,000	71,000	23,400
1,590	4,000	56,000	14,400	2,650	4,000	71,000	23,900
1,600	4,000	56,000	14,400	2,700	4,000	71,000	24,300
1,650	4,000	56,000	14,900	2,750	4,000	71,000	24,800
1,700	4,000	61,000	15,300	2,780	4,000	71,000	25,100
1,750	4,000	61,000	15,800	2,800	4,000	71,000	25,200
1,800	4,000	61,000	16,200	2,850	4,000	71,000	25,700
1,850	4,000	61,000	16,700	2,900	4,000	71,000	26,100
1,900	4,000	61,000	17,100	2,950	4,000	71,000	26,600
1,950	4,000	61,000	17,600	3,000	4,000	71,000	27,000
1,980	4,000	61,000	17,900				
2,000	4,000	61,000	18,000				


**ExklusiveLine-Kleinbohrer VA mit Kühlkanälen**
Schneidstoff **VHM**

Oberfläche

Schneidrichtung

**P** Ausspitzung  $\geq \varnothing 1,000$  • Flächenanschliff • Hauptschneidenform leicht konkav • optimierte Schneidengeometrie

**M**

**K**

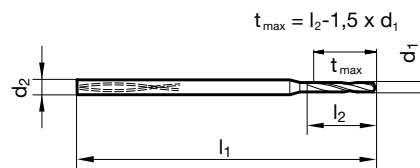
**N** rost-/säure-/hitzebeständige Stähle • Titan und Titanlegierungen  
• Inconel, Hastelloy, Monel • Kupfer-, Messing-, und Bronze-Legierungen

**S**

**H**

**GUHRING NAVIGATOR**

Schnittdaten finden Sie in unserem Online-Navigator unter <https://webnavigator.guehring.de>.


 Artikel-Nr. **6490**

d1	d2 h6	l1	l2
mm	mm	mm	mm
1,000	3,000	48,000	13,000
1,050	3,000	48,000	13,700
1,100	3,000	48,000	14,300
1,150	3,000	48,000	15,000
1,190	3,000	48,000	15,500
1,200	3,000	51,000	15,600
1,250	3,000	51,000	16,300
1,300	3,000	51,000	16,900
1,350	3,000	51,000	17,600
1,400	4,000	56,000	18,200
1,450	4,000	56,000	18,900
1,500	4,000	56,000	19,500
1,550	4,000	56,000	20,200
1,590	4,000	56,000	20,700
1,600	4,000	56,000	20,800
1,650	4,000	56,000	21,500
1,700	4,000	61,000	22,100
1,750	4,000	61,000	22,800
1,800	4,000	61,000	23,400
1,850	4,000	61,000	24,100
1,900	4,000	61,000	24,700
1,950	4,000	61,000	25,400
1,980	4,000	61,000	25,800
2,000	4,000	61,000	26,000

d1	d2 h6	l1	l2
mm	mm	mm	mm
2,050	4,000	61,000	26,700
2,100	4,000	66,000	27,300
2,150	4,000	66,000	28,000
2,200	4,000	66,000	28,600
2,250	4,000	66,000	29,300
2,300	4,000	66,000	29,900
2,350	4,000	66,000	30,600
2,380	4,000	66,000	31,000
2,400	4,000	66,000	31,200
2,450	4,000	66,000	31,900
2,500	4,000	66,000	32,500
2,550	4,000	66,000	33,200
2,600	4,000	71,000	33,800
2,650	4,000	71,000	34,500
2,700	4,000	71,000	35,100
2,750	4,000	71,000	35,800
2,780	4,000	71,000	36,200
2,800	4,000	71,000	36,400
2,850	4,000	71,000	37,100
2,900	4,000	71,000	37,700
2,950	4,000	71,000	38,400
3,000	4,000	71,000	39,000

**Exclusiveline-Kleinbohrer VA mit Kühlkanälen**



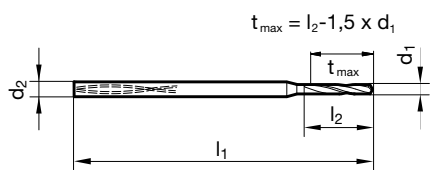
- P** ○ Ausspitzung ≥ Ø 1,000 • Flächenanschliff • Hauptschneidenform leicht konkav • optimierte Schneidengeometrie
- M** ●
- K** ●
- N** ○ rost-/säure-/hitzebeständige Stähle • Titan und Titanlegierungen
- S** ● • Inconel, Hastelloy, Monel • Kupfer-, Messing-, und Bronze-Legierungen
- H** ●

Schneidstoff	<b>VHM</b>
Oberfläche	ⓧ
Schneidrichtung	Ⓜ



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Artikel-Nr. **6491**

d1	d2 h6	l1	l2	d1	d2 h6	l1	l2
mm	mm	mm	mm	mm	mm	mm	mm
1,000	3,000	54,000	18,000	2,050	4,000	71,000	36,900
1,050	3,000	54,000	18,900	2,100	4,000	79,000	37,800
1,100	3,000	54,000	19,800	2,150	4,000	79,000	38,700
1,150	3,000	54,000	20,700	2,200	4,000	79,000	39,600
1,190	3,000	54,000	21,500	2,250	4,000	79,000	40,500
1,200	3,000	58,000	21,600	2,300	4,000	79,000	41,400
1,250	3,000	58,000	22,500	2,350	4,000	79,000	42,300
1,300	3,000	58,000	23,400	2,380	4,000	79,000	42,900
1,350	3,000	58,000	24,300	2,400	4,000	79,000	43,200
1,400	4,000	64,000	25,200	2,450	4,000	79,000	44,100
1,450	4,000	64,000	26,100	2,500	4,000	79,000	45,000
1,500	4,000	64,000	27,000	2,550	4,000	79,000	45,900
1,550	4,000	64,000	27,900	2,600	4,000	87,000	46,800
1,590	4,000	64,000	28,700	2,650	4,000	87,000	47,700
1,600	4,000	64,000	28,800	2,700	4,000	87,000	48,600
1,650	4,000	64,000	29,700	2,750	4,000	87,000	49,500
1,700	4,000	71,000	30,600	2,780	4,000	87,000	50,100
1,750	4,000	71,000	31,500	2,800	4,000	87,000	50,400
1,800	4,000	71,000	32,400	2,850	4,000	87,000	51,300
1,850	4,000	71,000	33,300	2,900	4,000	87,000	52,200
1,900	4,000	71,000	34,200	2,950	4,000	87,000	53,100
1,950	4,000	71,000	35,100	3,000	4,000	87,000	54,000
1,980	4,000	71,000	35,700				
2,000	4,000	71,000	36,000				

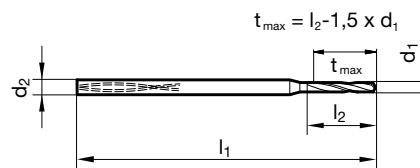

**ExklusiveLine-Kleinbohrer XL mit Kühlkanälen**


<b>P</b>	•	Flächenanschliff • Hauptschneidenform gerade • mit Hauptschneidenabzug
<b>M</b>	•	
<b>K</b>	•	
<b>N</b>	○	Bau- und Einsatzstähle • Automatenstähle, Vergütungsstähle • legierte Stähle bis 1200 N/mm <sup>2</sup> • rostfreie Stähle • Gusswerkstoffe
<b>S</b>	○	
<b>H</b>		

Schneidstoff **VHM**Oberfläche **A**Schneidrichtung **R****NEW**

Produktneuheiten

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 Artikel-Nr. **6493**

d1	d2 h6	l1	l2	d1	d2 h6	l1	l2
mm	mm	mm	mm	mm	mm	mm	mm
1,000	3,000	59,000	23,000	2,050	4,000	79,000	47,200
1,050	3,000	59,000	24,200	2,100	4,000	91,000	48,300
1,100	3,000	59,000	25,300	2,150	4,000	91,000	49,500
1,150	3,000	63,000	26,500	2,200	4,000	91,000	50,600
1,190	3,000	63,000	27,400	2,250	4,000	91,000	51,800
1,200	3,000	63,000	27,600	2,300	4,000	91,000	52,900
1,250	3,000	63,000	28,800	2,320	4,000	91,000	54,100
1,300	3,000	68,000	29,900	2,350	4,000	91,000	54,100
1,350	3,000	68,000	31,100	2,380	4,000	91,000	54,800
1,400	4,000	70,000	32,200	2,400	4,000	91,000	55,200
1,450	4,000	70,000	33,400	2,450	4,000	91,000	56,400
1,500	4,000	70,000	34,500	2,500	4,000	91,000	57,500
1,550	4,000	70,000	35,700	2,550	4,000	91,000	58,700
1,590	4,000	70,000	36,600	2,600	4,000	102,000	59,800
1,600	4,000	70,000	36,800	2,650	4,000	102,000	61,000
1,650	4,000	70,000	38,000	2,700	4,000	102,000	62,100
1,700	4,000	79,000	39,400	2,750	4,000	102,000	63,300
1,750	4,000	79,000	40,300	2,780	4,000	102,000	64,000
1,800	4,000	79,000	41,400	2,800	4,000	102,000	64,400
1,850	4,000	79,000	42,600	2,850	4,000	102,000	65,600
1,900	4,000	79,000	43,700	2,900	4,000	102,000	66,700
1,950	4,000	79,000	44,900	2,950	4,000	102,000	67,900
1,980	4,000	79,000	45,600	3,000	4,000	102,000	69,000
2,000	4,000	79,000	46,000				



# **FRÄS** **WERKZEUGE**



**GÜHRING**



*RF 100*

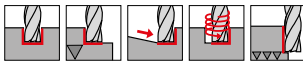
**SHARP**







## Ratiofräser RF 100 Sharp



P	•
M	•
K	
N	•
S	•
H	

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- speziell für weich-zähe und hochlegierte Werkstoffe
- längere Schneide als DIN 6527 L
- Halsfreischliff
- Zentrumschnitt

Schneidstoff

VHM

Oberfläche

P

P

Typ

N

N

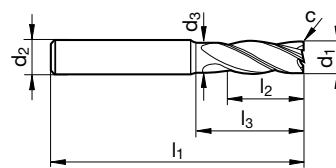
Schaftform

HA

HB

NEW

NEW



Artikel-Nr.

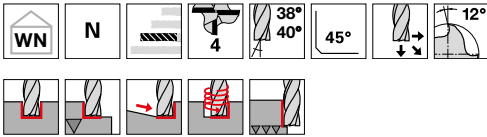
6478

6479

d1 e8	d2 h6	d3	l1	l2	l3	c	Z	Code-Nr.
mm	mm	mm	mm	mm	mm	mm x 45°		
1,00	4,00	0,92	50	3,0	4,0	0,02	4	1,000
1,50	4,00	1,40	50	4,5	6,0	0,03	4	1,500
2,00	6,00	1,85	50	6,0	8,0	0,04	4	2,000
2,50	6,00	2,35	50	7,5	10,0	0,05	4	2,500
3,00	6,00	2,85	57	10,0	15,0	0,06	4	3,000
4,00	6,00	3,80	57	14,0	18,0	0,08	4	4,000
5,00	6,00	4,80	57	15,0	20,0	0,10	4	5,000
6,00	6,00	5,70	57	16,0	20,0	0,12	4	6,000
8,00	8,00	7,70	63	21,0	26,0	0,16	4	8,000
10,00	10,00	9,50	72	25,0	30,0	0,20	4	10,000
12,00	12,00	11,50	83	28,0	36,0	0,24	4	12,000
14,00	14,00	13,50	83	28,0	36,0	0,28	4	14,000
16,00	16,00	15,50	92	36,0	42,0	0,32	4	16,000
20,00	20,00	19,50	104	41,0	52,0	0,40	4	20,000

ISO	Härte	v <sub>c</sub>	f <sub>z</sub> (mm/z)/Ø								v <sub>c</sub>	f <sub>z</sub> (mm/z)/Ø							
			1	3	6	8	10	12	16	20		1	3	6	8	10	12	16	20
P	< 500 N/mm <sup>2</sup>	180	0,010	0,016	0,030	0,042	0,06	0,072	0,1	0,12	210	0,011	0,018	0,036	0,048	0,069	0,08	0,11	0,14
	500-900 N/mm <sup>2</sup>		140	0,008	0,014	0,027	0,036	0,05	0,06	0,08		0,1	160	0,009	0,016	0,031	0,041	0,058	0,07
M	< 500 N/mm <sup>2</sup>	120	0,006	0,012	0,025	0,032	0,045	0,055	0,075	0,085	140	0,007	0,016	0,031	0,041	0,058	0,07	0,09	0,12
	500-900 N/mm <sup>2</sup>		80	0,005	0,010	0,021	0,028	0,04	0,048	0,06		0,07	100	0,006	0,013	0,025	0,034	0,048	0,06
S	< 900 N/mm <sup>2</sup>	45	0,004	0,008	0,016	0,022	0,032	0,04	0,05	0,065	60	0,005	0,010	0,020	0,027	0,038	0,05	0,06	0,085
N	> 250 N/mm <sup>2</sup>	350	0,012	0,020	0,038	0,05	0,08	0,095	0,13	0,16	600	0,013	0,022	0,045	0,06	0,09	0,012	0,15	0,18

**Ratiofräser RF 100 Sharp**



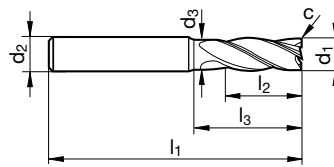
P	•
M	•
K	
N	•
S	•
H	

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- speziell für weich-zähe und hochlegierte Werkstoffe
- mittellange Ausführung
- Halsfreischliff
- Zentrumschnitt

Schneidstoff	<b>VHM</b>	
Oberfläche	<b>P</b>	<b>P</b>
Typ	N	N
Schaftform	HA	HB



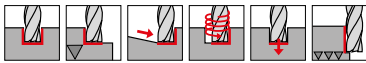
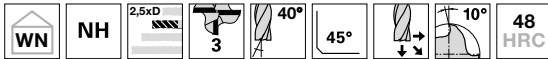
Artikel-Nr. **6480** **6481**

d1 e8	d2 h6	d3	l1	l2	l3	c	Z	Code-Nr.
mm	mm	mm	mm	mm	mm	mm x 45°		
1,00	4,00	0,92	50	3,0	5,5	0,02	4	1,000
1,50	4,00	1,40	50	4,5	8,5	0,03	4	1,500
2,00	6,00	1,85	57	6,0	11,5	0,04	4	2,000
2,50	6,00	2,35	57	7,5	14,5	0,05	4	2,500
3,00	6,00	2,85	65	10,0	20,0	0,06	4	3,000
4,00	6,00	3,80	65	14,0	27,0	0,08	4	4,000
5,00	6,00	4,80	65	15,0	28,0	0,10	4	5,000
6,00	6,00	5,70	75	19,0	38,0	0,12	4	6,000
8,00	8,00	7,70	80	21,0	43,0	0,16	4	8,000
10,00	10,00	9,50	93	26,0	51,0	0,20	4	10,000
12,00	12,00	11,50	100	28,0	53,0	0,24	4	12,000
14,00	14,00	13,50	100	28,0	53,0	0,28	4	14,000
16,00	16,00	15,50	123	38,0	73,0	0,32	4	16,000
20,00	20,00	19,50	126	41,0	74,0	0,40	4	20,000

ISO	Härte	v <sub>c</sub>	f <sub>z</sub> (mm/z)/Ø								v <sub>c</sub>	f <sub>z</sub> (mm/z)/Ø								
			1	3	6	8	10	12	16	20		1	3	6	8	10	12	16	20	
<b>P</b>	< 500 N/mm <sup>2</sup>	<b>180</b>	0,010	0,016	0,030	0,042	0,06	0,072	0,1	0,12		<b>210</b>	0,011	0,018	0,036	0,048	0,069	0,08	0,11	0,14
	500-900 N/mm <sup>2</sup>	<b>140</b>	0,008	0,014	0,027	0,036	0,05	0,06	0,08	0,1		<b>160</b>	0,009	0,016	0,031	0,041	0,058	0,07	0,09	0,12
<b>M</b>	< 500 N/mm <sup>2</sup>	<b>120</b>	0,006	0,012	0,025	0,032	0,045	0,055	0,075	0,085		<b>140</b>	0,007	0,016	0,031	0,041	0,058	0,07	0,09	0,12
	500-900 N/mm <sup>2</sup>	<b>80</b>	0,005	0,010	0,021	0,028	0,04	0,048	0,06	0,07		<b>100</b>	0,006	0,013	0,025	0,034	0,048	0,06	0,08	0,1
<b>S</b>	< 900 N/mm <sup>2</sup>	<b>45</b>	0,004	0,008	0,016	0,022	0,032	0,04	0,05	0,065		<b>60</b>	0,005	0,010	0,020	0,027	0,038	0,05	0,06	0,085
<b>N</b>	> 250 N/mm <sup>2</sup>	<b>350</b>	0,012	0,020	0,038	0,05	0,08	0,095	0,13	0,16		<b>600</b>	0,013	0,022	0,045	0,06	0,09	0,012	0,15	0,18



## Ratiofräser RF 100 Mikrodiver

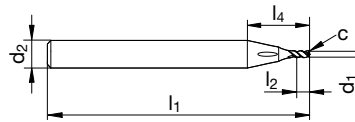


P	•
M	•
K	•
N	•
S	•
H	○

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- für extreme Schnittwerte und Zerspanleistung
- mit Innenkühlung: GühroJet Peripheriekühlung 6 oder 4 Austritte
- Zentrumschnitt
- mit spezieller Bohrstim

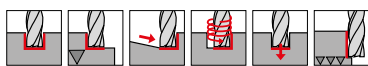
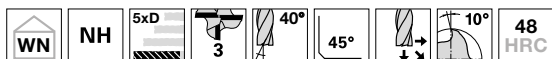
Schneidstoff **VHM**Oberfläche **X**Typ **NH**Schaftform **zyl.**

Artikel-Nr.

**6808**

d1 h8	d2 h5	l1	l2	l4	c	Z	Code-Nr.
mm	mm	mm	mm	mm	mm x 45°		
0,790	4,00	38,10	1,97	9,5	0,016	3	0,790
0,800	4,00	38,00	2,00	9,5	0,016	3	0,800
1,000	4,00	38,00	2,50	9,3	0,020	3	1,000
1,190	4,00	38,10	2,97	9,4	0,024	3	1,190
1,200	4,00	38,00	3,00	9,4	0,024	3	1,200
1,500	4,00	45,00	3,75	9,7	0,030	3	1,500
1,590	4,00	44,45	3,97	9,9	0,032	3	1,590
1,800	4,00	45,00	4,50	10,2	0,036	3	1,800
1,980	6,00	50,80	4,95	14,7	0,040	3	1,980
2,000	6,00	50,00	5,00	14,6	0,040	3	2,000
2,200	6,00	50,00	5,50	14,9	0,044	3	2,200
2,380	6,00	50,80	5,95	15,2	0,048	3	2,380
2,500	6,00	50,00	6,25	15,3	0,050	3	2,500
2,780	6,00	50,80	6,95	15,8	0,056	3	2,780
2,800	6,00	50,00	7,00	15,9	0,056	3	2,800
3,000	6,00	50,00	7,50	16,2	0,060	3	3,000
3,175	6,00	50,80	7,93	17,0	0,064	3	3,175

## Ratiofräser RF 100 Mikrodiver



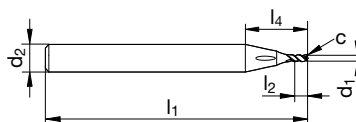
P	•
M	•
K	•
N	•
S	•
H	○

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- für extreme Schnittwerte und Zerspanleistung
- mit Innenkühlung: GühroJet Peripheriekühlung 6 oder 4 Austritte
- Zentrumschnitt
- mit spezieller Bohrstirn

Schneidstoff	<b>VHM</b>
Oberfläche	<b>X</b>
Typ	NH
Schaftform	zyl.



Artikel-Nr.

6809

d1 h8	d2 h5	l1	l2	l4	c	Z	Code-Nr.
mm	mm	mm	mm	mm	mm x 45°		
1,000	4,00	45,00	5,00	11,8	0,020	3	1,000
1,190	4,00	50,80	5,95	12,4	0,024	3	1,190
1,500	4,00	50,00	7,50	13,5	0,030	3	1,500
1,590	4,00	50,80	7,95	13,9	0,032	3	1,590
1,980	6,00	57,15	9,90	19,6	0,040	3	1,980
2,000	6,00	57,00	10,00	19,6	0,040	3	2,000
2,380	6,00	57,15	11,90	21,1	0,048	3	2,380
2,500	6,00	57,00	12,50	21,5	0,050	3	2,500
2,780	6,00	57,15	13,90	22,8	0,056	3	2,780
3,000	6,00	57,00	15,00	23,7	0,060	3	3,000
3,175	6,00	57,15	15,87	25,0	0,064	3	3,175

# GÜHRING

# TM 226

## AUSGABESYSTEM

## Werkzeugverwaltung leicht gemacht



## Ausstattung

- ▶ elektronisch verriegeltes Ausgabesystem
- ▶ manuell zu betätigende Schubladen mit Vollauszug (Tragkraft pro Schublade max. 200 kg)
- ▶ 11 Schubladen
  - 8 x 75 mm hoch
  - 3 x 100 mm hoch
- ▶ Höhe: 1.700 mm (inkl. Aufsatz)
- ▶ Breite: 800 mm
- ▶ Tiefe: 750 mm
- ▶ 21,5" HD Touchscreen Monitor
- ▶ PC mit WIN 10, 64 Bit
- ▶ RFID-Kartenleser zur Anmeldung am System
- ▶ Gühring TM-Software GTMS Basic

Produkt ähnlich Abbildung.

[www.guehring.com](http://www.guehring.com)



# **GEWINDE** **WERKZEUGE**



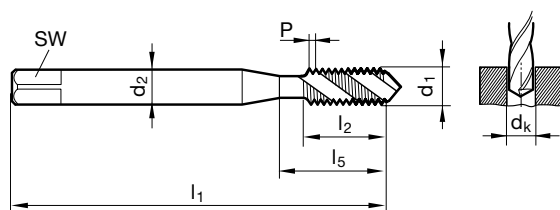
**Gewindebohrer für Metrische ISO-Gewinde**



<b>P</b>	
<b>M</b>	
<b>K</b>	
<b>N</b>	•
<b>S</b>	○
<b>H</b>	

Schnittdaten finden Sie in unserem Online-Navigator unter <https://webnavigator.guehring.de>.

Schneidstoff	<b>HSS-E</b>
Ø-Toleranz	6HX
Oberfläche	Ⓢ
Typ	N R45
Form	C
Innenkühlung	☒



**DIN 2184-1 DIN 371/DIN 376**

Artikel-Nr.

**4670**

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





## Gewindebohrer für Metrische ISO-Gewinde



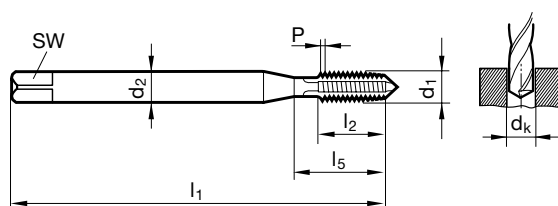
P	
M	
K	
N	•
S	○
H	

Schnittdaten finden Sie in unserem Online-Navigator unter <https://webnavigator.guehring.de>.

Schneidstoff	<b>HSS-E</b>
Ø-Toleranz	6HX
Oberfläche	ⓐ
Typ	N
Form	B
Innenkühlung	⊗



Produktneuheiten



DIN 2184-1 DIN 371/DIN 376

Artikel-Nr.

4672

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

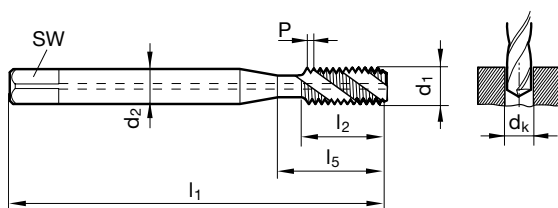
**Gewindebohrer für Metrische ISO-Gewinde**



<b>P</b>	
<b>M</b>	
<b>K</b>	
<b>N</b>	•
<b>S</b>	○
<b>H</b>	

Schnittdaten finden Sie in unserem Online-Navigator unter <https://webnavigator.guehring.de>.

Schneidstoff	<b>HSS-E</b>
Ø-Toleranz	6HX
Oberfläche	Ⓢ
Typ	N R45
Form	E
Innenkühlung	



**DIN 2184-1 DIN 371/DIN 376**

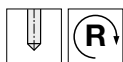
Artikel-Nr.

**4671**

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



Gewindebohrer für Metrische ISO-Gewinde

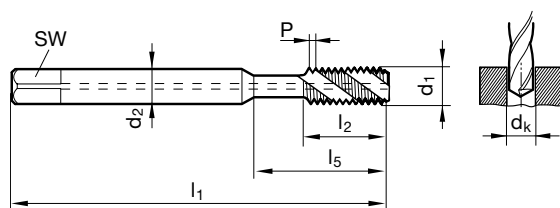


P	
M	
K	
N	•
S	
H	

Schnittdaten finden Sie in unserem Online-Navigator unter <https://webnavigator.guehring.de>.

Schneidstoff	VHM	
Ø-Toleranz	6HX	6HX
Oberfläche	Ⓢ	Ⓢ
Typ	N R15	N R15
Form	C	E
Innenkühlung		

Produktneuheiten

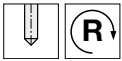


DIN 2184-1 DIN 371/DIN 376

Artikel-Nr. 4673 4674

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

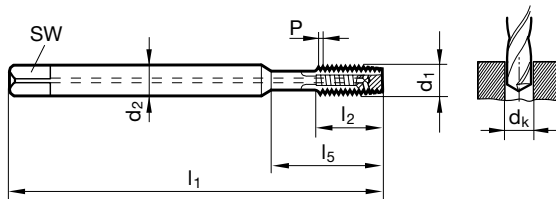
**Gewindebohrer für Metrische ISO-Gewinde**



P	
M	
K	
N	•
S	
H	

Schnittdaten finden Sie in unserem Online-Navigator unter <https://webnavigator.guehring.de>.

Schneidstoff	<b>VHM</b>
Ø-Toleranz	6HX
Oberfläche	Ⓢ
Typ	N
Form	C
Innenkühlung	



**DIN 2184-1 DIN 371/DIN 376** Artikel-Nr. **4675**

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



## Gewindebohrer für Whitworth-Rohrgewinde



P	
M	
K	
N	
S	
H	45/55

Schnittdaten finden Sie in unserem Online-Navigator unter <https://webnavigator.guehring.de>.

Schneidstoff **HSS-E-PM**

Ø-Toleranz

Oberfläche **C**

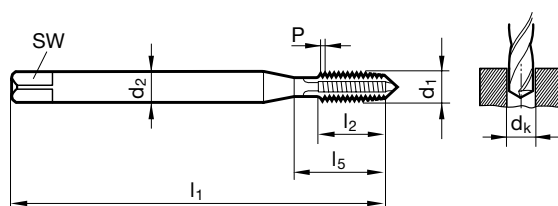
Typ H

Form D

Innenkühlung

**NEW**

Produktneuheiten



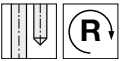
DIN 2184-1 DIN 371

Artikel-Nr.

4607

d1	P	d2	SW	dk	l1	l2	l5	Code-Nr.
	G/inch	mm	mm	mm	mm	mm	mm	
G1/8	28	10,000	8,000	8,90	100,000	19,000	39,000	9,728
G1/4	19	14,000	11,000	11,90	110,000	28,000	49,000	13,157
G3/8	19	16,000	12,000	15,35	125,000	28,000	54,000	16,662
G1/2	14	20,000	16,000	19,00	140,000	35,000	62,000	20,955

**Gewindebohrer für Whitworth-Rohrgewinde**

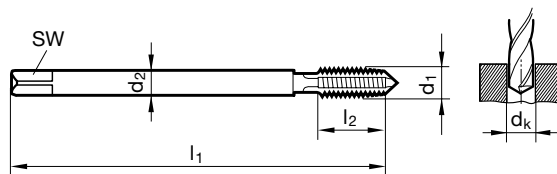


P	
M	
K	
N	
S	
H	•

Schnittdaten finden Sie in unserem Online-Navigator unter <https://webnavigator.guehring.de>.

Schneidstoff	<b>VHM</b>
Ø-Toleranz	
Oberfläche	<b>C</b>
Typ	H
Form	D
Innenkühlung	

**NEW**



**~DIN 371** Artikel-Nr. **4599**

d1	P	d2	SW	dk	l1	l2	l5	Code-Nr.
	G/inch	mm	mm	mm	mm	mm	mm	
G1/8	28	10,000	8,000	8,90	90,000	22,000	22,000	9,728
G1/4	19	14,000	11,000	11,90	100,000	30,000	30,000	13,157
G3/8	19	16,000	12,000	15,35	100,000	40,000	40,000	16,662
G1/2	14	20,000	16,000	19,00	125,000	40,000	40,000	20,955

# Pionex

DIE NEUE GENERATION GEWINDEWERKZEUGE

Speziell in der Gewindebearbeitung liegt eine hohe Hürde in der Prozesssicherheit, kombiniert mit hohen Standmengen und Universalität. Genau diese Kriterien erfüllt unser Pionex-Programm. Universelle High Performance gepaart mit höchster Prozesssicherheit und Wirtschaftlichkeit.

## IHRE VORTEILE

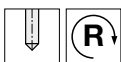
- leistungsstark unter allen Einsatzbedingungen
- Reduktion von Drehmoment und Axialkraft
- höhere Schnittgeschwindigkeiten
- herausragende Standzeiten
- optimale Spanabfuhr
- universelle Bearbeitung verschiedenster Werkstoffe

## BREITES PROGRAMM

- Gewindebohrer (Durchgangs- und Sackloch):  
M, MF, UNC, UNF, G, BSW, Rp
- Gewindefomer:  
M, MF, UNC, UNF, G



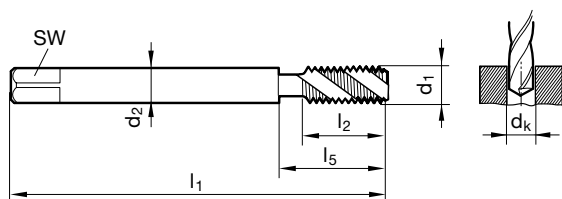
**Gewindebohrer für Whitworth-Rohrgewinde**



<b>P</b>	•
<b>M</b>	•
<b>K</b>	○
<b>N</b>	○
<b>S</b>	○
<b>H</b>	

Schnittdaten finden Sie in unserem Online-Navigator unter <https://webnavigator.guehring.de>.

Schneidstoff	<b>HSS-E</b>
Ø-Toleranz	
Oberfläche	<b>A</b>
Typ	VA R45
Form	C
Innenkühlung	



**DIN 2184-1 DIN 5156**

Artikel-Nr.

**4681**

d1	P	d2	SW	dk	l1	l2	l5	Code-Nr.
	G/inch	mm	mm	mm	mm	mm	mm	
Rp1/16	28	6,000	4,900	7,75	90,000	11,000	30,000	7,723
Rp1/8	28	7,000	5,500	9,75	90,000	11,000	35,000	9,728
Rp1/4	19	11,000	9,000	13,25	100,000	14,000	40,000	13,157
Rp3/8	19	12,000	9,000	16,75	100,000	14,000	44,000	16,662
Rp1/2	14	16,000	12,000	21,00	125,000	18,000	44,000	20,955
Rp3/4	14	20,000	16,000	26,50	140,000	20,000	53,000	26,441
Rp1	11	25,000	20,000	33,25	160,000	24,000	56,000	33,249





## Gewindebohrer für Whitworth-Rohrgewinde



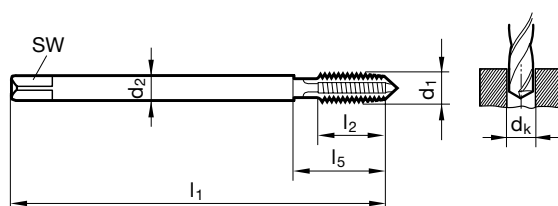
P	•
M	•
K	○
N	○
S	○
H	

Schnittdaten finden Sie in unserem Online-Navigator unter <https://webnavigator.guehring.de>.

Schneidstoff	HSS-E
Ø-Toleranz	
Oberfläche	S
Typ	VA
Form	B
Innenkühlung	✗



Produktneuheiten



DIN 2184-1 DIN 5156

Artikel-Nr.

4682

d1	P	d2	SW	dk	l1	l2	l5	Code-Nr.
	G/inch	mm	mm	mm	mm	mm	mm	
Rp1/16	28	6,000	4,900	7,75	90,000	18,000	30,000	7,723
Rp1/8	28	7,000	5,500	9,75	90,000	18,000	35,000	9,728
Rp1/4	19	11,000	9,000	13,25	100,000	20,000	40,000	13,157
Rp3/8	19	12,000	9,000	16,75	100,000	22,000	44,000	16,662
Rp1/2	14	16,000	12,000	21,00	125,000	25,000	44,000	20,955
Rp3/4	14	20,000	16,000	26,50	140,000	28,000	53,000	26,441
Rp1	11	25,000	20,000	33,25	160,000	30,000	56,000	33,249

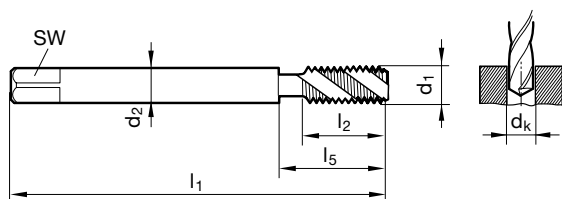
**Gewindebohrer für BSW-Gewinde**



<b>P</b>	•
<b>M</b>	•
<b>K</b>	○
<b>N</b>	○
<b>S</b>	○
<b>H</b>	

Schnittdaten finden Sie in unserem Online-Navigator unter <https://webnavigator.guehring.de>.

Schneidstoff	<b>HSS-E</b>
Ø-Toleranz	
Oberfläche	<b>A</b>
Typ	VA R45
Form	C
Innenkühlung	



**DIN 2184-1 ~DIN 371**

Artikel-Nr.

**4679**

d1	P	d2	SW	dk	l1	l2	l5	Code-Nr.
	G/inch	mm	mm	mm	mm	mm	mm	
W1/8	40	3,500	2,700	2,50	56,000	7,000	18,000	3,175
W3/16	24	6,000	4,900	3,60	70,000	11,000	25,000	4,762
W1/4	20	7,000	5,500	5,10	80,000	13,000	30,000	6,350
W5/16	18	8,000	6,200	6,50	90,000	14,000	35,000	7,938
W3/8	16	10,000	8,000	7,90	100,000	16,000	39,000	9,525
W7/16	14	8,000	6,200	9,20	100,000	18,000	42,000	11,113
W1/2	12	9,000	7,000	10,50	110,000	20,000	49,000	12,700
W5/8	11	12,000	9,000	13,50	110,000	24,000	53,000	15,876
W3/4	10	14,000	11,000	16,25	125,000	25,000	62,000	19,051
W7/8	9	18,000	14,500	19,25	140,000	28,000	62,000	22,226
W1	8	18,000	14,500	22,00	160,000	32,000	73,000	25,401



## Gewindebohrer für BSW-Gewinde



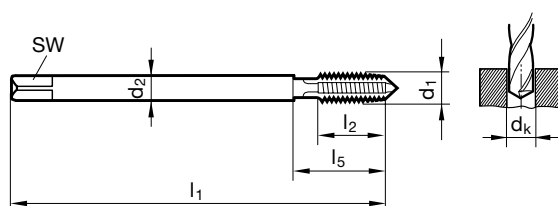
P	•
M	•
K	○
N	○
S	○
H	

Schnittdaten finden Sie in unserem Online-Navigator unter <https://webnavigator.guehring.de>.

Schneidstoff	HSS-E
Ø-Toleranz	
Oberfläche	S
Typ	VA
Form	B
Innenkühlung	



Produktneuheiten



DIN 2184-1 ~DIN 371

Artikel-Nr.

4680

d1	P	d2	SW	dk	l1	l2	l5	Code-Nr.
	G/inch	mm	mm	mm	mm	mm	mm	
W1/8	40	3,500	2,700	2,50	56,000	11,000	18,000	3,175
W3/16	24	6,000	4,900	3,60	70,000	14,000	25,000	4,762
W1/4	20	7,000	5,500	5,10	80,000	16,000	30,000	6,350
W5/16	18	8,000	6,200	6,50	90,000	18,000	35,000	7,938
W3/8	16	10,000	8,000	7,90	100,000	20,000	39,000	9,525
W7/16	14	8,000	6,200	9,20	100,000	22,000	42,000	11,113
W1/2	12	9,000	7,000	10,50	110,000	25,000	49,000	12,700
W5/8	11	12,000	9,000	13,50	110,000	30,000	53,000	15,876
W3/4	10	14,000	11,000	16,25	125,000	33,000	62,000	19,051
W7/8	9	18,000	14,500	19,25	140,000	35,000	62,000	22,226
W1	8	18,000	14,500	22,00	160,000	38,000	73,000	25,401

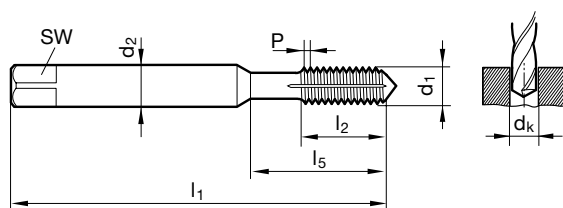
**Gewindeformer für Metrische ISO-Gewinde**



P	
M	
K	
N	•
S	
H	

Schnittdaten finden Sie in unserem Online-Navigator unter <https://webnavigator.guehring.de>.

Schneidstoff	<b>HSS-E</b>
Ø-Toleranz	6HX
Oberfläche	<b>ⓐ</b>
Typ	N
Form	C
Innenkühlung	



**DIN 2174 ~DIN 371/~DIN 376**

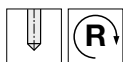
Artikel-Nr.

**4676**

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



## Gewindeformer für Metrische ISO-Gewinde

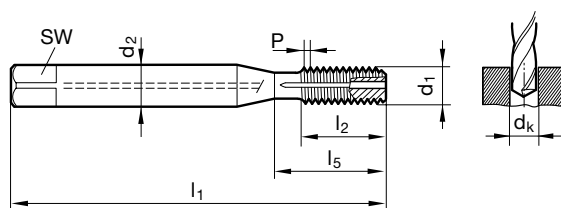


P	
M	
K	
N	•
S	
H	

Schnittdaten finden Sie in unserem Online-Navigator unter <https://webnavigator.guehring.de>.

Schneidstoff	HSS-E
Ø-Toleranz	6HX
Oberfläche	ⓐ
Typ	N
Form	E
Innenkühlung	

NEW



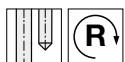
DIN 2174 ~DIN 371/~DIN 376

Artikel-Nr.

4677

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

Gewindeformer für Metrische ISO-Gewinde

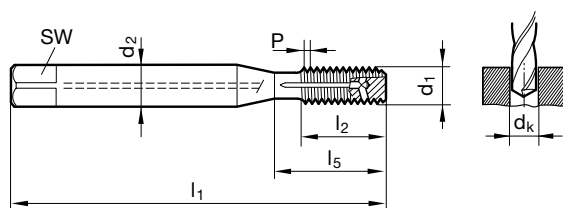


**P** Schnittdaten finden Sie in unserem Online-Navigator unter <https://webnavigator.guehring.de>.

**K** mit Innenkühlung ab M5

<b>P</b>	
<b>M</b>	
<b>K</b>	
<b>N</b>	•
<b>S</b>	
<b>H</b>	

Schneidstoff	<b>VHM</b>
Ø-Toleranz	6HX
Oberfläche	ⓐ
Typ	N
Form	C
Innenkühlung	



DIN 2174 ~DIN 371/~DIN 376

Artikel-Nr.

**4678**

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

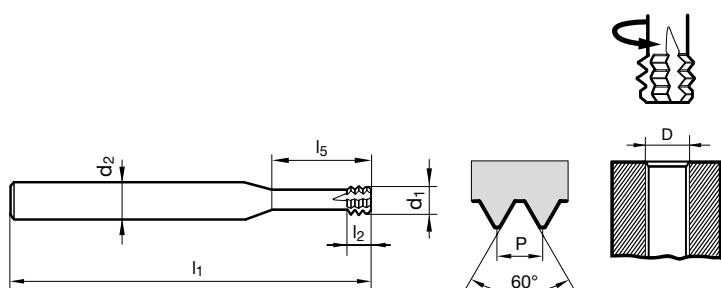


## Mikro-Gewindefräser



<b>P</b>	•	Schnittdaten finden Sie in unserem Online-Navigator unter <a href="https://webnavigator.guehring.de">https://webnavigator.guehring.de</a> .
<b>M</b>	•	
<b>K</b>	•	
<b>N</b>	•	
<b>S</b>	•	
<b>H</b>	≤ 66	

Schneidstoff	<b>VHM</b>
Oberfläche	
Typ	MTMH3-Z
Innenkühlung	
Schaftform	~HA/HB



Artikel-Nr. **4700**

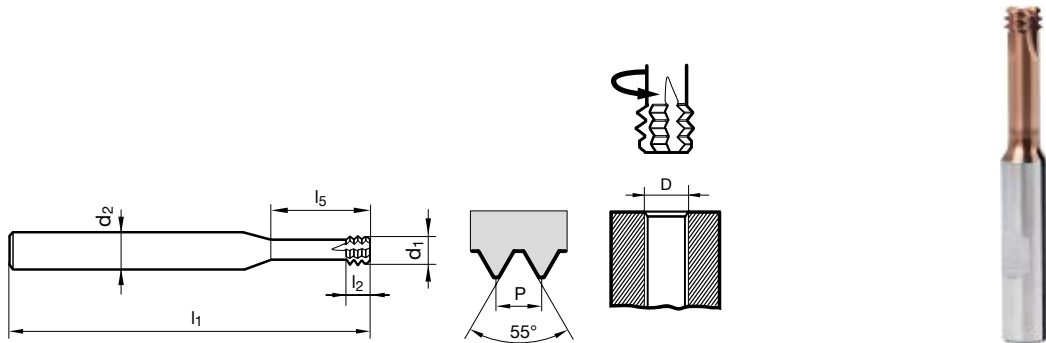
D	P	d1	d2	l1	l2	l5	Z	Code-Nr.
	G/inch	mm	mm	mm	mm	mm		
UNF No 1	72	1,400	3,000	39,000	1,100	5,000	4	1,853
UNC No 1+UNF No 2	64	1,400	3,000	39,000	1,200	5,000	4	1,854
UNC No 2+UNF No 3	56	1,600	3,000	39,000	1,400	5,500	4	2,184
UNC No 3+UNF No 4	48	1,900	3,000	39,000	1,600	6,500	4	2,515
UNC No 4	40	2,100	6,000	58,000	1,900	7,500	4	2,845
UNC No 5+UNF No 6	40	2,400	6,000	58,000	1,900	8,000	4	3,175
UNC No 6	32	2,600	6,000	58,000	2,400	9,000	4	3,505
UNF No 8	36	3,200	6,000	58,000	2,100	10,500	4	4,165
UNC No 8	32	3,100	6,000	58,000	2,400	10,500	4	4,166
UNF No10	32	3,600	6,000	58,000	2,400	12,500	4	4,825
UNC No10+UNC No12	24	3,600	6,000	58,000	3,200	12,500	4	4,826
UNF No12	28	4,100	6,000	58,000	2,700	14,000	4	5,485
UNF 1/4	28	4,800	6,000	58,000	2,700	16,000	4	6,349
UNC 1/4	20	4,800	6,000	58,000	3,800	16,000	4	6,350
UNF 5/16+UNF 3/8	24	6,300	8,000	64,000	3,200	20,000	4	7,937
UNC 5/16	18	6,300	8,000	64,000	4,200	20,000	4	7,938
UNC 3/8	16	7,200	8,000	64,000	4,800	24,000	4	9,525
UNF 7/16	20	8,300	10,000	73,000	3,800	28,000	4	11,112
UNC 7/16	14	8,300	10,000	73,000	5,400	28,000	4	11,113
UNF 1/2	20	9,700	10,000	73,000	3,800	31,000	4	12,700
UNF 5/8	18	11,800	12,000	90,000	4,200	40,000	4	15,874

Mikro-Gewindefräser



- P** •
  - M** •
  - K** •
  - N** •
  - S** •
  - H** •
- Schnittdaten finden Sie in unserem Online-Navigator unter <https://webnavigator.guehring.de>.

Schneidstoff	<b>VHM</b>
Oberfläche	
Typ	MTMH3-Z
Innenkühlung	
Schaftform	~HB



Artikel-Nr. **4780**

D	P	d1	d2	l1	l2	l5	Z	Code-Nr.
	G/inch	mm	mm	mm	mm	mm		
G1/16-G1/8	28	6,100	8,000	64,000	2,700	24,000	4	9,728
G1/4-G3/8	19	10,300	12,000	90,000	4,000	40,000	4	16,662
G1/2-G5/8-G3/4	14	15,700	16,000	105,000	5,400	50,000	4	26,441

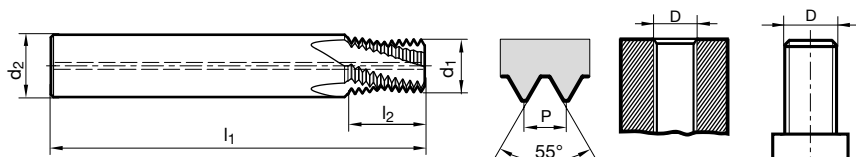



**Mehrbereichs-Gewindefräser für Rc-Gewinde**


<b>P</b>	•	Schnittdaten finden Sie in unserem Online-Navigator unter <a href="https://webnavigator.guehring.de">https://webnavigator.guehring.de</a> .
<b>M</b>	•	
<b>K</b>	•	
<b>N</b>	•	
<b>S</b>	•	
<b>H</b>	○	

Schneidstoff	<b>VHM</b>
Oberfläche	
Typ	TMU SP
Innenkühlung	
Schaftform	~HB

Produktneuheiten


 Artikel-Nr. **4770**

D	P	d1	d2	l1	l2	Z	Code-Nr.
	G/inch	mm	mm	mm	mm		
Rc1/8	28	7,400	8,000	64,000	8,600	3	9,728
Rc1/4-Rc3/8	19	9,120	10,000	74,000	14,040	4	13,157
Rc1/2-Rc3/4	14	14,800	16,000	90,000	19,050	5	20,955
Rc 1-Rc 2	11	18,000	20,000	105,000	33,400	5	33,249



**WERKZEUG**  
**AUFNAHMEN**



# WERKZEUGAUFNAHMEN FÜR DEN WERKZEUG- & FORMENBAU

Gerade im Werkzeug- und Formenbau werden komplexe Anforderungen nicht nur an das Werkzeug, sondern auch an die Werkzeugaufnahmen gestellt. Gühring bietet dafür speziell konzipierte Werkzeugaufnahmen

- **lange, schlanke Aufnahmen mit optimierter Störkontur** für verbesserte Zugänglichkeit
- ideal zur **Bearbeitung tiefer Kavitäten**
- optimal geeignet für die **5-Achs-Bearbeitung**

Werkzeuge und Spannmittel speziell für den Werkzeug- und Formenbau finden Sie in unserem neuen Katalog:





**Hydraulik-Dehnspannfutter HSK-A, schlanke Ausführung 3°**



**Produktinformationen:**

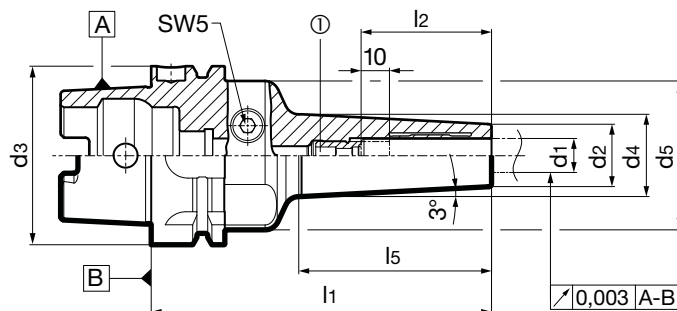
- HSK-A nach ISO 12164-1 / DIN 69893-1
- Wuchtgüte: G 2,5 / 25.000 U/min oder U < 1 gmm
- für Werkzeugschafttoleranz h6
- axiale Längeneinstellung
- Rundlaufgenauigkeit: 3 µm
- l1 = 160 mm: max. 5 µm

**Lieferumfang:**

- inkl. Einstellschraube (1) Art.-Nr. 4941
- inkl. Spannschlüssel Art.-Nr. 4912

**Passendes Zubehör separat erhältlich:**

- Kühlmittelübergabe-Satz Art.-Nr. 4949
- Ersatz-Spannschraube Art.-Nr. 4241
- für MQL-Einsatz auf Anfrage
- Sonderabmessungen auf Anfrage



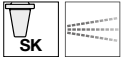
Artikel-Nr. **4596**

d3	d1 h6	d2	d4	d5	l1	l5	l2	①	kg	Bestell-Nr.
HSK-A 63	6	16	23,0	52,5	120	67,5	37	4941 6.041	1,1	<b>4596 6.163</b>
HSK-A 63	8	18	25,0	52,5	120	67,5	37	4941 8.040	1,1	<b>4596 8.163</b>
HSK-A 63	10	20	27,0	52,5	120	67,5	41	4941 10.050	1,1	<b>4596 10.163</b>
HSK-A 63	12	22	29,0	52,5	120	68,0	46	4941 12.100	1,2	<b>4596 12.163</b>
HSK-A 63	14	24	31,0	52,5	120	68,4	46	4941 14.100	1,2	<b>4596 14.163</b>
HSK-A 63	16	26	33,0	52,5	120	68,9	49	4941 16.100	1,2	<b>4596 16.163</b>
HSK-A 63	18	28	35,0	52,5	120	69,4	49	4941 18.100	1,2	<b>4596 18.163</b>
HSK-A 63	20	30	37,0	52,5	120	69,7	51	4941 20.100	1,3	<b>4596 20.163</b>
HSK-A 63	6	16	27,2	52,5	160	108,4	37	4941 6.041	1,2	<b>4596 6.263</b>
HSK-A 63	8	18	29,2	52,5	160	108,4	37	4941 8.040	1,3	<b>4596 8.263</b>
HSK-A 63	10	20	31,2	52,5	160	108,4	41	4941 10.050	1,3	<b>4596 10.263</b>
HSK-A 63	12	22	33,3	52,5	160	109,0	46	4941 12.100	1,4	<b>4596 12.263</b>
HSK-A 63	14	24	35,3	52,5	160	109,4	46	4941 14.100	1,5	<b>4596 14.263</b>
HSK-A 63	16	26	37,4	52,5	160	110,0	49	4941 16.100	1,5	<b>4596 16.263</b>
HSK-A 63	18	28	39,4	52,5	160	110,4	49	4941 18.100	1,6	<b>4596 18.263</b>
HSK-A 63	20	30	41,5	52,5	160	112,0	51	4941 20.100	1,6	<b>4596 20.263</b>

Produktneuheiten



**Hydraulik-Dehnspannfutter SK, schlanke Ausführung 3°**



**Produktinformationen:**

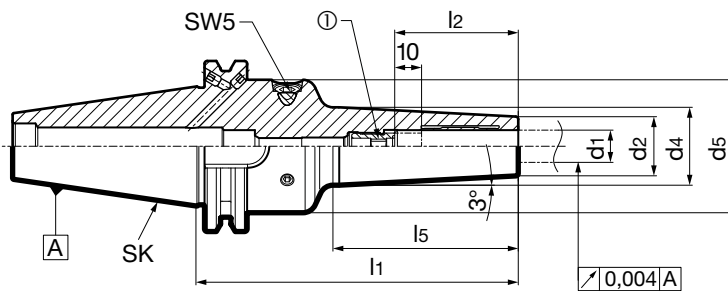
- SK nach DIN ISO 7388-1 Form AD/AF
- Wuchtgüte: G 2,5 / 25.000 U/min oder U < 1 gmm
- für Werkzeugschafttoleranz h6
- axiale Längeneinstellung
- Rundlaufgenauigkeit: 4 µm  
l1 ab 160 mm: = 5 µm

**Lieferumfang:**

- inkl. Einstellschraube (1) Art.-Nr. 4941
- inkl. Spannschlüssel Art.-Nr. 4912

**Passendes Zubehör separat erhältlich:**

- Anzugsbolzen SK Art.-Nr. 4925, 4926
- Ersatz-Spannschraube Art.-Nr. 4241



Artikel-Nr. **4597**

SK	d1 h6	d2	d4	d5	l1	l5	l2	①	kg	Bestell-Nr.
SK 40	6	16	23,0	49,5	120	68,0	37	4941 6.041	1,3	<b>4597 6.140</b>
SK 40	8	18	25,0	49,5	120	68,0	37	4941 8.040	1,3	<b>4597 8.140</b>
SK 40	10	20	27,0	49,5	120	68,5	41	4941 10.050	1,3	<b>4597 10.140</b>
SK 40	12	22	29,0	49,5	120	69,0	46	4941 12.100	1,4	<b>4597 12.140</b>
SK 40	14	24	31,0	49,5	120	69,0	46	4941 14.100	1,4	<b>4597 14.140</b>
SK 40	16	26	33,0	49,5	120	69,5	49	4941 16.100	1,4	<b>4597 16.140</b>
SK 40	18	28	35,0	49,5	120	70,0	49	4941 18.100	1,4	<b>4597 18.140</b>
SK 40	20	30	37,0	49,5	120	70,0	51	4941 20.100	1,5	<b>4597 20.140</b>
SK 40	6	16	27,3	49,5	160	109,0	37	4941 6.041	1,4	<b>4597 6.240</b>
SK 40	8	18	29,3	49,5	160	109,0	37	4941 8.040	1,5	<b>4597 8.240</b>
SK 40	10	20	31,4	49,5	160	110,0	41	4941 10.050	1,5	<b>4597 10.240</b>
SK 40	12	22	33,5	49,5	160	111,0	46	4941 12.100	1,6	<b>4597 12.240</b>
SK 40	14	24	35,6	49,5	160	112,0	46	4941 14.100	1,7	<b>4597 14.240</b>
SK 40	16	26	37,6	49,5	160	112,0	49	4941 16.100	1,7	<b>4597 16.240</b>
SK 40	18	28	39,8	49,5	160	114,0	49	4941 18.100	1,8	<b>4597 18.240</b>
SK 40	20	30	41,8	49,5	160	114,0	51	4941 20.100	1,8	<b>4597 20.240</b>


**Schrumpffutter HSK-A, schlanke Ausführung 3°**

**Produktinformationen:**

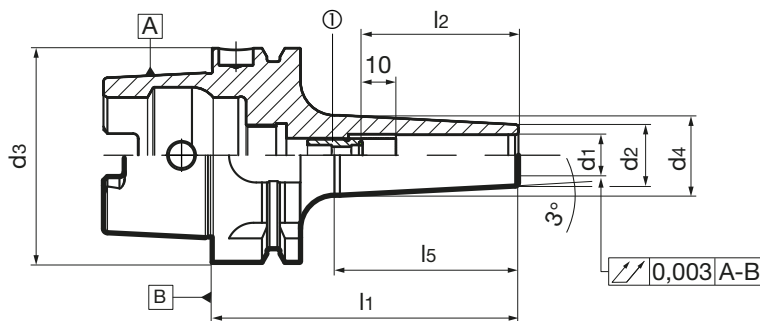
- HSK-A nach ISO 12164-1 / DIN 69893-1
- Wuchtgüte: G 2,5 / 25.000 U/min oder U < 1 gmm
- für d1 h6 Hartmetall-Werkzeugschäfte (ab d1 14 mm auch HSS möglich)
- axiale Längeneinstellung
- Rundlaufgenauigkeit:  
l1 bis 120 mm: max. 4 µm  
l1 bis 160 mm: max. 5 µm

**Lieferumfang:**

- inkl. Einstellschraube (1) mit Axialkraftdämpfung  
Art.-Nr. 4941 bzw. 4904

**Passendes Zubehör separat erhältlich:**

- Kühlmittelübergabe-Satz Art.-Nr. 4949
- für MQL-Einsatz auf Anfrage
- Sonderabmessungen auf Anfrage


 Artikel-Nr. **4787**

d3	d1 h6	d2	d4	l1	l2	l5	①	kg	Bestell-Nr.
	mm	mm	mm	mm	mm	mm			
HSK-A 63	3	9	13,0	80	30	40	4904 5.016	0,6	<b>4787 3.063</b>
HSK-A 63	4	10	14,0	80	35	41	4904 6.016	0,7	<b>4787 4.063</b>
HSK-A 63	5	11	15,0	80	40	41	4904 8.018	0,7	<b>4787 5.063</b>
HSK-A 63	6	12	16,0	80	36	42	4941 6.100	0,7	<b>4787 6.063</b>
HSK-A 63	8	14	18,0	80	36	42	4941 8.100	0,7	<b>4787 8.063</b>
HSK-A 63	10	16	21,0	85	41	49	4941 10.100	0,7	<b>4787 10.063</b>
HSK-A 63	12	18	23,5	90	46	54	4941 12.100	0,7	<b>4787 12.063</b>
HSK-A 63	14	20	25,5	90	46	54	4941 14.100	0,7	<b>4787 14.063</b>
HSK-A 63	16	22	28,0	95	49	59	4941 16.100	0,8	<b>4787 16.063</b>
HSK-A 63	18	24	30,0	95	49	59	4941 18.100	0,8	<b>4787 18.063</b>
HSK-A 63	20	26	32,5	100	51	64	4941 20.100	0,9	<b>4787 20.063</b>
HSK-A 63	3	9	17,0	120	30	80	4904 5.016	0,7	<b>4787 3.163</b>
HSK-A 63	4	10	18,0	120	35	81	4904 6.016	0,7	<b>4787 4.163</b>
HSK-A 63	5	11	19,0	120	40	81	4904 8.018	0,7	<b>4787 5.163</b>
HSK-A 63	6	12	20,5	120	36	82	4941 6.041	0,8	<b>4787 6.163</b>
HSK-A 63	8	14	22,5	120	36	82	4941 8.040	0,8	<b>4787 8.163</b>
HSK-A 63	10	16	24,5	120	41	82	4941 10.050	0,8	<b>4787 10.163</b>
HSK-A 63	12	18	26,5	120	46	83	4941 12.100	0,9	<b>4787 12.163</b>
HSK-A 63	14	20	28,5	120	46	83	4941 14.100	0,9	<b>4787 14.163</b>
HSK-A 63	16	22	30,5	120	49	83	4941 16.100	0,9	<b>4787 16.163</b>
HSK-A 63	18	24	32,7	120	49	84	4941 18.100	1,0	<b>4787 18.163</b>
HSK-A 63	20	26	34,7	120	51	85	4941 20.100	1,0	<b>4787 20.163</b>
HSK-A 63	3	9	21,5	160	30	121	4904 5.016	0,8	<b>4787 3.263</b>
HSK-A 63	4	10	22,5	160	35	121	4904 6.016	0,8	<b>4787 4.263</b>
HSK-A 63	5	11	23,5	160	40	121	4904 8.018	0,9	<b>4787 5.263</b>
HSK-A 63	6	12	24,5	160	36	122	4941 6.041	0,9	<b>4787 6.263</b>
HSK-A 63	8	14	26,5	160	36	122	4941 8.040	1,0	<b>4787 8.263</b>
HSK-A 63	10	16	28,5	160	41	122	4941 10.050	1,0	<b>4787 10.263</b>
HSK-A 63	12	18	30,5	160	46	123	4941 12.100	1,1	<b>4787 12.263</b>
HSK-A 63	14	20	32,8	160	46	124	4941 14.100	1,1	<b>4787 14.263</b>
HSK-A 63	16	22	34,8	160	49	125	4941 16.100	1,2	<b>4787 16.263</b>
HSK-A 63	18	24	37,0	160	49	126	4941 18.100	1,3	<b>4787 18.263</b>
HSK-A 63	20	26	39,0	160	51	127	4941 20.100	1,3	<b>4787 20.263</b>



**Schrumpffutter SK, schlanke Ausführung 3°**



**Produktinformationen:**

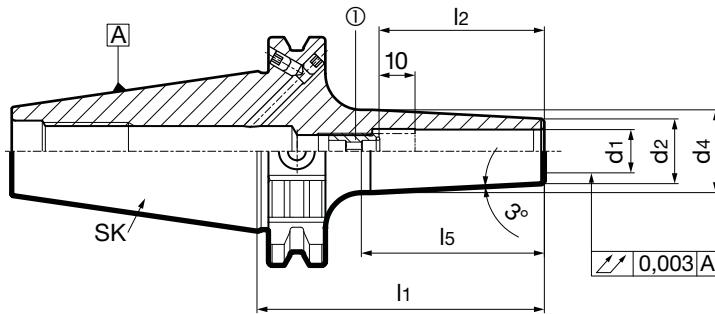
- SK nach DIN ISO 7388-1 Form AD/AF
- Wuchtgüte: G 2,5 / 25.000 U/min oder U < 1 gmm
- für d1 h6 Hartmetall-Werkzeugschäfte (ab d1 14 mm auch HSS möglich)
- axiale Längeneinstellung
- Rundlaufgenauigkeit: 3 µm  
l1 bis 120 mm: max. 4 µm  
l1 bis 160 mm: max. 5 µm

**Lieferumfang:**

- inkl. Einstellschraube (1) Art.-Nr. 4904 bzw. 4977

**Passendes Zubehör separat erhältlich:**

- Anzugsbolzen SK Art.-Nr. 4925, 4926



Artikel-Nr. **4788**

SK	d1 h6	d2	d4	l1	l2	l5	①	kg	Bestell-Nr.
	mm	mm	mm	mm	mm	mm			
SK 40	3	9	13,5	80	30	46	4904 5.016	0,8	<b>4788 3.040</b>
SK 40	4	10	14,5	80	35	46	4904 6.016	0,8	<b>4788 4.040</b>
SK 40	5	11	15,5	80	40	47	4904 8.018	0,8	<b>4788 5.040</b>
SK 40	6	12	16,5	80	36	48	4977 6.014	0,8	<b>4788 6.040</b>
SK 40	8	14	19,0	80	36	49	4977 8.014	0,8	<b>4788 8.040</b>
SK 40	10	16	21,0	80	41	50	4977 10.014	0,9	<b>4788 10.040</b>
SK 40	12	18	23,0	80	46	51	4977 12.014	0,9	<b>4788 12.040</b>
SK 40	14	20	25,0	80	46	52	4977 12.014	0,9	<b>4788 14.040</b>
SK 40	16	22	27,0	80	49	53	4977 16.014	0,9	<b>4788 16.040</b>
SK 40	18	24	29,5	80	49	54	4977 16.014	0,9	<b>4788 18.040</b>
SK 40	20	26	31,5	80	51	55	4977 20.114	0,9	<b>4788 20.040</b>
SK 40	3	9	18,0	120	30	88	4904 5.016	0,9	<b>4788 3.140</b>
SK 40	4	10	19,0	120	35	88	4904 6.016	0,9	<b>4788 4.140</b>
SK 40	5	11	20,0	120	40	89	4904 8.018	0,9	<b>4788 5.140</b>
SK 40	6	12	21,0	120	36	90	4977 6.014	0,9	<b>4788 6.140</b>
SK 40	8	14	23,5	120	36	92	4977 8.014	1,0	<b>4788 8.140</b>
SK 40	10	16	25,5	120	41	92	4977 10.014	1,0	<b>4788 10.140</b>
SK 40	12	18	27,5	120	46	93	4977 12.014	1,0	<b>4788 12.140</b>
SK 40	14	20	29,5	120	46	94	4977 12.014	1,1	<b>4788 14.140</b>
SK 40	16	22	31,5	120	49	95	4977 16.014	1,1	<b>4788 16.140</b>
SK 40	18	24	33,5	120	49	96	4977 16.014	1,1	<b>4788 18.140</b>
SK 40	20	26	36,0	120	51	97	4977 20.114	1,2	<b>4788 20.140</b>
SK 40	3	9	22,5	160	30	130	4904 5.016	1,0	<b>4788 3.240</b>
SK 40	4	10	23,5	160	35	130	4904 6.016	1,0	<b>4788 4.240</b>
SK 40	5	11	24,5	160	40	131	4904 8.018	1,0	<b>4788 5.240</b>
SK 40	6	12	25,5	160	36	132	4977 6.014	1,1	<b>4788 6.240</b>
SK 40	8	14	27,5	160	36	132	4977 8.014	1,1	<b>4788 8.240</b>
SK 40	10	16	30,0	160	41	134	4977 10.014	1,2	<b>4788 10.240</b>
SK 40	12	18	32,0	160	46	135	4977 12.014	1,2	<b>4788 12.240</b>
SK 40	14	20	34,0	160	46	136	4977 12.014	1,3	<b>4788 14.240</b>
SK 40	16	22	36,0	160	49	137	4977 16.014	1,4	<b>4788 16.240</b>
SK 40	18	24	38,0	160	49	137	4977 16.014	1,4	<b>4788 18.240</b>
SK 40	20	26	40,5	160	51	139	4977 20.114	1,5	<b>4788 20.240</b>





**Schrumpffutter HSK-E, schlanke Ausführung 3°**



**Produktinformationen:**

- HSK-E nach DIN 69893-5 mit Zugriffsbohrung am Kegel für manuellen Werkzeugwechsel
- Wuchtgüte: G 2,5 / 25.000 U/min oder U < 1 gmm
- für d1 h6 Hartmetall-Werkzeugschäfte (ab d1 14 mm auch HSS möglich)
- axiale Längeneinstellung
- Rundlaufgenauigkeit 3 µm

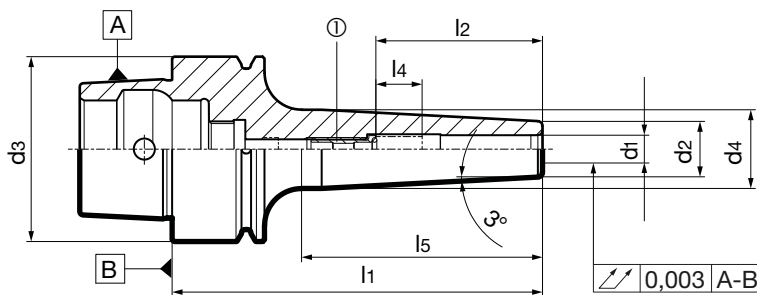
**Lieferumfang:**

- inkl. Einstellschraube (1) Art.-Nr. 4904 bzw. 4977

**Passendes Zubehör separat erhältlich:**

- Kühlmittelübergabe-Satz Art.-Nr. 4949
- Sonderabmessungen auf Anfrage

Produktneuheiten



Artikel-Nr. **4789**

d3	d1 h6	d2	d4	l1	l5	l4	l2	①	kg	Bestell-Nr.
	mm	mm	mm	mm	mm	mm	mm			
HSK-E 40	3	9	12,0	60	30,0	10	30	4904 5.007	0,2	<b>4789 3.040</b>
HSK-E 40	4	10	13,0	60	31,0	10	35	4904 5.007	0,2	<b>4789 4.040</b>
HSK-E 40	5	11	14,0	60	31,0	10	36	4904 6.007	0,2	<b>4789 5.040</b>
HSK-E 40	6	12	15,0	60	32,0	5	36	4977 5.009	0,2	<b>4789 6.040</b>
HSK-E 40	8	14	17,0	60	32,0	5	36	4977 5.009	0,2	<b>4789 8.040</b>
HSK-E 40	10	16	19,5	60	34,0	5	38	4904 5.007	0,2	<b>4789 10.040</b>
HSK-E 40	12	18	21,5	60	34,5	3	40	4904 5.005	0,2	<b>4789 12.040</b>
HSK-E 40	3	9	14,0	80	50,0	10	30	4904 5.016	0,2	<b>4789 3.140</b>
HSK-E 40	4	10	15,0	80	51,0	10	35	4904 5.016	0,2	<b>4789 4.140</b>
HSK-E 40	5	11	16,0	80	51,0	10	40	4904 6.016	0,2	<b>4789 5.140</b>
HSK-E 40	6	12	17,0	80	52,0	10	36	4977 6.014	0,2	<b>4789 6.140</b>
HSK-E 40	8	14	19,0	80	52,5	10	36	4977 8.014	0,8	<b>4789 8.140</b>
HSK-E 40	10	16	21,5	80	54,0	10	41	4977 10.014	0,3	<b>4789 10.140</b>
HSK-E 40	12	18	23,5	80	55,0	10	46	4977 8.014	0,3	<b>4789 12.140</b>
HSK-E 50	3	9	13,0	80	40,0	10	30	4904 5.016	0,4	<b>4789 3.050</b>
HSK-E 50	4	10	14,0	80	41,0	10	35	4904 6.016	0,4	<b>4789 4.050</b>
HSK-E 50	5	11	15,0	80	41,0	10	40	4904 6.016	0,4	<b>4789 5.050</b>
HSK-E 50	6	12	16,0	80	42,0	10	36	4977 6.014	0,4	<b>4789 6.050</b>
HSK-E 50	8	14	18,0	80	42,0	10	36	4977 8.014	0,5	<b>4789 8.050</b>
HSK-E 50	10	16	20,5	80	44,0	10	41	4977 10.014	0,5	<b>4789 10.050</b>
HSK-E 50	12	18	22,5	80	44,5	10	46	4977 8.014	0,5	<b>4789 12.050</b>
HSK-E 50	14	20	24,5	80	45,5	10	46	4977 8.014	0,5	<b>4789 14.050</b>
HSK-E 50	16	22	26,5	80	46,5	10	49	4977 8.014	0,5	<b>4789 16.050</b>



**Präzisionsspannzangenaufnahme HSK-A**



**Produktinformationen:**

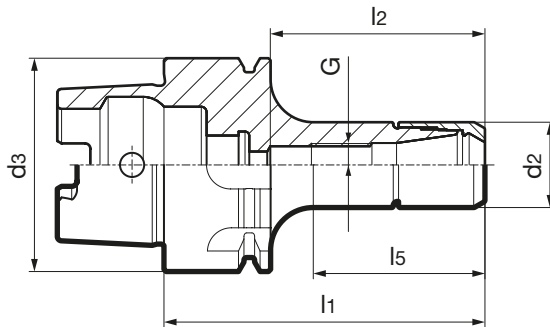
- HSK-A nach ISO 12164-1 / DIN 69893-1
- Wuchtgüte: G 2,5 / 25.000 U/min oder  $U \leq 1$  gmm
- für Präzisionsspannzangen Art.-Nr. 4574 und 4575
- Rundlaufgenauigkeit Gesamtsystem max. 3 µm (bei 3 x Spann-Ø max. 50 mm)
- max. Anzugsmomente der Spannmutter beachten  
Spann-Ø 1,0 - 2,5 = 7 Nm  
Spann-Ø 3,0 - 7,5 = 10 Nm

**Lieferumfang:**

- inkl. Spannmutter Art.-Nr. 4573
- ohne Einstellschraube

**Passendes Zubehör separat erhältlich:**

- Kühlmittelübergabe-Satz Art.-Nr. 4949
- Spannzangen Art.-Nr. 4574 oder 4575 (abgedichtet)
- Rollenschlüssel Art.-Nr. 4994
- Drehmomentschlüssel Art.-Nr. 4981 5,025
- Rollenschlüsselersatz Art.-Nr. 4995 für optimale Bedienung



Artikel-Nr. **4476**

d3	Größe	Ø-Bereich	d2	l1	l2	l5		G	Bestell-Nr.
			mm	mm	mm	mm	1/min		
HSK-A 32	ER11	1,0-7,0	16	40	24	20	50000		<b>4476 11.032</b>
HSK-A 40	ER11	1,0-7,0	16	60	40	40	42000	M 8 X1	<b>4476 11.040</b>
HSK-A 40	ER11	1,0-7,0	16	130	75	110	27000	M 8 X1	<b>4476 11.140</b>
HSK-A 50	ER11	1,0-7,0	16	130	60	104	27000	M 8 X1	<b>4476 11.050</b>
HSK-A 63	ER11	1,0-7,0	16	70	48	34	25000	M 8 X1	<b>4476 11.063</b>
HSK-A 63	ER11	1,0-7,0	16	100	78	64	25000	M 8 X1	<b>4476 11.163</b>
HSK-A 63	ER11	1,0-7,0	16	130	108	94	25000	M 8 X1	<b>4476 11.263</b>
HSK-A 63	ER11	1,0-7,0	16	160	138	124	25000	M 8 X1	<b>4476 11.363</b>



## Präzisionsspannzangenaufnahme HSK-E



NEW

## Produktinformationen:

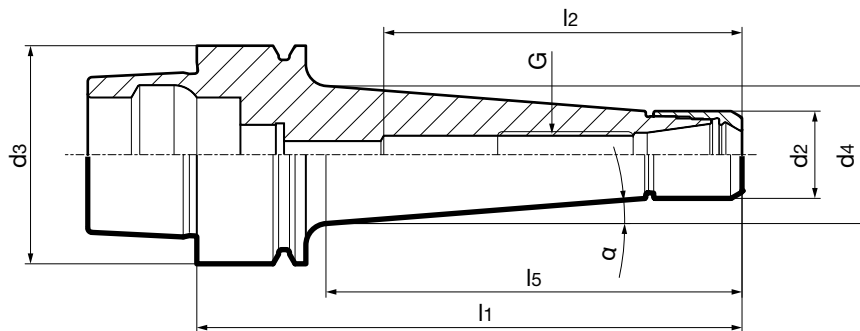
- HSK-E nach DIN 69893-5, ohne Zugriffsbohrung am Kegel
- Wuchtgüte: G 2,5 / 25.000 U/min oder  $U \leq 1$  gmm
- für Präzisionsspannzangen Art.-Nr. 4574 und 4575
- Rundlaufgenauigkeit Gesamtsystem max. 3  $\mu$ m (bei 3 x Spann- $\emptyset$  max. 50 mm)
- max. Anzugsmomente der Spannmutter beachten  
Spann- $\emptyset$  1,0 - 2,5 = 7 Nm  
Spann- $\emptyset$  3,0 - 7,5 = 10 Nm

## Lieferumfang:

- inkl. Spannmutter Art.-Nr. 4573
- ohne Einstellschraube

## Passendes Zubehör separat erhältlich:

- Kühlmittelübergabe-Satz Art.-Nr. 4949
- Spannzangen Art.-Nr. 4574 oder 4575 (abgedichtet)
- Rollenschlüssel Art.-Nr. 4994
- Drehmomentschlüssel Art.-Nr. 4981 5,025
- Rollenschlüsselersatz Art.-Nr. 4995 für optimale Bedienung



Artikel-Nr.

4475

d3	Größe	$\emptyset$ -Bereich	d2	d4	l1	l2	l5	$\alpha$	G		Bestell-Nr.
			mm	mm	mm	mm	mm	$^{\circ}$	1/min		
HSK-E 25	ER11	1,0-7,5	16	20,0	35	22	22,0		60000		4475 11.025
HSK-E 32	ER11	1,0-7,5	16	17,5	50	34	27,5	4,5	50000	M 8 X1	4475 11.032
HSK-E 40	ER11	1,0-7,5	16	17,0	50	31	22,5	4,5	42000	M 8 X1	4475 11.040
HSK-E 40	ER11	1,0-7,5	16	25,5	100	65	75,5	4,5	40000	M 8 X1	4475 11.140
HSK-E 40	ER11	1,0-7,5	16	30,5	130	65	108,0	4,5	35000	M 8 X1	4475 11.240
HSK-E 40	ER11	1,0-7,5	16	32,0	160	65	139,0	4,5	27000	M 8 X1	4475 11.340
HSK-E 50	ER11	1,0-7,5	16	18,0	60	37	30,0	4,5	30000	M 8 X1	4475 11.050
HSK-E 50	ER11	1,0-7,5	16	24,5	100	73	70,0	4,5	30000	M 8 X1	4475 11.150

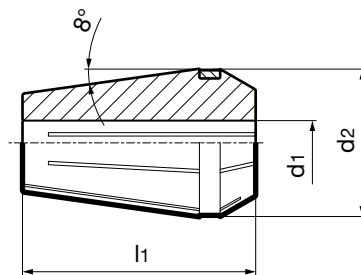


**Präzisionsspannzangen für Präzisionsspannzangenaufnahmen**



**Produktinformationen:**

- für Werkzeugschafttoleranz h10
- Präzisionsspannzange ER11 ähnl. ISO 15488
- speziell für Präzisionsspannzangenaufnahme Art.-Nr. 4475 und 4476
- Rundlaufgenauigkeit 2 µm
- keine Spannüberbrückung
- max. Anzugsmomente der Spannmutter beachten  
Spann-Ø 1,0 - 2,5 = 7 Nm  
Spann-Ø 3,0 - 7,5 = 10 Nm
- abgedichtete Ausführung Art.-Nr. 4575

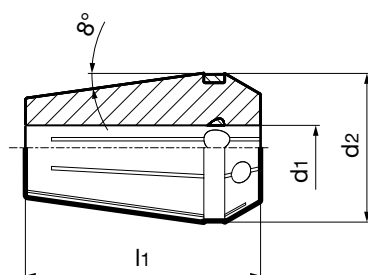


Artikel-Nr. **4574**

Größe	d1	d2	l1	Bestell-Nr.
	mm	mm	mm	
ER11	1,00	11,3	18,00	4574 1.011
ER11	1,50	11,3	18,00	4574 1.511
ER11	2,00	11,3	18,00	4574 2.011
ER11	2,50	11,3	18,00	4574 2.511
ER11	3,00	11,3	18,00	4574 3.011
ER11	3,50	11,3	18,00	4574 3.511
ER11	4,00	11,3	18,00	4574 4.011
ER11	4,50	11,3	18,00	4574 4.511
ER11	5,00	11,3	18,00	4574 5.011
ER11	5,50	11,3	18,00	4574 5.511
ER11	6,00	11,3	18,00	4574 6.011
ER11	6,50	11,3	18,00	4574 6.511
ER11	7,00	11,3	18,00	4574 7.011


**Präzisionsspannzangen für Präzisionsspannzangenaufnahmen, abgedichtet**
**Produktinformationen:**

- für Werkzeugschafttoleranz h8
- Präzisionsspannzange abgedichtet ER11  
ähnl. ISO 15488
- speziell für Präzisionsspannzangenaufnahme  
Art.-Nr. 4475 und 4476
- Rundlaufgenauigkeit 2  $\mu\text{m}$
- keine Spannüberbrückung
- max. Anzugsmomente der Spannmutter beachten  
Spann- $\emptyset$  1,0 - 2,5 = 7 Nm  
Spann- $\emptyset$  3,0 - 7,5 = 10 Nm



Artikel-Nr.

4575

Größe	d1	d2	l1	Bestell-Nr.
	mm	mm	mm	
ER11	3,00	11,3	18,00	4575 3.011
ER11	4,00	11,3	18,00	4575 4.011
ER11	5,00	11,3	18,00	4575 5.011
ER11	6,00	11,3	18,00	4575 6.011

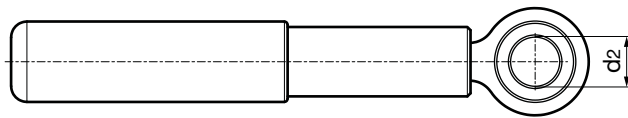


**Rollenschlüssel für Präzisionsspannzangenaufnahmen**



**Produktinformationen:**

- speziell für Präzisionsspannzangenaufnahme Art.-Nr. 4475 und 4476
- max. Anzugsmomente der Spannmutter beachten  
Spann-Ø 1,0 - 2,5 = 7 Nm  
Spann-Ø 3,0 - 7,5 = 10 Nm



Artikel-Nr. **4994**

Nenngröße		d2	Bestell-Nr.
ER11		mm	
		16	<b>4994 11.000</b>



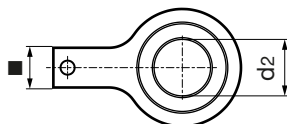
## Rollenschlüsseinsatz für Drehmomentschlüssel

### Produktinformationen:

- speziell für Präzisionsspannzangenaufnahme Art.-Nr. 4475 und 4476
- Rollenschlüsseinsatz für Drehmomentschlüssel
- max. Anzugsmomente der Spannmutter beachten  
Spann-Ø 1,0 - 2,5 = 7 Nm  
Spann-Ø 3,0 - 7,5 = 10 Nm

### Passendes Zubehör separat erhältlich:

- Drehmomentschlüssel Art.-Nr. 4981 5,025



Artikel-Nr.

4995

Nenngröße	d2	Antrieb	Bestell-Nr.
	mm	■	
ER11	16	9x12	4995 11.000



**Drehmomentschlüssel**



**Produktinformationen:**

- Drehmoment einstellbar: 5-25 Nm
- mit Einsteckvierkant
- Auslösegenauigkeit ± 3 % vom Skalenwert



Artikel-Nr. **4981**

Antrieb	Drehmoment	l1	Bestell-Nr.
■	Nm	mm	
9x12	5-25	273	





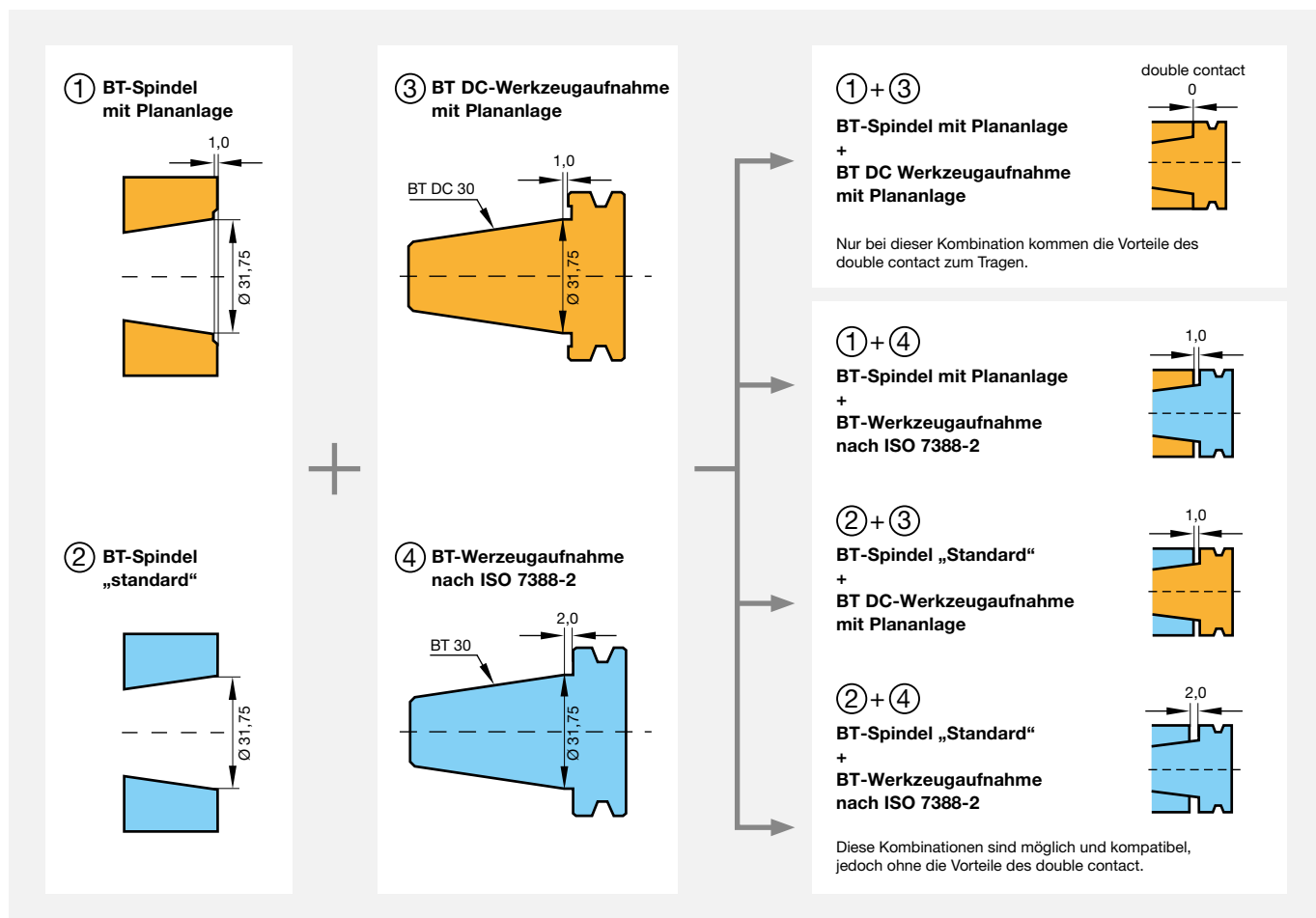
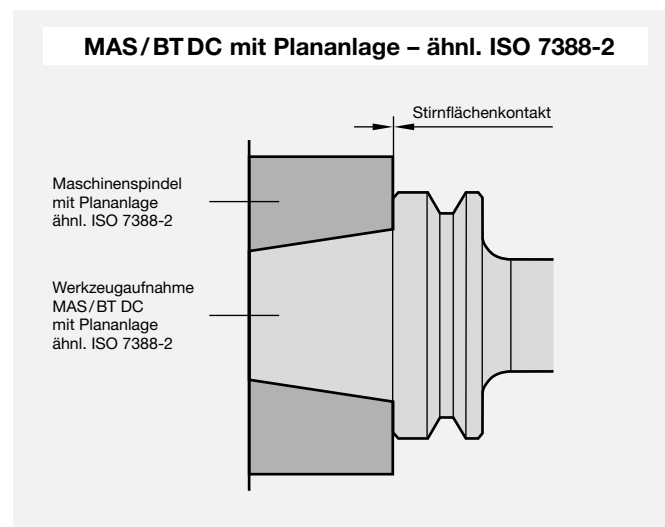
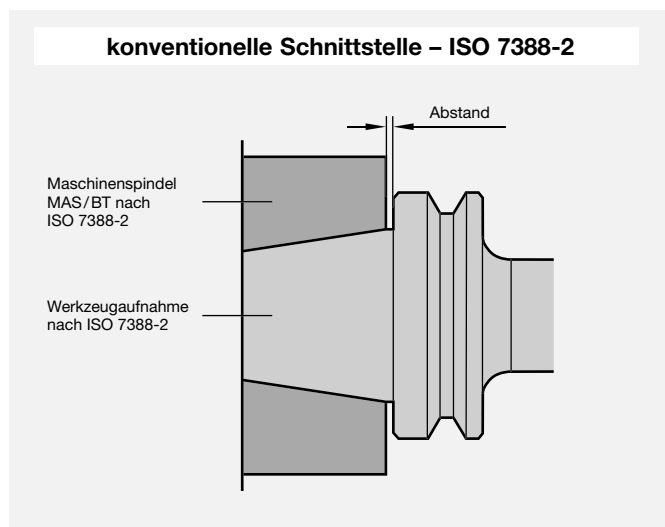
# MAS/BT DC mit Plananlage

## Gührung Werkzeugaufnahmen: MAS/BT DC = double contact

- geeignet sowohl für Maschinenspindeln mit MAS/BT Spindel mit Plananlage, als auch konventionelle Maschinenspindeln mit MAS/BT Schnittstelle nach ISO 7388-2 (JIS B 6339)
- zusätzliche Plananlage im Vergleich zu konventionellen MAS/BT Werkzeugaufnahmen nach ISO 7388-2

Die Kombination aus MAS/BT Maschinenspindel und MAS/BT DC Werkzeugaufnahmen mit Plananlage sorgt für:

- verbesserte Wechselwiederholgenauigkeit
- bessere Steifigkeit
- kein axiales Verschieben bei hohen Drehzahlen





**Hydraulik-Dehnspannfutter MAS/BT DC mit Plananlage**



**Produktinformationen:**

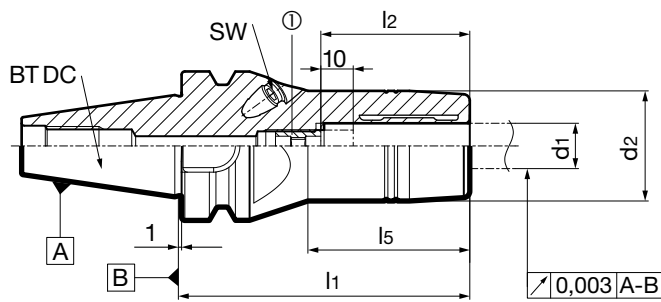
- MAS/BT DC mit Plananlage, ähnl. ISO 7388-2, Form JD
- Wuchtgüte: G 2,5 / 25.000 U/min oder U < 1 gmm
- für Werkzeugschafttoleranz h6
- axiale Längeneinstellung

**Lieferumfang:**

- inkl. Einstellschraube (1) Art.-Nr. 4900
- inkl. Spanschlüssel Art.-Nr. 4912

**Passendes Zubehör separat erhältlich:**

- Anzugsbolzen BT Art.-Nr. 4927, 4928
- Ersatz-Spannschraube Art.-Nr. 4241



Artikel-Nr. **4598**

BT DC	d1	d2	l1	l2	l5	SW	①		Bestell-Nr.
	mm	mm	mm	mm	mm	mm		kg	
BT 30	6	26	51	37		4	4900 6.014	0,4	<b>4598 6.030</b>
BT 30	8	28	51	37		4	4900 8.014	0,4	<b>4598 8.030</b>
BT 30	10	30	51	41		4	4900 10.014	0,5	<b>4598 10.030</b>
BT 30	12	32	51	46	19	4	4900 12.014	0,5	<b>4598 12.030</b>
BT 30	14	34	90	46	50	4	4900 12.014	0,8	<b>4598 14.030</b>
BT 30	16	38	90	49	50	4	4900 16.014	0,8	<b>4598 16.030</b>
BT 30	18	40	90	49	50	5	4900 16.014	0,9	<b>4598 18.030</b>
BT 30	20	42	90	51	50	5	4900 20.114	0,9	<b>4598 20.030</b>



## Schrumpffutter MAS/BT DC mit Plananlage



NEW

### Produktinformationen:

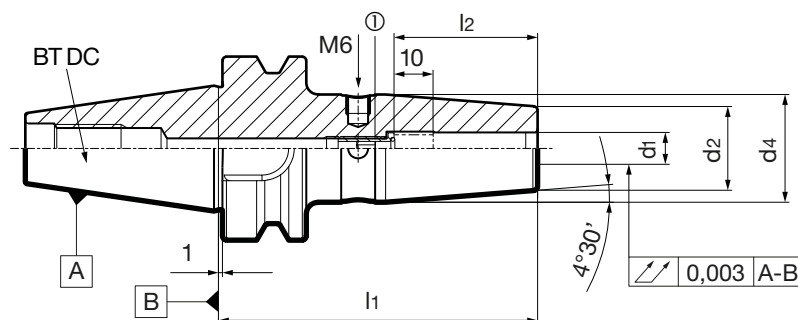
- MAS/BT DC mit Plananlage, ähnl. ISO 7388-2, Form JD
- Wuchtgüte: G 2,5 / 25.000 U/min oder U < 1 gmm
- inkl. Wuchtgewinde 4xM6
- für Werkzeugschafttoleranz h6
- axiale Längeneinstellung
- Rundlaufgenauigkeit 3 µm

### Lieferumfang:

- inkl. Einstellschraube (1) Art.-Nr. 4904 bzw. 4977

### Passendes Zubehör separat erhältlich:

- Anzugsbolzen BT Art.-Nr. 4927, 4928



Artikel-Nr.

4790

BT DC	d1	d2	d4	l1	l2	①	kg	Bestell-Nr.
	mm	mm	mm	mm	mm			
BT 30	3	10	18	80	30	4904 5.016	0,6	4790 3.030
BT 30	4	10	18	80	35	4904 6.016	0,6	4790 4.030
BT 30	5	10	18	80	40	4904 8.018	0,6	4790 5.030
BT 30	6	21	27	80	36	4977 6.014	0,7	4790 6.030
BT 30	8	21	27	80	36	4977 8.014	0,7	4790 8.030
BT 30	10	24	32	80	41	4977 10.014	0,8	4790 10.030
BT 30	12	24	32	80	46	4977 12.014	0,8	4790 12.030
BT 30	14	27	34	80	46	4977 12.014	0,8	4790 14.030
BT 30	16	27	34	80	49	4977 16.014	0,8	4790 16.030
BT 30	18	33	42	90	49	4977 16.014	0,9	4790 18.030
BT 30	20	33	42	90	51	4977 20.114	0,9	4790 20.030



**STECH**  
**WERKZEUGE**

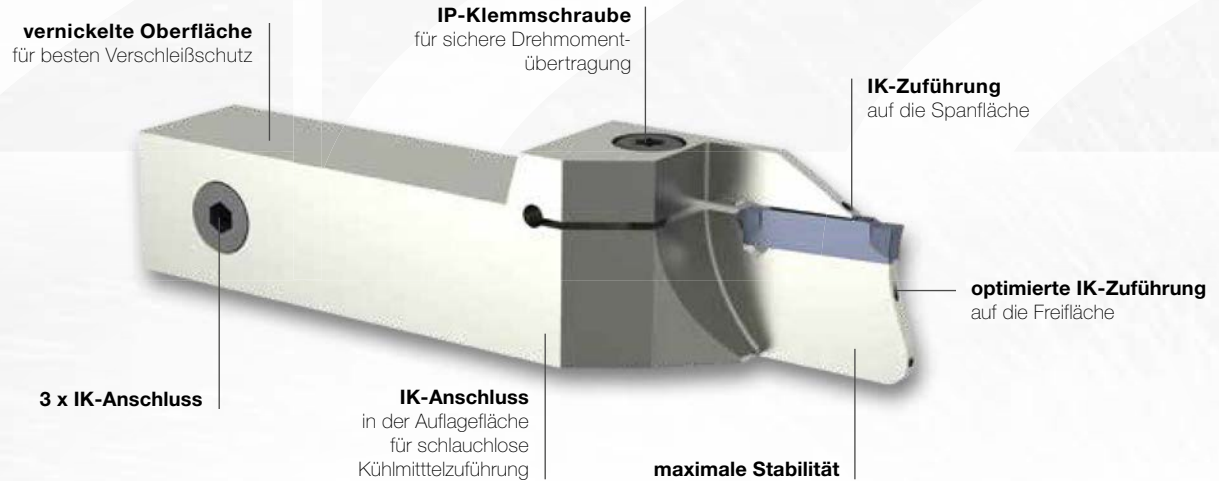


# SYSTEM 222

2 SCHNEIDEN | 22 MM LÄNGE | ZUM EIN- UND ABSTECHEN

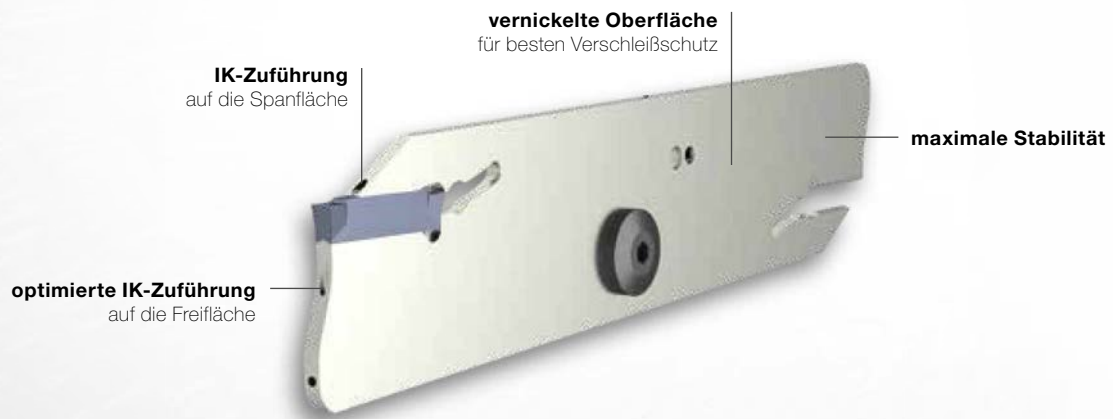
## KLEMMHALTER,

MIT UND OHNE INNERE KÜHLMITTELZUFUHR



## ABSTECHSCHWERT,

MIT UND OHNE INNERE KÜHLMITTELZUFUHR



## SCHNEIDPLATTE,

SPANFORMER FÜR STAHL UND VA-WERKSTOFFE



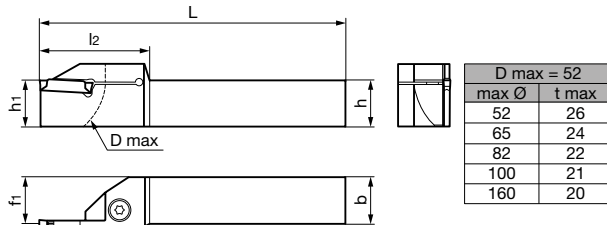


**Vierkantschafthalter gerade, Außenbearbeitung, ohne IK**

- tmax 21 mm: maximale Stechtiefe, bis die 2. Schneide in Eingriff kommt
- ohne innere Kühlmittelzufuhr

Typ GH222

für WSP Typ 222 siehe ab Seite 93



Produktneuheiten

Rechte Ausführung wie gezeichnet  
Linke Ausführung spiegelbildlich

Artikel-Nr. **26100**

Ausführung rechts

Code-Nr.	Bezeichnung	h	b	L	l2	h1	f1	D max	Größe
		mm	mm	mm	mm	mm	mm	mm	
22,110	GH222.1010.125.00.02.R.00.26	10,00	10,00	125,00	30,00	10,00	9,00	26,00	02
22,120	GH222.1212.125.00.02.R.00.26	12,00	12,00	125,00	30,00	12,00	11,00	26,00	02
22,121	GH222.1212.125.00.02.R.00.34	12,00	12,00	125,00	34,00	12,00	11,00	34,00	02
22,130	GH222.0500.500.00.02.R.00.26	12,70	12,70	127,00	30,00	12,70	11,70	26,00	02
22,131	GH222.0500.500.00.02.R.00.34	12,70	12,70	127,00	34,00	12,70	11,70	34,00	02
22,140	GH222.0625.500.00.02.R.00.45	15,87	15,87	127,00	39,50	15,87	14,87	45,00	02
22,150	GH222.1616.125.00.02.R.00.45	16,00	16,00	125,00	39,50	16,00	15,00	45,00	02
22,160	GH222.0750.500.00.02.R.00.45	19,05	19,05	127,00	39,00	19,05	19,05	45,00	02
22,170	GH222.2020.125.00.02.R.00.45	20,00	20,00	125,00	39,00	20,00	20,00	45,00	02
22,020	GH222.1212.125.00.03.R.00.34	12,00	12,00	125,00	34,00	12,00	10,50	34,00	03
22,030	GH222.0500.500.00.03.R.00.34	12,70	12,70	127,00	34,00	12,70	11,20	34,00	03
22,040	GH222.0625.500.00.03.R.00.45	15,87	15,87	127,00	39,50	15,87	14,37	45,00	03
22,050	GH222.1616.125.00.03.R.00.45	16,00	16,00	125,00	39,50	16,00	14,50	45,00	03
22,060	GH222.0750.500.00.03.R.00.52	19,05	19,05	127,00	45,00	19,05	19,05	52,00	03
22,070	GH222.2020.125.00.03.R.00.52	20,00	20,00	125,00	45,00	20,00	20,00	52,00	03
22,080	GH222.2525.150.00.03.R.00.52	25,00	25,00	150,00	45,00	25,00	25,00	52,00	03
22,090	GH222.1000.600.00.03.R.00.52	25,40	25,40	152,40	45,00	25,40	25,40	52,00	03

Artikel-Nr. **26101**

Ausführung links

Code-Nr.	Bezeichnung	h	b	L	l2	h1	f1	D max	Größe
		mm	mm	mm	mm	mm	mm	mm	
22,110	GH222.1010.125.00.02.L.00.26	10,00	10,00	125,00	30,00	10,00	9,00	26,00	02
22,120	GH222.1212.125.00.02.L.00.26	12,00	12,00	125,00	30,00	12,00	11,00	26,00	02
22,121	GH222.1212.125.00.02.L.00.34	12,00	12,00	125,00	34,00	12,00	11,00	34,00	02
22,130	GH222.0500.500.00.02.L.00.26	12,70	12,70	127,00	30,00	12,70	11,70	26,00	02
22,131	GH222.0500.500.00.02.L.00.34	12,70	12,70	127,00	34,00	12,70	11,70	34,00	02
22,140	GH222.0625.500.00.02.L.00.45	15,87	15,87	127,00	39,50	15,87	14,87	45,00	02
22,150	GH222.1616.125.00.02.L.00.45	16,00	16,00	125,00	39,50	16,00	15,00	45,00	02
22,160	GH222.0750.500.00.02.L.00.45	19,05	19,05	127,00	39,00	19,05	19,05	45,00	02
22,170	GH222.2020.125.00.02.L.00.45	20,00	20,00	125,00	39,00	20,00	20,00	45,00	02
22,020	GH222.1212.125.00.03.L.00.34	12,00	12,00	125,00	34,00	12,00	10,50	34,00	03
22,030	GH222.0500.500.00.03.L.00.34	12,70	12,70	127,00	34,00	12,70	11,20	34,00	03
22,040	GH222.0625.500.00.03.L.00.45	15,87	15,87	127,00	39,50	15,87	14,37	45,00	03
22,050	GH222.1616.125.00.03.L.00.45	16,00	16,00	125,00	39,50	16,00	14,50	45,00	03
22,060	GH222.0750.500.00.03.L.00.52	19,05	19,05	127,00	45,00	19,05	19,05	52,00	03
22,070	GH222.2020.125.00.03.L.00.52	20,00	20,00	125,00	45,00	20,00	20,00	52,00	03
22,080	GH222.2525.150.00.03.L.00.52	25,00	25,00	150,00	45,00	25,00	25,00	52,00	03
22,090	GH222.1000.600.00.03.L.00.52	25,40	25,40	152,40	45,00	25,40	25,40	52,00	03



**Ersatzteile**

Artikel-Nr.	Spannschraube	Anzugsmoment	Bezeichnung
25906		Nm	
Code 4,000	M4x15.5x15IP	3.5	GH222.1010....; GH222.0500....; GH222.0625....; GH222.1616....

Artikel-Nr.	Spannschraube	Anzugsmoment	Bezeichnung
25907		Nm	
Code 5,000	M5x18x25IP	6	GH222.0750....; GH222.2020....; GH222.2525....; GH222.1000....

Artikel-Nr.	TORX Plus-Schlüssel
25904	
Code 15,001	T15IP

Artikel-Nr.	TORX Plus-Schlüssel
25922	
Code 15,000	T25IP



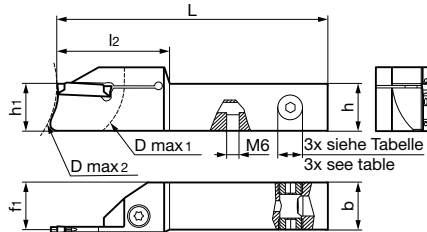


**Vierkantschafthalter gerade, Außenbearbeitung, mit IK**

- **tmax 21 mm: maximale Stechtiefe, bis die 2. Schneide in Eingriff kommt**
- mit innerer Kühlmittelzufuhr von oben und unten
- TL (tubeless): Schlauchlose Kühlmittelübergabe ab Schaftgröße 19,05x19,05 über den Schaftboden

Typ **GH222**

für WSP Typ 222 siehe ab Seite 93



□	⊙	D max 1 = 52	
		max Ø	t max
12/12	M8x1	52	26
12,7/12,7	M8x1	65	24
15,87/15,87	G1/8	82	22
16/16	G1/8	100	21
19,05/19,05	G1/8	120	20
20/20	G1/8		
25/25	G1/8		
25,4/25,4	G1/8		



Rechte Ausführung wie gezeichnet  
Linke Ausführung spiegelbildlich

Artikel-Nr. **26102**

Ausführung rechts

Code-Nr.	Bezeichnung	h	b	L	l2	h1	f1	D max 1	D max 2	Größe
		mm	mm	mm	mm	mm	mm	mm	mm	
22,110	GH222.1010.125.00.02.R.IK.26	10,00	10,00	125,00	30,00	10,00	9,00	26,00	65,00	02
22,120	GH222.1212.125.00.02.R.IK.26	12,00	12,00	125,00	30,00	12,00	11,00	26,00	65,00	02
22,121	GH222.1212.125.00.02.R.IK.34	12,00	12,00	125,00	34,00	12,00	11,00	34,00	65,00	02
22,130	GH222.0500.500.00.02.R.IK.26	12,70	12,70	127,00	30,00	12,70	11,70	26,00	65,00	02
22,131	GH222.0500.500.00.02.R.IK.34	12,70	12,70	127,00	34,00	12,70	11,70	34,00	65,00	02
22,140	GH222.0625.500.00.02.R.IK.45	15,87	15,87	127,00	39,50	15,87	14,87	45,00	82,00	02
22,150	GH222.1616.125.00.02.R.IK.45	16,00	16,00	125,00	39,50	16,00	15,00	45,00	82,00	02
22,160	GH222.0750.404.00.02.R.IK.45	19,05	19,05	127,00	39,00	19,05	19,05	45,00	82,00	02
22,170	GH222.2020.103.00.02.R.IK.45	20,00	20,00	102,50	39,00	20,00	20,00	45,00	82,00	02
22,020	GH222.1212.125.00.03.R.IK.34	12,00	12,00	125,00	34,00	12,00	10,50	34,00	65,00	03
22,030	GH222.0500.500.00.03.R.IK.34	12,70	12,70	127,00	34,00	12,70	11,20	34,00	65,00	03
22,040	GH222.0625.500.00.03.R.IK.45	15,87	15,87	127,00	39,50	15,87	14,37	45,00	82,00	03
22,050	GH222.1616.125.00.03.R.IK.45	16,00	16,00	125,00	39,50	16,00	14,50	45,00	82,00	03
22,060	GH222.0750.500.00.03.R.IK.52	19,05	19,05	108,50	45,00	19,05	19,05	52,00	82,00	03
22,070	GH222.2020.109.00.03.R.IK.52	20,00	20,00	108,50	45,00	20,00	20,00	52,00	82,00	03
22,080	GH222.2525.120.00.03.R.IK.52	25,00	25,00	120,50	45,00	25,00	25,00	52,00	120,00	03
22,090	GH222.1000.600.00.03.R.IK.52	25,40	25,40	120,50	45,00	25,40	25,40	52,00	120,00	03

Artikel-Nr. **26103**

Ausführung links

Code-Nr.	Bezeichnung	h	b	L	l2	h1	f1	D max 1	D max 2	Größe
		mm	mm	mm	mm	mm	mm	mm	mm	
22,110	GH222.1010.125.00.02.L.IK.26	10,00	10,00	125,00	30,00	10,00	9,00	26,00	65,00	02
22,120	GH222.1212.125.00.02.L.IK.26	12,00	12,00	125,00	30,00	12,00	11,00	26,00	65,00	02
22,121	GH222.1212.125.00.02.L.IK.34	12,00	12,00	125,00	34,00	12,00	11,00	34,00	65,00	02
22,130	GH222.0500.500.00.02.L.IK.26	12,70	12,70	127,00	30,00	12,70	11,70	26,00	65,00	02
22,131	GH222.0500.500.00.02.L.IK.34	12,70	12,70	127,00	34,00	12,70	11,70	34,00	65,00	02
22,140	GH222.0625.500.00.02.L.IK.45	15,87	15,87	127,00	39,50	15,87	14,87	45,00	82,00	02
22,150	GH222.1616.125.00.02.L.IK.45	16,00	16,00	125,00	39,50	16,00	15,00	45,00	82,00	02
22,160	GH222.0750.404.00.02.L.IK.45	19,05	19,05	127,00	39,00	19,05	19,05	45,00	82,00	02
22,170	GH222.2020.103.00.02.L.IK.45	20,00	20,00	102,50	39,00	20,00	20,00	45,00	82,00	02
22,020	GH222.1212.125.00.03.L.IK.34	12,00	12,00	125,00	34,00	12,00	10,50	34,00	65,00	03
22,030	GH222.0500.500.00.03.L.IK.34	12,70	12,70	127,00	34,00	12,70	11,20	34,00	65,00	03
22,040	GH222.0625.500.00.03.L.IK.45	15,87	15,87	127,00	39,50	15,87	14,37	45,00	82,00	03
22,050	GH222.1616.125.00.03.L.IK.45	16,00	16,00	125,00	39,50	16,00	14,50	45,00	82,00	03
22,060	GH222.0750.500.00.03.L.IK.52	19,05	19,05	108,50	45,00	19,05	19,05	52,00	82,00	03
22,070	GH222.2020.109.00.03.L.IK.52	20,00	20,00	108,50	45,00	20,00	20,00	52,00	82,00	03
22,080	GH222.2525.120.00.03.L.IK.52	25,00	25,00	120,50	45,00	25,00	25,00	52,00	120,00	03
22,090	GH222.1000.600.00.03.L.IK.52	25,40	25,40	120,50	45,00	25,40	25,40	52,00	120,00	03



**Ersatzteile**

Artikel-Nr.	Spannschraube	Anzugsmoment	Bezeichnung
25906		Nm	
Code 4,000	M4x15.5x15IP	3.5	GH222.1010.....; GH222.0500.....; GH222.0625.....; GH222.1616.....

Artikel-Nr.	Spannschraube	Anzugsmoment	Bezeichnung
25907		Nm	
Code 5,000	M5x18x25IP	6	GH222.0750.....; GH222.2020.....; GH222.2525.....; GH222.1000.....

Artikel-Nr.	TORX Plus-Schlüssel
25904	
Code 15,001	T15IP

Artikel-Nr.	TORX Plus-Schlüssel
25922	
Code 15,000	T25IP



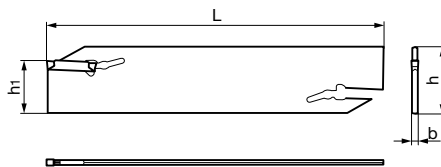
### Abstecherswert, ohne IK

- ohne innere Kühlmittelzufuhr

Typ

GS222

für WSP Typ 222 siehe ab Seite 93



NEW



Produktneuheiten

Artikel-Nr.

26200

Code-Nr.	Bezeichnung	t max	b	h	h1	L	Größe
		mm	mm	mm	mm	mm	
22,102	GS222.0026.120.02.02.N	35,00	1,55	26,00	21,40	120,00	02
22,103	GS222.0032.150.02.02.N	45,00	1,55	32,00	25,00	150,00	02
22,002	GS222.0026.120.03.02.N	35,00	2,25	26,00	21,40	120,00	03
22,003	GS222.0032.150.03.02.N	45,00	2,25	32,00	25,00	150,00	03

### Ersatzteile

Artikel-Nr.	Montageschlüssel
25921	
Code 15,000	

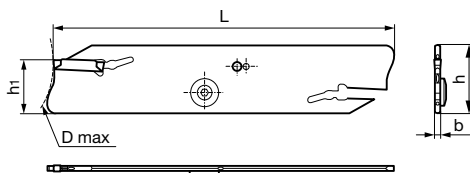


**Abstechschwert, mit IK**

- mit innerer Kühlmittelzufuhr von oben und unten

Typ GS222

für WSP Typ 222 siehe ab Seite 93



Artikel-Nr. **26201**

Code-Nr.	Bezeichnung	t max	b	h	h1	L	D max	Größe
		mm	mm	mm	mm	mm	mm	
22,102	GS222.0026.118.02.02.N.IK	35,00	1,55	26,00	21,40	118,00	70,00	02
22,103	GS222.0032.147.02.02.N.IK	45,00	1,55	32,00	25,00	147,50	90,00	02
22,002	GS222.0026.118.03.02.N.IK	35,00	2,25	26,00	21,40	118,00	70,00	03
22,003	GS222.0032.147.03.02.N.IK	45,00	2,25	32,00	25,00	147,50	90,00	03

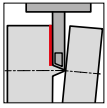
**Ersatzteile**

Artikel-Nr.	Montageschlüssel
25921	
Code 15,000	

Artikel-Nr.	IK Verschlusschraube
25909	
Code 4,000	



**WSP zum Abstechen**



• mit Spanformer

Schneidstoff **VHM**

Typ GZ222

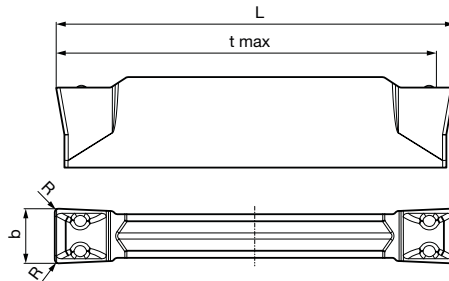
Oberfläche **F**

FIRE



Produktneuheiten

P	•
M	○
K	○
N	
S	
H	



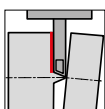
Artikel-Nr. **26601**

Ausführung neutral

Code-Nr.	Bezeichnung	t max	b ±0,02	L ±0,1	R
		mm	mm	mm	mm
22,020	GZ222.0200.020.PP.02.N	21,00	2,00	22,00	0,20
22,030	GZ222.0300.020.PP.02.N	21,00	3,00	22,00	0,20

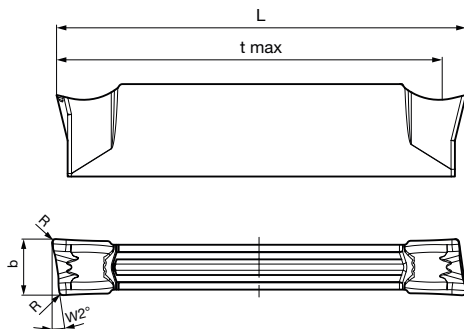


**WSP zum Abstechen**



• mit Spanformer

P	•
M	○
K	○
N	○
S	○
H	○



Rechte Ausführung wie gezeichnet  
Linke Ausführung spiegelbildlich

Schneidstoff	<b>VHM</b>
Typ	GZ222
Oberfläche	<b>F</b>
	FIRE

Artikel-Nr.	<b>26602</b>
Ausführung	rechts

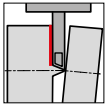
Code-Nr.	Bezeichnung	t max	b ±0,02	L ±0,1	R	W2
		mm	mm	mm	mm	°
22,030	GZ222.0300.020.PM.01.R.08	21,00	3,00	22,35	0,20	8

Artikel-Nr.	<b>26603</b>
Ausführung	links

Code-Nr.	Bezeichnung	t max	b ±0,02	L ±0,1	R	W2
		mm	mm	mm	mm	°
22,030	GZ222.0300.020.PM.01.L.08	21,00	3,00	22,35	0,20	8

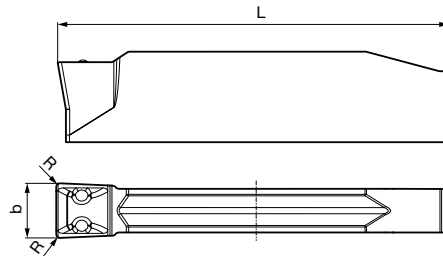


**WSP zum Abstechen**



• mit Spanformer

P	•
M	○
K	○
N	
S	
H	



Schneidstoff	<b>VHM</b>
Typ	GZ122
Oberfläche	<b>F</b> FIRE
	<b>NEW</b>

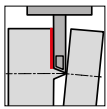
Produktneuheiten

Artikel-Nr.	<b>26604</b>
Ausführung	neutral

Code-Nr.	Bezeichnung	b ±0,02	L ±0,1	R
		mm	mm	mm
22,030	GZ122.0300.020.PP.02.N	3,00	21,54	0,20

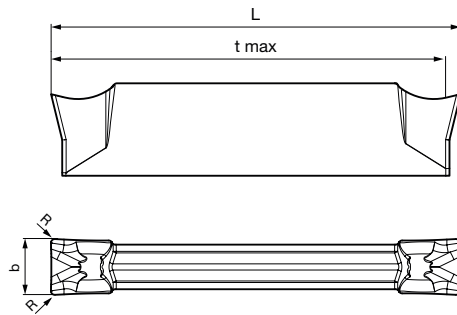


**WSP zum Abstechen**



• mit Spanformer

P	○
M	●
K	
N	
S	
H	



Schneidstoff	<b>VHM</b>
Typ	GZ222
Oberfläche	<b>a</b> TiAlN-nanoA



Artikel-Nr.	<b>26605</b>
Ausführung	neutral

Code-Nr.	Bezeichnung	t max	b ±0,02	L ±0,1	R
		mm	mm	mm	mm
22,030	GZ222.0300.020.MP.02.N	21,00	3,00	22,00	0,20



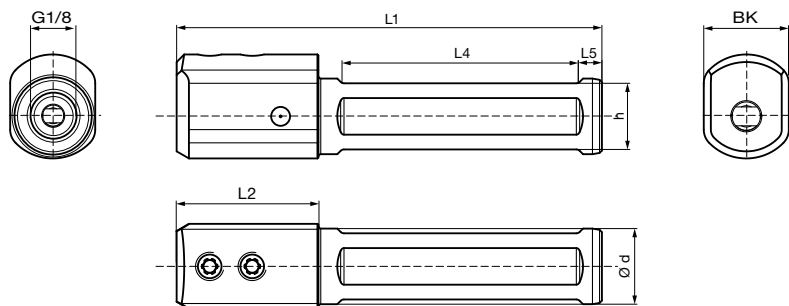


**Rundschafthalter, Spannschraube oben, vier Spannflächen**

- für Schneideinsätze Typ 106 mit IK
- mit zentraler innerer Kühlmittelzufuhr

Typ GB106

für Schneideinsatz Typ QG106, Seite 99



Produktneuheiten

Artikel-Nr. 25325

Code-Nr.	Bezeichnung	d	h	L1	L2	L4	L5	BK
		mm	mm	mm	mm	mm	mm	mm
6,001	GB106.0016.090.00.22.N.IK.Z	16,00	14,00	90,00	30,00	50,00	4,00	18,0
6,002	GB106.0020.095.00.22.N.IK.Z	20,00	18,00	95,00	30,00	55,00	4,00	
6,003	GB106.0022.095.00.22.N.IK.Z	22,00	20,00	95,00		55,00	4,00	

**Ersatzteile**

Artikel-Nr.	Spannschraube	Anzugsmoment
25900		Nm
Code 6,000	M6x7,5x15IP	4-4,5

Artikel-Nr.	TORX Plus-Schlüssel
25904	
Code 15,000	T15IP Quergriff

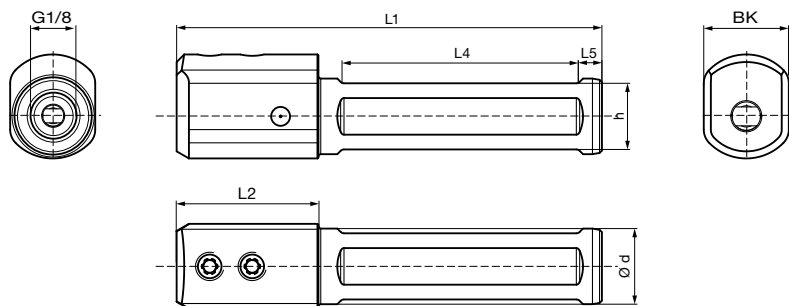


**Rundschafthalter, Spannschraube oben, vier Spannflächen**

- für Schneideinsätze Typ 108 mit IK
- mit zentraler innerer Kühlmittelzufuhr

Typ GB108

für Schneideinsatz Typ QG108, Seite 100



Artikel-Nr. 27018

Code-Nr.	Bezeichnung	d	h	L1	L2	L4	L5	BK
		mm	mm	mm	mm	mm	mm	mm
8,001	GB108.0016.090.00.22.N.IK.Z	16,00	14,00	90,00	30,00	50,00	4,00	16,5
8,002	GB108.0020.095.00.22.N.IK.Z	20,00	18,00	95,00	30,00	55,00	4,00	20,5
8,003	GB108.0022.095.00.22.N.IK.Z	22,00	20,00	95,00	30,00	55,00	4,00	

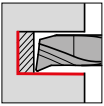
**Ersatzteile**

Artikel-Nr.	Spannschraube	Anzugsmoment
25900		Nm
Code 6,000	M6x7,5x15IP	4-4,5

Artikel-Nr.	TORX Plus-Schlüssel
25904	
Code 15,000	T15IP Quergriff



**Schneideinsatz zum Bohren ins Volle und Ausdrehen**



- radial frei 5°
- Bohrtiefe 2,5xD und 4,0xD
- mit Innenkühlung

für Klemmhalter Typ GB106 siehe Seite 97

Schneidstoff **VHM**

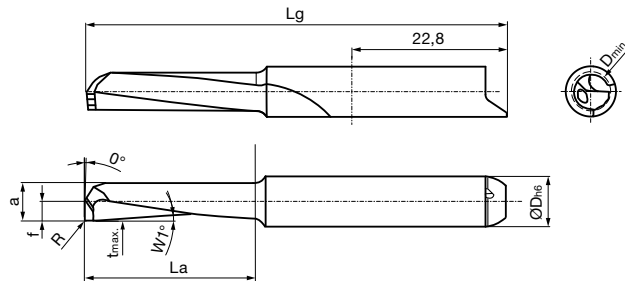
Typ QG106

Oberfläche

Signum



Produktneuheiten



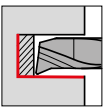
Artikel-Nr. **26906**

Schneidrichtung rechts

Code-Nr.	Bezeichnung	D min	R	W1	f	a	t max	La	Lg	D h6
		mm	mm	°	mm	mm	mm	mm	mm	mm
6,001	QG106.0538.020.11.40.R	4,00	0,20	5	2,00	3,80	0,20	11,00	47,00	6,00
6,003	QG106.0548.020.13.50.R	5,00	0,20	5	2,50	4,80	0,20	13,50	47,00	6,00
6,002	QG106.0538.020.17.40.R	4,00	0,20	5	2,00	3,80	0,20	17,00	52,00	6,00
6,004	QG106.0548.020.21.50.R	5,00	0,20	5	2,50	4,80	0,20	21,00	52,00	6,00



**Schneideinsatz zum Bohren ins Volle und Ausdrehen**



- radial frei 5°
- Bohrtiefe 2,5xD und 4,0xD
- mit Innenkühlung

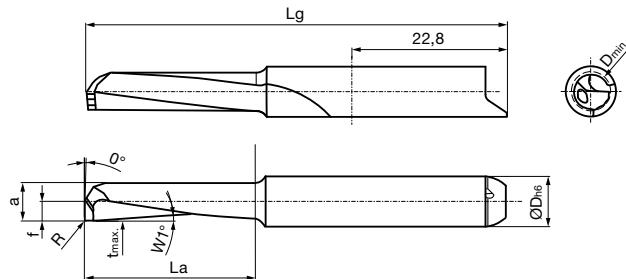
für Klemmhalter Typ GB108 siehe ab Seite 98

Schneidstoff **VHM**

Typ QG108

Oberfläche

Signum



Artikel-Nr. **27290**

Schneidrichtung rechts

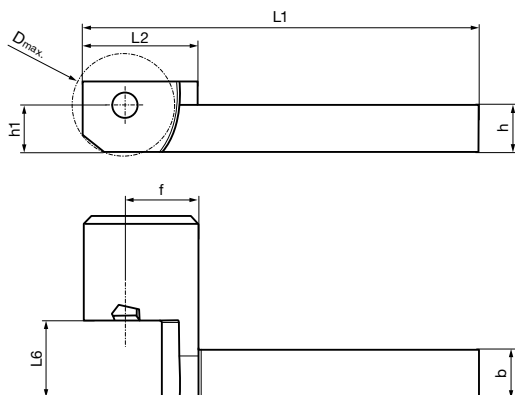
Code-Nr.	Bezeichnung	D min	R	W1	f	a	t max	La	Lg	D h6
		mm	mm	°	mm	mm	mm	mm	mm	mm
8,001	QG108.0558.020.16.60.R	6,00	0,20	5	3,00	5,80	0,20	16,00	52,00	8,00
8,003	QG108.0568.020.18.70.R	7,00	0,20	5	3,50	6,80	0,20	18,50	57,00	8,00
8,002	QG108.0558.020.25.60.R	6,00	0,20	5	3,00	5,80	0,20	25,00	62,00	8,00
8,004	QG108.0568.020.29.70.R	7,00	0,20	5	3,50	6,80	0,20	29,00	67,00	8,00



**Vierkantschafthalter 90° gekröpft und abgesetzt, ohne IK**

- für Schneideinsätze Typ 104
- ohne innere Kühlmittelzufuhr

Typ GH104



Produktneuheiten

Artikel-Nr. 25004

Code-Nr.	Bezeichnung	b	h	h1	f	L1	L2	D max	L6
		mm	mm	mm	mm	mm	mm	mm	mm
4,001	GH104.1010.100.90.15.N	10,00	10,00	10,00	9,60	100,00	29,00	18,00	19,60
4,002	GH104.1212.100.90.15.N	12,00	12,00	12,00	7,60	100,00	29,00	18,00	19,60

**Ersatzteile**

Artikel-Nr.	Spanschraube	Anzugsmoment
25900		Nm
Code 6,000	M6x7,5x15IP	4-4,5

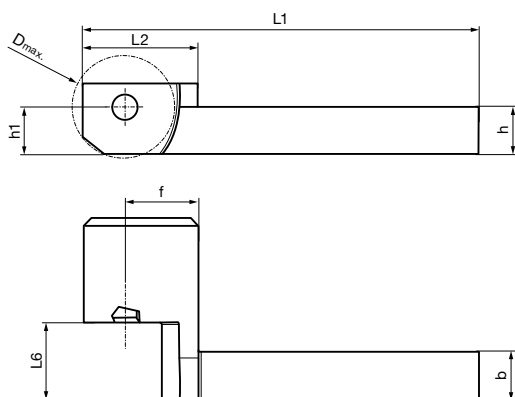
Artikel-Nr.	TORX Plus-Schlüssel
25904	
Code 15,000	T15IP Quergriff



**Vierkantschafthalter 90° gekröpft und abgesetzt, mit IK**

- für Schneideinsätze Typ 104
- mit innerer Kühlmittelzufuhr

Typ GH104



Artikel-Nr. 25005

Code-Nr.	Bezeichnung	b	h	h1	f	L1	L2	D max	L6
		mm	mm	mm	mm	mm	mm	mm	mm
4,001	GH104.1010.100.90.15.N.IK	10,00	10,00	10,00	9,60	100,00	29,00	18,00	19,60
4,002	GH104.1212.100.90.15.N.IK	12,00	12,00	12,00	7,60	100,00	29,00	20,00	19,60

**Ersatzteile**

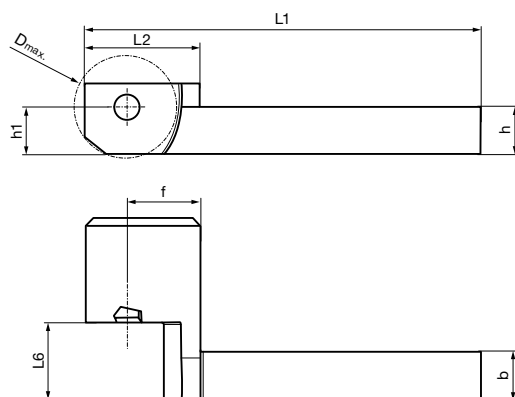
Artikel-Nr.	Spanschraube	Anzugsmoment
25900		Nm
Code 6,000	M6x7,5x15IP	4-4,5

Artikel-Nr.	TORX Plus-Schlüssel
25904	
Code 15,000	T15IP Quergriff


**Vierkantschafthalter 90° gekröpft und abgesetzt, ohne IK**

- für Schneideinsätze Typ 106
- ohne innere Kühlmittelzufuhr

Typ GH106



Produktneuheiten

Artikel-Nr. 25303

Code-Nr.	Bezeichnung	b	h	h1	f	L1	L2	D max	L6
		mm	mm	mm	mm	mm	mm	mm	mm
6,001	GH106.1010.100.90.15.N	10,00	10,00	10,00	9,60	100,00	29,00	18,00	19,60
6,002	GH106.1212.100.90.15.N	12,00	12,00	12,00	7,60	100,00	29,00	20,00	19,60

**Ersatzteile**

Artikel-Nr.	Spanschraube	Anzugsmoment
25900		Nm
Code 6,000	M6x7,5x15IP	4-4,5

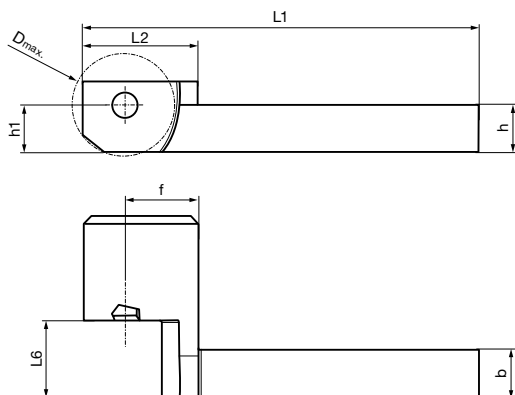
Artikel-Nr.	TORX Plus-Schlüssel
25904	
Code 15,000	T15IP Quergriff



**Vierkantschafthalter 90° gekröpft und abgesetzt, mit IK**

- für Schneideinsätze Typ 106
- mit innerer Kühlmittelzufuhr

Typ GH106



Artikel-Nr. 25306

Code-Nr.	Bezeichnung	b	h	h1	f	L1	L2	D max	L6
		mm	mm	mm	mm	mm	mm	mm	mm
6,001	GH106.1010.100.90.15.N.IK	10,00	10,00	10,00	9,60	100,00	29,00	18,00	19,60
6,002	GH106.1212.100.90.15.N.IK	12,00	12,00	12,00	7,60	100,00	29,00	18,00	19,60

**Ersatzteile**

Artikel-Nr.	Spanschraube	Anzugsmoment
25900		Nm
Code 6,000	M6x7,5x15IP	4-4,5

Artikel-Nr.	TORX Plus-Schlüssel
25904	
Code 15,000	T15IP Quergriff





Produktweiterungen

# PRODUKT **ERWEITERUNGEN**

P	M	K	N	S	H	Werkzeug-Darstellung	Norm	Typ	Form	Ø-Toleranz	Schneidstoff	Oberfläche	d1/mm	Artikel-Nr.	Seite
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### ExclusiveLine-Kleinstbohrer mit Kühlkanälen

•	•	•	○	○			5xD	Cyl	N	WN	VHM	A	1,000 - 3,000	6405	107
•	•	•	○	○			8xD	Cyl	N	WN	VHM	A	1,000 - 3,000	6408	108
•	•	•	○	○			15xD	Cyl	N	WN	VHM	A	1,000 - 3,000	6412	109

P	M	K	N	S	H	Werkzeug-Darstellung	Norm	Typ	Form	Ø-Toleranz	Schneidstoff	Oberfläche	d1/mm	Artikel-Nr.	Seite
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### Gewindeformer für Metrische ISO-Feingewinde

•	•	•	○	•			~DIN 374	N	C	6HX	HSS-E-PM	C	M3 x 0,35 - M24 x 2	4489	110
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### Gewindefräser ohne Senkfase für Metrische ISO-Gewinde

•	•	•	○	○			WN	TM SP			VHM	C	M3 - M20 x 1,5	3743	111
•	•	•	○	○	≤ 55		WN	TM SP			VHM	C	M3 - M20 x 1,5	3737	111

### Außengewindefräser

•	•	•	○	○	≤ 55		WN	TMU SP			VHM	C	≥ 3 - ≥ 24	4163	112
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P	M	K	N	S	H		Norm	Artikel-Nr.	Seite
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### HPC-Spannfutter HSK-A



4300

113

### HPC-Spannfutter SK



4301

114


**ExklusiveLine-Kleinbohrer mit Kühlkanälen**
Schneidstoff **VHM**Oberfläche **A**Schneidrichtung **R**

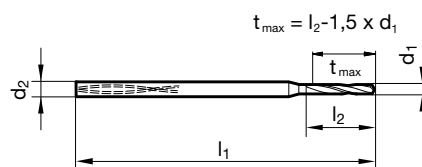
**P** • Ausspitzung  $\geq \varnothing 1,000$  • Flächenanschliff • Hauptschneidenform gerade  
• mit Hauptschneidenabzug

**M** •**K** •

**N** ○ Bau- und Einsatzstähle • Automatenstähle, Vergütungsstähle • legierte  
Stähle bis 1200 N/mm<sup>2</sup> • rostfreie Stähle • Gusswerkstoffe

**S** ○**H**
**GUHRINGNAVIGATOR**

Schnittdaten finden Sie in unserem Online-Navigator unter <https://webnavigator.guehring.de>.


 Artikel-Nr. **6405**

d1	d2 h6	l1	l2	d1	d2 h6	l1	l2
mm	mm	mm	mm	mm	mm	mm	mm
1,000	3,000	48,000	8,000	2,200	4,000	62,000	18,000
1,020	3,000	48,000	8,500	2,250	4,000	62,000	18,000
1,050	3,000	48,000	8,500	2,300	4,000	62,000	18,000
1,100	3,000	48,000	9,000	2,350	4,000	62,000	19,000
1,150	3,000	48,000	9,500	2,380	4,000	62,000	19,000
1,180	3,000	48,000	9,500	2,400	4,000	62,000	19,000
1,190	3,000	48,000	10,000	2,450	4,000	62,000	20,000
1,200	3,000	48,000	10,000	2,500	4,000	62,000	20,000
1,250	3,000	48,000	10,000	2,550	4,000	62,000	20,000
1,280	3,000	48,000	10,500	2,600	4,000	66,000	21,000
1,300	3,000	48,000	10,500	2,650	4,000	66,000	21,000
1,350	3,000	48,000	11,000	2,700	4,000	66,000	22,000
1,400	4,000	52,000	11,000	2,750	4,000	66,000	22,000
1,450	4,000	52,000	12,000	2,780	4,000	66,000	22,000
1,500	4,000	52,000	12,000	2,800	4,000	66,000	22,000
1,550	4,000	52,000	12,000	2,850	4,000	66,000	23,000
1,590	4,000	52,000	13,000	2,900	4,000	66,000	23,000
1,600	4,000	52,000	13,000	2,950	4,000	66,000	24,000
1,650	4,000	52,000	13,000	3,000	4,000	66,000	24,000
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	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				

### ExklusiveLine-Kleinbohrer mit Kühlkanälen



Schneidstoff **VHM**

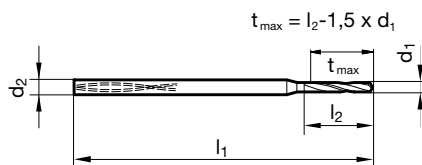
Oberfläche **A**

Schneidrichtung **R**

- P** • Ausspitzung  $\geq \varnothing 1,000$  • Flächenanschliff • Hauptschneidenform gerade  
• mit Hauptschneidenabzug
- M** •
- K** •
- N** ○ Bau- und Einsatzstähle • Automatenstähle, Vergütungsstähle • legierte  
Stähle bis 1200 N/mm<sup>2</sup> • rostfreie Stähle • Gusswerkstoffe
- S** ○
- H**

## GUHRING NAVIGATOR

Schnittdaten finden Sie in unserem Online-Navigator unter <https://webnavigator.guehring.de>.



Artikel-Nr. **6408**

d1	d2 h6	l1	l2
mm	mm	mm	mm
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1,020	3,000	48,000	11,500
1,050	3,000	48,000	12,000
1,100	3,000	48,000	12,500
1,150	3,000	48,000	13,000
1,180	3,000	48,000	13,000
1,190	3,000	48,000	13,500
1,200	3,000	48,000	13,500
1,250	3,000	48,000	14,000
1,280	3,000	48,000	14,500
1,300	3,000	48,000	14,500
1,350	3,000	48,000	15,000
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	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	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

d1	d2 h6	l1	l2
mm	mm	mm	mm
2,200	4,000	62,000	24,000
2,250	4,000	62,000	25,000
2,300	4,000	62,000	25,000
2,320	4,000	62,000	26,000
2,350	4,000	62,000	26,000
2,380	4,000	62,000	26,000
2,400	4,000	62,000	26,000
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	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

Produktweiterungen


**ExklusiveLine-Kleinbohrer mit Kühlkanälen**
Schneidstoff **VHM**Oberfläche **A**Schneidrichtung **R**

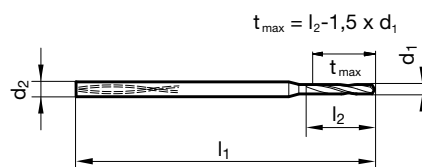
**P** • Ausspitzung  $\geq \varnothing 1,000$  • Flächenanschliff • Hauptschneidenform gerade  
• mit Hauptschneidenabzug

**M** •**K** •**N** ○

Bau- und Einsatzstähle • Automatenstähle, Vergütungsstähle • legierte  
Stähle bis 1200 N/mm<sup>2</sup> • rostfreie Stähle • Gusswerkstoffe

**S** ○**H**
**GUHRING NAVIGATOR**

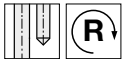
Schnittdaten finden Sie in unserem Online-Navigator unter <https://webnavigator.guehring.de>.


 Artikel-Nr. **6412**

d1	d2 h6	l1	l2
mm	mm	mm	mm
1,000	3,000	56,000	18,000
1,020	3,000	56,000	18,500
1,050	3,000	56,000	19,000
1,100	3,000	56,000	20,000
1,150	3,000	56,000	21,000
1,180	3,000	56,000	21,500
1,190	3,000	56,000	21,500
1,200	3,000	56,000	22,000
1,250	3,000	56,000	22,500
1,280	3,000	56,000	23,500
1,300	3,000	56,000	23,500
1,350	3,000	56,000	24,500
1,400	4,000	62,000	25,000
1,500	4,000	62,000	27,000
1,590	4,000	62,000	29,000
1,600	4,000	62,000	29,000
1,700	4,000	70,000	31,000
1,750	4,000	70,000	32,000

d1	d2 h6	l1	l2
mm	mm	mm	mm
1,800	4,000	70,000	32,000
1,900	4,000	70,000	34,000
1,980	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
2,380	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	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

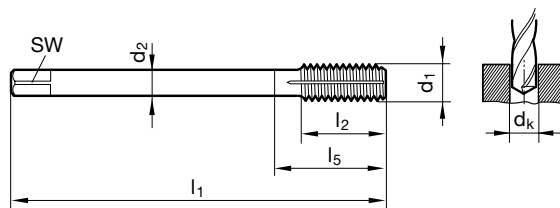
Gewindeformer für Metrische ISO-Feingwinde



<b>P</b>	•	Schnittdaten finden Sie in unserem Online-Navigator unter <a href="https://webnavigator.guehring.de">https://webnavigator.guehring.de</a> .
<b>M</b>	•	
<b>K</b>	•	
<b>N</b>	○	
<b>S</b>	•	
<b>H</b>		

Schneidstoff	<b>HSS-E-PM</b>
Ø-Toleranz	6HX
Oberfläche	<b>C</b>
Typ	N
Form	C
Innenkühlung	

Produktweiterungen



DIN 2174 ~DIN 374

Artikel-Nr.

**4489**

d1	d2	SW	dk	l1	l2	l5	Code-Nr.
	mm	mm	mm	mm	mm	mm	
<b>M3 x 0,35</b>	<b>2,200</b>	<b>1,800</b>	<b>2,85</b>	<b>56,000</b>	<b>7,000</b>	<b>18,000</b>	<b>3,002</b>
<b>M4 x 0,35</b>	<b>2,800</b>	<b>2,100</b>	<b>3,85</b>	<b>63,000</b>	<b>8,000</b>	<b>21,000</b>	<b>4,002</b>
<b>M4 x 0,5</b>	<b>2,800</b>	<b>2,100</b>	<b>3,80</b>	<b>63,000</b>	<b>8,000</b>	<b>21,000</b>	<b>4,003</b>
<b>M5 x 0,5</b>	<b>3,500</b>	<b>2,700</b>	<b>4,80</b>	<b>70,000</b>	<b>10,000</b>	<b>25,000</b>	<b>5,003</b>
<b>M6 x 0,5</b>	<b>4,500</b>	<b>3,400</b>	<b>5,75</b>	<b>80,000</b>	<b>13,000</b>	<b>30,000</b>	<b>6,003</b>
<b>M6 x 0,75</b>	<b>4,500</b>	<b>3,400</b>	<b>5,65</b>	<b>80,000</b>	<b>13,000</b>	<b>30,000</b>	<b>6,004</b>
<b>M8 x 0,75</b>	<b>6,000</b>	<b>4,900</b>	<b>7,65</b>	<b>80,000</b>	<b>14,000</b>	<b>30,000</b>	<b>8,004</b>
<b>M9 x 1</b>	<b>7,000</b>	<b>5,500</b>	<b>8,55</b>	<b>90,000</b>	<b>16,000</b>	<b>35,000</b>	<b>9,005</b>
<b>M10 x 0,75</b>	<b>7,000</b>	<b>5,500</b>	<b>9,65</b>	<b>90,000</b>	<b>16,000</b>	<b>35,000</b>	<b>10,004</b>
M10 x 1	7,000	5,500	9,55	90,000	16,000	35,000	10,005
M10 x 1,25	7,000	5,500	9,40	100,000	20,000	39,000	10,006
<b>M11 x 1</b>	<b>8,000</b>	<b>6,200</b>	<b>10,55</b>	<b>90,000</b>	<b>20,000</b>	<b>33,000</b>	<b>11,005</b>
<b>M12 x 1</b>	<b>9,000</b>	<b>7,000</b>	<b>11,55</b>	<b>100,000</b>	<b>20,000</b>	<b>40,000</b>	<b>12,005</b>
M12 x 1,25	9,000	7,000	11,40	100,000	20,000	40,000	12,006
M12 x 1,5	9,000	7,000	11,30	100,000	20,000	40,000	12,007
<b>M14 x 1</b>	<b>11,000</b>	<b>9,000</b>	<b>13,55</b>	<b>100,000</b>	<b>20,000</b>	<b>40,000</b>	<b>14,005</b>
M14 x 1,25	11,000	9,000	13,40	100,000	20,000	40,000	14,006
M14 x 1,5	11,000	9,000	13,30	100,000	20,000	40,000	14,007
<b>M16 x 1</b>	<b>12,000</b>	<b>9,000</b>	<b>15,55</b>	<b>100,000</b>	<b>22,000</b>	<b>44,000</b>	<b>16,005</b>
M16 x 1,5	12,000	9,000	15,30	100,000	22,000	44,000	16,007
<b>M18 x 1</b>	<b>14,000</b>	<b>11,000</b>	<b>17,55</b>	<b>110,000</b>	<b>25,000</b>	<b>44,000</b>	<b>18,005</b>
<b>M18 x 1,5</b>	<b>14,000</b>	<b>11,000</b>	<b>17,30</b>	<b>110,000</b>	<b>25,000</b>	<b>44,000</b>	<b>18,007</b>
<b>M18 x 2</b>	<b>14,000</b>	<b>11,000</b>	<b>17,10</b>	<b>125,000</b>	<b>30,000</b>	<b>58,000</b>	<b>18,008</b>
<b>M20 x 1</b>	<b>16,000</b>	<b>12,000</b>	<b>19,55</b>	<b>125,000</b>	<b>25,000</b>	<b>44,000</b>	<b>20,005</b>
M20 x 1,5	16,000	12,000	19,30	125,000	25,000	44,000	20,007
<b>M20 x 2</b>	<b>16,000</b>	<b>12,000</b>	<b>19,10</b>	<b>140,000</b>	<b>32,000</b>	<b>60,000</b>	<b>20,008</b>
<b>M22 x 1</b>	<b>18,000</b>	<b>14,500</b>	<b>21,55</b>	<b>125,000</b>	<b>25,000</b>	<b>44,000</b>	<b>22,005</b>
<b>M22 x 1,5</b>	<b>18,000</b>	<b>14,500</b>	<b>21,30</b>	<b>125,000</b>	<b>25,000</b>	<b>44,000</b>	<b>22,007</b>
<b>M22 x 2</b>	<b>18,000</b>	<b>14,500</b>	<b>21,10</b>	<b>140,000</b>	<b>32,000</b>	<b>62,000</b>	<b>22,008</b>
<b>M24 x 1</b>	<b>18,000</b>	<b>14,500</b>	<b>23,55</b>	<b>140,000</b>	<b>28,000</b>	<b>48,000</b>	<b>24,005</b>
<b>M24 x 1,5</b>	<b>18,000</b>	<b>14,500</b>	<b>23,30</b>	<b>140,000</b>	<b>28,000</b>	<b>48,000</b>	<b>24,007</b>
<b>M24 x 2</b>	<b>18,000</b>	<b>14,500</b>	<b>23,10</b>	<b>140,000</b>	<b>28,000</b>	<b>48,000</b>	<b>24,008</b>

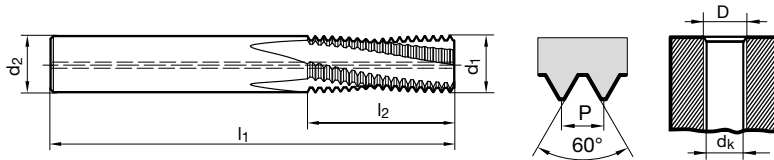


## Gewindefräser ohne Senkfase für Metrische ISO-Gewinde



<b>P</b>	•	Schnittdaten finden Sie in unserem Online-Navigator unter <a href="https://webnavigator.guehring.de">https://webnavigator.guehring.de</a> .
<b>M</b>	○	
<b>K</b>	•	
<b>N</b>	•	
<b>S</b>	○	
<b>H</b>	≤ 55	

Schneidstoff	VHM	
Oberfläche	Ⓢ	Ⓢ
Typ	TM SP	TM SP
Innenkühlung		
Schaftform	HB	HA



Werksnorm	Artikel-Nr.	3743	3737
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D	P	d1	d2	dk	l1	l2	Z	Code-Nr.
	mm	mm	mm	mm	mm	mm		
<b>M3</b>	<b>0,500</b>	<b>2,300</b>	<b>4,000</b>	<b>2,50</b>	<b>40,000</b>	<b>6,800</b>	<b>3</b>	<b>3,000</b>
<b>M4</b>	<b>0,700</b>	<b>3,000</b>	<b>6,000</b>	<b>3,30</b>	<b>48,000</b>	<b>8,800</b>	<b>3</b>	<b>4,000</b>
<b>M5</b>	<b>0,800</b>	<b>4,000</b>	<b>6,000</b>	<b>4,20</b>	<b>54,000</b>	<b>10,800</b>	<b>3</b>	<b>5,000</b>
M6	1,000	4,800	6,000	5,00	54,000	13,500	3	6,000
M8	1,250	6,400	8,000	6,80	62,000	18,100	3	8,000
M8 x 1	1,000	6,400	8,000	7,00	62,000	17,500	3	8,005
M10	1,500	7,950	10,000	8,50	74,000	21,800	3	10,000
M10 x 1	1,000	7,950	10,000	9,00	74,000	21,500	3	10,005
M10 x 1,25	1,250	7,950	10,000	8,80	74,000	21,900	3	10,006
M12	1,750	9,950	10,000	10,20	74,000	25,400	4	12,000
M12 x 1,5	1,500	9,950	10,000	10,50	74,000	26,300	4	12,007
M14	2,000	11,200	12,000	12,00	90,000	31,000	4	14,000
M14 x 1,5	1,500	11,200	12,000	12,50	90,000	30,800	4	14,007
M16	2,000	12,800	14,000	14,00	90,000	35,000	4	16,000
M16 x 1,5	1,500	12,800	14,000	14,50	90,000	33,800	4	16,007
M20	2,500	14,950	16,000	17,50	102,000	41,300	4	20,000
M20 x 1,5	1,500	14,950	16,000	18,50	102,000	42,800	4	20,007

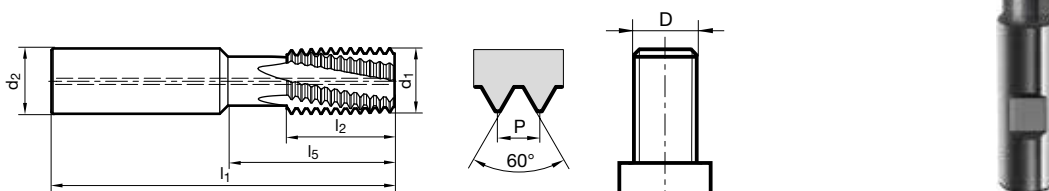
**Außengewindefräser**



Schneidstoff	<b>VHM</b>
Oberfläche	<b>C</b>
Typ	TMU SP
Innenkühlung	
Schaftform	HB

<b>P</b>	•	Schnittdaten finden Sie in unserem Online-Navigator unter <a href="https://webnavigator.guehring.de">https://webnavigator.guehring.de</a> .
<b>M</b>	•	
<b>K</b>	•	
<b>N</b>	•	
<b>S</b>	•	
<b>H</b>	≤ 55	

Produktweiterungen



**Werksnorm** **Artikel-Nr.** **4163**

P	D	d1	d2	l1	l5	l2	Z	Code-Nr.
mm		mm	mm	mm	mm	mm		
0,500	≥ 3	9,950	10,000	70,000	25,000	16,000	4	10,050
<b>0,700</b>	≥ 4	<b>9,950</b>	<b>10,000</b>	<b>70,000</b>	<b>25,000</b>	<b>16,000</b>	<b>4</b>	<b>10,070</b>
0,750	≥ 5	9,950	10,000	70,000	25,000	16,000	4	10,075
<b>0,800</b>	≥ 5	<b>9,950</b>	<b>10,000</b>	<b>70,000</b>	<b>25,000</b>	<b>16,000</b>	<b>4</b>	<b>10,080</b>
1,000	≥ 6	11,950	12,000	80,000	31,000	20,000	4	12,100
1,250	≥ 8	11,950	12,000	80,000	31,000	20,000	4	12,125
1,500	≥ 10	11,950	12,000	80,000	31,000	20,000	4	12,150
1,500	≥ 10	15,950	16,000	90,000	40,000	25,000	5	16,150
<b>1,750</b>	≥ 12	<b>15,950</b>	<b>16,000</b>	<b>90,000</b>	<b>40,000</b>	<b>25,000</b>	<b>5</b>	<b>16,175</b>
2,000	≥ 14	15,950	16,000	90,000	40,000	25,000	5	16,200
2,500	≥ 18	15,950	16,000	90,000	40,000	25,000	5	16,250
3,000	≥ 24	19,950	20,000	105,000	50,000	33,000	5	20,300





## HPC-Spannfutter HSK-A



### Produktinformationen:

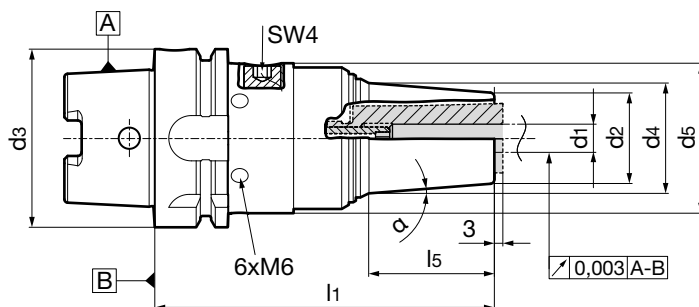
- HSK-A nach ISO 12164-1 / DIN 69893-1
- Wuchtgüte: G 2,5 / 20.000 U/min oder  $U < 1,2 \text{ gmm}$
- inkl. Wuchtgewinde 6xM6
- für Werkzeugschafttoleranz h6
- axiale Längeneinstellung
- für Schwerzerspannung sowie HSC- und HPC-Bearbeitung
- höchste Spannkraft und Stabilität durch mech. Spanntriebe
- Betätigungsmoment für Spanneinleitung max. 10 Nm
- geeignet für Innenkühlung bis 80 bar

### Lieferumfang:

- Sechskant-Spannschlüssel Art.-Nr. 4912 4,600

### Passendes Zubehör separat erhältlich:

- Kühlmittelübergabe-Satz Art.-Nr. 4949
- Spannhülsen Art.-Nr. 4302, 4235, 4236, 4237
- Drehmomentschlüssel 10 Nm Art.-Nr. 4987 10,000
- Sechskanteinsatz Art.-Nr. 4916 4,000 für optimale Bedienung



Produktweiterungen

Artikel-Nr. 4300

d3	Nenngröße	d1 h6 mm	d2 mm	d5 mm	d4 mm	l1 mm	l5 mm	$\alpha$ °	Bestell-Nr.
HSK-A 63	20	3.0-20.0	40	53	40	92	20		4300 20.063
<b>HSK-A 63</b>	<b>20</b>	<b>3.0-20.0</b>	<b>32</b>	<b>53</b>	<b>39</b>	<b>120</b>	<b>44</b>	<b>4</b>	<b>4300 20.163</b>
<b>HSK-A 63</b>	<b>20</b>	<b>3.0-20.0</b>	<b>32</b>	<b>53</b>	<b>40</b>	<b>142</b>	<b>69</b>	<b>4</b>	<b>4300 20.263</b>
HSK-A 100	20	3.0-20.0	52	70	40	100	18		4300 20.100
HSK-A 100	25	16.0-32.0	52	70	70	139			4300 25.100



**HPC-Spannfutter SK**



**Produktinformationen:**

- SK nach DIN ISO 7388-1 Form AD
- Wuchtgüte: G 2,5 / 20.000 U/min oder U < 1,2 gmm
- für Werkzeugschafttoleranz h6
- axiale Längeneinstellung
- für Schwerzerspannung sowie HSC- und HPC-Bearbeitung
- höchste Spannkraft und Stabilität durch mech. Spanngetriebe
- Betätigungsmoment für Spanneinleitung max. 10 Nm
- geeignet für Innenkühlung bis 80 bar

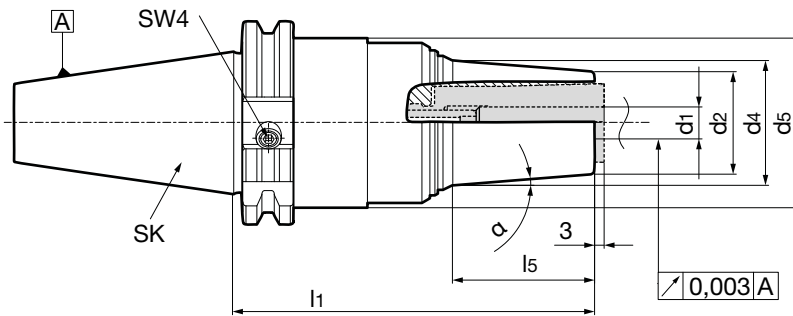
**Lieferumfang:**

- Sechskant-Spannschlüssel Art.-Nr. 4912 4,600

**Passendes Zubehör separat erhältlich:**

- Spannhülsen Art.-Nr. 4302, 4235, 4236, 4237
- Anzugsbolzen SK Art.-Nr. 4925, 4926
- Drehmomentschlüssel 10 Nm Art.-Nr. 4987 10,000
- Sechskanteinsatz Art.-Nr. 4916 4,000 für optimale Bedienung
- Form AD/AF auf Anfrage

Produktweiterungen



Artikel-Nr. **4301**

SK	Nenngröße	d1 h6	d2	d5	d4	l1	l5	α	Bestell-Nr.
		mm	mm	mm	mm	mm	mm	°	
SK 40	20	3.0-20.0	40	50	40	62	20		<b>4301 20.040</b>
SK 40	20	3.0-20.0	32	50	39	91	44	4	<b>4301 20.140</b>
SK 40	20	3.0-20.0	32	50	40	112	69	4	<b>4301 20.240</b>
SK 50	20	3.0-20.0	40	63	40	62	18		<b>4301 20.050</b>
SK 50	25	16.0-32.0	52	70	70	101			<b>4301 25.050</b>



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