GÜHRING

SuperLine

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plus

PERFORMANCE
HIGHLIGHTS

RT 100 XF • RT 100 T • HT 800
Micro-precision drills • RF 100 Diver
Pionex • MTMH3-Z • HR 500

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Convincing **price-performance-ratio.**

Exceptional **quality.**

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NEW

RATIO DRILLS WITH COOLANT DUCTS

NEW WITH HB SHANK IN 3xD AND 5xD

SL

NEW

CENTRE DRILLS

NEW IN OUR SL PROGRAMME

SL

NEW

NC SPOTTING DRILLS 90°/120°/142°

NOW WITH COATING AND CLAMPING SURFACE IN SOLID CARBIDE AND IN HSCO

SL

NEW

CHAMFERING MILLING CUTTERS 60°/90°/120°

WITH EVEN MORE DIMENSIONS

SL

NEW

RATIO END MILLS RF 100 A

NOW WITH OR WITHOUT CLAMPING SURFACE

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NEW

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PERFORMANCE
HIGHLIGHTS

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In addition to our SuperLine programme you will find selected performance highlights from Gühring in this catalogue. The right tool for every application and high efficiency.

All from a single source.

NEW

RT 100 XF SOLID CARBIDE DRILLING TOOL

FOR EXCEPTIONAL METAL REMOVAL RATES

NEW

TAPS

UNIVERSAL HIGH PERFORMANCE PRODUCTION OF THREADS

NEW

RF 100 DIVER SOLID CARBIDE MILLING CUTTER

DRILLING, RAMPING, ROUGHING, FINISHING, SLOTTING

NEW

HR 500 REAMER

PERFECT REAMING IN STEEL

NEW

HT 800 INDEXABLE INSERT SYSTEM

FOR DEEP AND HIGHLY ACCURATE DRILLING

NEW

RT 100 T SOLID CARBIDE GUN DRILL

SOLID CARBIDE SPIRAL-FLUTED DEEP HOLE DRILL

NEW

MTMH3-Z DRILL THREAD MILLING CUTTER

UP TO 66 HRC

Your complete cutting tool provider

Guhring have made huge investments in both our new facility and the latest technology to enable us to stock massive numbers of standard tools and provide manufacturing operations that encompasses everything from design and consultation through to tool production, coating, polishing, re-grinding and testing.

MANUFACTURING

STOCK HOLDING

TECHNICAL ACADEMY

FULL SERVICE AND SUPPORT

Ratio drills with coolant ducts

P	M	K	N	S	H	Tool illustration	Drilling depth	Shank form	Type	Standard	Tool material	Surface	d1/mm	Article no.	Page
●	○	●	○	○	○	SL	3xD	HA	RT 100 U	DIN 6537K	VHM	F	3.000 - 20.000	5510	22
●	○	●	○	○	○	SL	3xD	HE	RT 100 U	DIN 6537K	VHM	F	3.000 - 20.000	5610	22
●	○	●	○	○	○	SL	3xD	HB	RT 100 U	DIN 6537K	VHM	F	3.000 - 20.000	6023	22
	●			●		SL	3xD	HA	RT 100 VA	DIN 6537K	VHM	a	3.000 - 20.000	5526	25
	●			●		SL	3xD	HE	RT 100 VA	DIN 6537K	VHM	a	3.000 - 20.000	5528	25
	●			●		SL	3xD	HB	RT 100 VA	DIN 6537K	VHM	a	3.000 - 20.000	6024	25
			●			SL	5xD	HA	RT 100 AI	DIN 6537L	VHM	○	3.000 - 20.000	5768	28
●	○	●	○	○	○	SL	5xD	HA	RT 100 U	DIN 6537L	VHM	F	3.000 - 20.000	5511	32
●	○	●	○	○	○	SL	5xD	HE	RT 100 U	DIN 6537L	VHM	F	3.000 - 20.000	5611	32
●	○	●	○	○	○	SL	5xD	HB	RT 100 U	DIN 6537L	VHM	F	3.000 - 20.000	5650	32
	●			●		SL	5xD	HA	RT 100 VA	DIN 6537L	VHM	a	3.000 - 20.000	5580	36
	●			●		SL	5xD	HE	RT 100 VA	DIN 6537L	VHM	a	3.000 - 20.000	5581	36
	●			●		SL	5xD	HB	RT 100 VA	DIN 6537L	VHM	a	3.000 - 20.000	6025	36
●	○	○		○	○	★	5xD	HA	RT 100 XF	DIN 6537L	VHM	F	3.000 - 20.000	5498	40
●	○	●	○	○	○	SL	7xD	HA	RT 100 U	WN	VHM	F	3.000 - 20.000	5512	44
●	○	●	○	○	○	SL	7xD	HE	RT 100 U	WN	VHM	F	3.000 - 20.000	5612	44
●	○	○		○	○	★	7xD	HA	RT 100 XF	WN	VHM	F	3.000 - 20.000	5499	47
		●	●			SL	10xD	HA	RT 150 GG	WN	VHM	○	3.000 - 16.000	5513	51
●	○	●	○	○	○	SL	12xD	HA	RT 100 U	WN	VHM	F	3.000 - 20.000	5525	53
●	●	●	○	○	○	★	15xD	HA	RT 100 T	WN	VHM	A	3.000 - 16.000	6509	56
●	●	●	○	○	○	★	20xD	HA	RT 100 T	WN	VHM	A	3.000 - 16.000	6511	58
●	●	●	○	○	○	★	25xD	HA	RT 100 T	WN	VHM	A	3.000 - 16.000	6512	60
●	●	●	○	○	○	★	30xD	HA	RT 100 T	WN	VHM	A	3.000 - 14.000	6513	62

P	M	K	N	S	H	Tool illustration	Drilling depth	Shank form	Type	Standard	Tool material	Surface	d1/mm	Article no.	Page
Ratio drills without coolant ducts															
●	○	●	○	○	○	SL	3xD	HA	RT 100 U	DIN 6537 K	VHM	F	3.000 - 20.000	5514	66
●	○	●	○	○	○	SL	3xD	HE	RT 100 U	DIN 6537 K	VHM	F	3.000 - 20.000	5614	66
●	○	●	○	○	○	SL	3xD	HB	RT 100 U	DIN 6537 K	VHM	F	3.000 - 20.000	6026	66
●	○	●	○	○	○	SL	5xD	HA	RT 100 U	DIN 6537 L	VHM	F	3.000 - 20.000	5515	69
●	○	●	○	○	○	SL	5xD	HE	RT 100 U	DIN 6537 L	VHM	F	3.000 - 20.000	5615	69
●	○	●	○	○	○	SL	5xD	HB	RT 100 U	DIN 6537 L	VHM	F	3.000 - 20.000	5651	69
Tool holders for interchangeable inserts HT 800															
						★	3xD	HE	HT 800 WP	WN		Ni		4107	72
						★	5xD	HE	HT 800 WP	WN		Ni		4108	75
						★	7xD	HE	HT 800 WP	WN		Ni		4109	78
Interchangeable inserts HT 800															
●	○	○				★			HT 800 WP	WN	VHM	F	11.000 - 40.000	4112	80
○		●				★			HT 800 WP	WN	VHM	Y	11.000 - 40.000	4113	83
○	●			○	○	★			HT 800 WP	WN	VHM	a	11.000 - 40.000	4115	86
Solid carbide micro-precision drills without coolant ducts															
●	○	●	○	○	○	SL		Cyl	N	WN	VHM	A	0.100 - 3.000	5652	89
ExclusiveLine micro-precision drills without coolant ducts															
●	●	●	○	○		★	4xD	Cyl	N	WN	VHM	A	0.500 - 3.000	6400	90
●	●	●	○	○		★	7xD	Cyl	N	WN	VHM	A	0.500 - 3.000	6401	92
ExclusiveLine micro-precision drills with coolant ducts															
●	●	●	○	○		★	5xD	Cyl	N	WN	VHM	A	1.400 - 3.000	6405	94
●	●	●	○	○		★	8xD	Cyl	N	WN	VHM	A	1.400 - 3.000	6408	96
●	●	●	○	○		★	15xD	Cyl	N	WN	VHM	A	1.400 - 3.000	6412	98
3-flute Ratio drills															
		●	●			SL	5xD	HA	FT 200	DIN 6537 L	VHM	○	3.000 - 20.000	5518	99

P	M	K	N	S	H	Tool illustration	Drilling depth	Shank form	Type	Standard	Tool material	Surface	d1/mm	Article no.	Page
Twist drills with reinforced straight shank															
●	●	●	●	○		SL	~3xD	HA	GU 500 PM	WN	HSS-E-PM	F	1.000 - 20.000	6005	101
●	●	●	●	○		SL	~5xD	HA	GU 500 PM	WN	HSS-E-PM	F	2.000 - 20.000	6006	105
Stub drills															
○	○	○	●	○		SL	~3xD	Cyl	N	DIN 6539	VHM	○	1.500 - 12.000	5516	109
●	●	●	●			SL	~3xD	Cyl	GU 500 DZ	DIN 1897	HSCO	○	1.000 - 14.000	5524	111
●	●	●	●			SL	~3xD	Cyl	GU 500 DZ	DIN 1897	HSCO	S	1.000 - 14.000	5520	111
●	○	●	○	○	○	SL	~3xD	Cyl	GT 500 DZ	DIN 1897	HSS-E-PM	S	1.000 - 14.000	5521	114
Jobber drills															
○	○	○	●	○		SL	~5xD	Cyl	N	WN	VHM	○	2.000 - 12.000	5517	117
●	●	●	●			SL	~5xD	Cyl	GU 500 DZ	DIN 338	HSCO	○	1.000 - 14.000	5523	119
●	●	●	●			SL	~5xD	Cyl	GU 500 DZ	DIN 338	HSCO	S	1.000 - 14.000	5519	119
●	○	●	○	○	○	SL	~5xD	Cyl	GT 500 DZ	DIN 338	HSS-E-PM	S	1.000 - 14.000	5522	122
●		●	●			SL	~5xD	Cyl	N	DIN 338	HSS	S	1.000 - 16.000	9651	125
Long series twist drills															
●	●	●	●			SL	~10xD	Cyl	GU 500 DZ	DIN 340	HSCO	○	1.000 - 14.000	5536	129
●	●	●	●			SL	~10xD	Cyl	GU 500 DZ	DIN 340	HSCO	S	1.000 - 14.000	5537	129
90° NC spotting drills															
●	●	●	●	○		SL		B	N	WN	HSCO	F	3.000 - 25.400	5678	132
○	○	○	○	○	○	SL		HB	N	WN	VHM	F	4.000 - 20.000	6027	133
120° NC spotting drills															
●	●	●	●	○		SL		B	N	WN	HSCO	F	3.000 - 25.400	5679	134
○	○	○	○	○	○	SL		HB	N	WN	VHM	F	3.000 - 20.000	6028	135
142° NC spotting drills															
○	○	○	○	○	○	SL		HB	N	WN	VHM	F	4.000 - 20.000	6029	136
Centre drills without flat															
●	●	●	○	●		SL		Cyl	N	DIN 333	HSCO	F	0.500 - 4.000	5680	137

P	M	K	N	S	H	Tool illustration	Drilling depth	Shank form	Type	Standard	Tool material	Surface	d1/mm	Article no.	Page

Twist drill sets

•	•	•	•			SL 	~5xD	Cyl	GU 500 DZ	DIN 338	HSCO	◯		12	138
•		•	•			SL 	~5xD	Cyl	N	DIN 338	HSS	Ⓢ		234	139

Taps for ISO metric threads

P	M	K	N	S	H	Tool illustration	Standard	Type	Form	Tolerance on Ø	Tool material	Surface	d1/mm	Article no.	Page
≤ 1000	○					SL	DIN 371/376	N R40	C	ISO2/6H	HSS-E		M3 - M20	5555	156
≤ 1000	○					SL	DIN 371/376	N R40	C	ISO2/6H	HSS-E	S	M3 - M20	5594	156
≤ 1200						SL	DIN 371/376	H R40	C	ISO2/6H	HSS-E		M3 - M20	5552	157
≤ 1200						SL	DIN 371/376	H R40	C	ISO2/6H	HSS-E	C	M3 - M20	5591	157
	•					SL	DIN 371/376	VA R40	C	ISO2/6H	HSS-E		M3 - M20	5553	158
	•					SL	DIN 371/376	VA R40	C	ISO2/6H	HSS-E	S	M3 - M20	5596	158
			•			SL	DIN 371/376	Al R45	C	ISO2/6H	HSS-E		M3 - M20	5551	159
		•	≥ 7			SL	DIN 371/376	H	C	6HX	VHM		M3 - M20	5593	160
≤ 1000	○					SL	DIN 371/376	N	B	ISO2/6H	HSS-E		M3 - M20	5561	161
≤ 1000	○					SL	DIN 371/376	N	B	ISO2/6H	HSS-E	S	M3 - M20	5586	161
≤ 1200						SL	DIN 371/376	H	B	ISO2/6H	HSS-E		M3 - M20	5558	162
≤ 1200						SL	DIN 371/376	H	B	ISO2/6H	HSS-E	C	M3 - M20	5587	162
≤ 1000	•					SL	DIN 371/376	VA	B	ISO2/6H	HSS-E		M3 - M20	5597	163
≤ 1000	•					SL	DIN 371/376	VA	B	ISO2/6H	HSS-E	S	M3 - M20	5588	163
≤ 1000	•					SL	DIN 371	VA	B	ISO2/6H	HSS-E-PM		M3 - M10	5559	164
			•			SL	DIN 371/376	Al	B	ISO2/6H	HSS-E		M3 - M20	5557	165
		•				SL	DIN 371/376	GG	C	6HX	HSS-E	●	M3 - M20	5550	166
		•				SL	DIN 371/376	GG	C	6HX	HSS-E	F	M3 - M20	5595	166
•	•	○	○	○		★	DIN 371/376	VA R45	C	6HX	HSS-E	A	M2 - M39	393	167
•	•	○	○	○		★	DIN 371/376	VA	B	6HX	HSS-E	S	M2 - M30	4218	168

Taps for ISO metric fine threads

•	•	○	○	○		★	DIN 374	VA R45	C	6HX	HSS-E	A	M6 x 0,75 - M24 x 1,5	394	169
•	•	○	○	○		★	DIN 374	VA	B	6HX	HSS-E	S	M6 x 0,75 - M24 x 1,5	4219	170

P	M	K	N	S	H		Tool illustration	Standard	Type	Form	Tolerance on Ø	Tool material	Surface	d1/mm	Article no.	Page
Taps for UNC threads																
●	●	○	○	○		★		~DIN 371/376	VA R45	C	2BX	HSS-E	A	2 - 56 - 1 - 8	391	171
●	●	○	○	○		★		~DIN 371/376	VA	B	2BX	HSS-E	S	2 - 56 - 1 - 8	4642	172
Taps for UNF threads																
●	●	○	○	○		★		~DIN 371/374	VA R45	C	2BX	HSS-E	A	2 - 64 - 1 - 12	392	173
●	●	○	○	○		★		~DIN 371/374	VA	B	2BX	HSS-E	S	2 - 64 - 1 - 12	4643	174
Taps for BSP threads																
●	●	○	○	○		★		DIN 5156	VA R45	C		HSS-E	A	G1/16 - G1	395	175
●	●	○	○	○		★		DIN 5156	VA	B		HSS-E	S	G1/16 - G1	4220	176
Fluteless taps for ISO metric threads																
●	●		○	●		SL		~DIN 371	N	C	6HX	HSS-E	S	M1 - M10	5598	177
●	●		○	●		SL		~DIN 376	N	C	6HX	HSS-E	S	M12 - M16	5599	178
●	●	●	○	●		★		~DIN 371/376	N	C	4HX/6HX	HSS-E-PM	C	M1 - M20	4487	179
Micro thread milling cutters																
●	●	●	●	●	≤ 55	★		WN	MTM3 SP			VHM	C	M1,6 - M16	4226	180
●	●	●	●	●	≤ 65	★		WN	MTMH3-Z			VHM		M2 - M16	4002	181
Thread milling cutters without chamfer for ISO metric threads																
●	○	●	●	●	≤ 55	SL		WN	TM SP			VHM	C	M6 - M20	5547	182
●	○	●	●	●	≤ 55	SL		WN	TM SP			VHM	C	M6 - M20	5548	182

P	M	K	N	S	H	Tool illustration	Z	Hard-ness	Shank form	Length	Tool material	Sur-face	d1/mm	Article no.	Page
Standard Ratio end mills RF 100 U															
•		•			○	SL		4	48 HRC	HB		VHM	F	6.000 - 20.000	5534	192
•		•			○	SL		4	48 HRC	HA		VHM	F	4.000 - 25.000	5735	193
•		•			○	SL		4	48 HRC	HB		VHM	F	4.000 - 25.000	5535	193
•		•			○	SL		4	48 HRC	HA		VHM	F	10.000 - 25.000	5582	194
Ratio end mills RF 100 Speed M															
•	•			•		★		4		HB		VHM	A	3.000 - 20.000	6761	195
Ratio end mills RF 100 DIVER															
•	•	•	•	•	○	★		4	48 HRC	HA		VHM	Y	3.000 - 20.000	6803	196
•	•	•	•	•	○	★		4	48 HRC	HB		VHM	Y	3.000 - 20.000	6804	196
•	•	•	•	•	○	★		4	48 HRC	HA		VHM	Y	4.000 - 20.000	6737	197
•	•	•	•	•	○	★		4	48 HRC	HB		VHM	Y	4.000 - 20.000	6736	197
Ratio end mills RF 100 iMill															
○	•		•	•		★		4		HA		VHM	Y	3.000 - 20.000	6964	198
○	•		•	•		★		4		HB		VHM	Y	3.000 - 20.000	6965	198
Ratio end mills RF 100 VA															
•	•		○	•		SL		4		HA		VHM	a	3.000 - 25.000	5653	200
•	•		○	•		SL		4		HB		VHM	a	3.000 - 25.000	5654	200
Ratio end mills Alu RF 100 A															
			•			SL		3		HA		VHM	○	3.000 - 20.000	6010	201
			•			SL		3		HB		VHM	○	3.000 - 20.000	5655	201
Slot drills GH 100 U (3-fluted)															
•	•	•	○	○		SL		3		HA		VHM	F	3.000 - 20.000	5505	202
•	•	•	○	○		SL		3		HA		VHM	F	3.000 - 20.000	5506	203
•	•	•	○	○		SL		3		HB		VHM	F	3.000 - 20.000	5546	203
Mini slot drills (3-fluted)															
•	•	○	•	○		SL		3		HA/ HB		VHM	F	1.000 - 10.000	5574	204

P	M	K	N	S	H	Tool illustration	Z	Hard-ness	Shank form	Length	Tool material	Sur-face	d1/mm	Article no.	Page
Roughing end mills GS 100 U (fine teeth)															
•	•	•	○			SL 	4		HB		VHM	F	6.000 - 20.000	5504	205
Hard roughing end mills GS 100 H (fine teeth)															
○		•			•	SL 	4	55 HRC	HB		VHM	Y	6.000 - 20.000	5583	206
Multi-tooth end mills GH 100 U															
•	•	•	•	•	○	SL 	6+	48 HRC	HA		VHM	F	3.000 - 25.000	5745	207
•	•	•	•	•	○	SL 	6+	48 HRC	HB		VHM	F	3.000 - 25.000	5545	207
•	•	•	•	•	○	SL 	6+	48 HRC	HA		VHM	F	6.000 - 20.000	5729	208
Slot drills (2-fluted)															
•	•	•	•			SL 	2		HA		VHM	F	2.000 - 20.000	5730	209
•	•	•	•			SL 	2		HB		VHM	F	2.000 - 20.000	5530	209
XL slot drills (2-fluted)															
•	•	•	•			SL 	2		HA		VHM	F	3.000 - 20.000	5549	210
Al slot drills (2-fluted)															
			•			SL 	2		HB		VHM	○	3.000 - 20.000	5543	211
Slot drills (3-fluted)															
•	•	•	•			SL 	3		HA		VHM	F	2.000 - 20.000	5507	212
•	•	•	•			SL 	3		HB		VHM	F	2.000 - 20.000	5531	212
Mini slot drills (3-fluted)															
•	•	○	○	•		SL 	3		HA/ HB		VHM	F	0.500 - 20.000	5573	213
End mills (4-fluted)															
•	•	•	•			SL 	4		HB		VHM	F	2.000 - 20.000	5532	214
XL end mills (4-fluted)															
•	•	•	•			SL 	4		HA		VHM	F	3.000 - 20.000	5556	215
Ball nose slot drills (2-fluted)															
•	•	•	•	•	○	SL 	2	48 HRC	HB		VHM	F	0.500 - 20.000	5533	216
•	•	•	•	•	○	SL 	2	48 HRC	HA		VHM	F	0.500 - 20.000	5585	216

P	M	K	N	S	H	Tool illustration	Z	Hard-ness	Shank form	Length	Tool material	Sur-face	d1/mm	Article no.	Page
Ball nose end mills (4-fluted)															
•	•	•	•	•	○	SL		4	48 HRC	HB		VHM	F	3.000 - 20.000	**5584**	217
Chamfering milling cutters 60°															
•	•	•	•	•	○	SL		4	55 HRC	HA		VHM	A	4.000 - 12.000	**6011**	218
•	•	•	•	•	○	SL		4	55 HRC	HB		VHM	A	4.000 - 12.000	**6012**	218
Chamfering milling cutters 90°															
•	•	•	•	•	○	SL		4	55 HRC	HA		VHM	A	4.000 - 12.000	**5578**	219
•	•	•	•	•	○	SL		4	55 HRC	HB		VHM	A	4.000 - 12.000	**5579**	219
Chamfering milling cutters 120°															
•	•	•	•	•	○	SL		4	55 HRC	HA		VHM	A	4.000 - 12.000	**6014**	220
•	•	•	•	•	○	SL		4	55 HRC	HB		VHM	A	4.000 - 12.000	**6015**	220
Front/back deburrer 90°, sets															
•	•	•	○	•	•	SL		4	55 HRC	Cyl		VHM	a		**6013**	221
Ratio end mill sets RF 100 U															
•		•			○	SL		4	48 HRC	HB		VHM	F		**5635**	222

P	M	K	N	S	H	Tool illustration	Shank form	Standard	Form	Cutting direction	Tool material	Surface	d1/mm	Article no.	Page
NC machine reamers															
•	○	•	•	○		SL	HA	DIN 212-3	B	R	HSS-E	○	1.500 - 20.000	**6019**	232
•	○	•	•	○		SL	HA	DIN 212-3	B	R	HSS-E	○	1.000 - 12.030	**6020**	233
•	○	•	•	○	52	SL	HA	WN	B	R	VHM	○	3.000 - 20.000	**6016**	235
•	•	•		•	52	SL	HA	WN	B	R	VHM	a	3.000 - 20.000	**6017**	236
•	○	•	•	○	52	SL	HA	WN	B	R	VHM	○	0.980 - 12.050	**5527**	237
•	•	•		•	52	SL	HA	WN	B	R	VHM	a	0.980 - 12.050	**6018**	239
High-performance reamers															
•	•			•	63	★	HA	WN		R	VHM	a	2.000 - 20.000	**1685**	241
•	•			•	63	★	HA	WN		R	VHM	a	2.000 - 20.000	**1686**	242
60° Countersinks, spiral-fluted															
•	•	•	○	○		SL	Cyl	DIN 334	C	R	HSS	A	6.300 - 25.000	**5670**	243
•	•	•	○	○		SL	3	DIN 334	C	R	HSS	A	6.300 - 25.000	**5671**	244
90° Countersinks, spiral-fluted															
•	•	•	○	○		SL	Cyl	DIN 335	C	R	HSCO	A	6.300 - 40.000	**5500**	245
•	•	•	○	○		SL	3	DIN 335	C	R	HSCO	A	6.300 - 40.000	**5501**	246
•	○	•	○	○		SL	Cyl	WN	C	R	HSS	A	6.300 - 31.000	**5503**	247

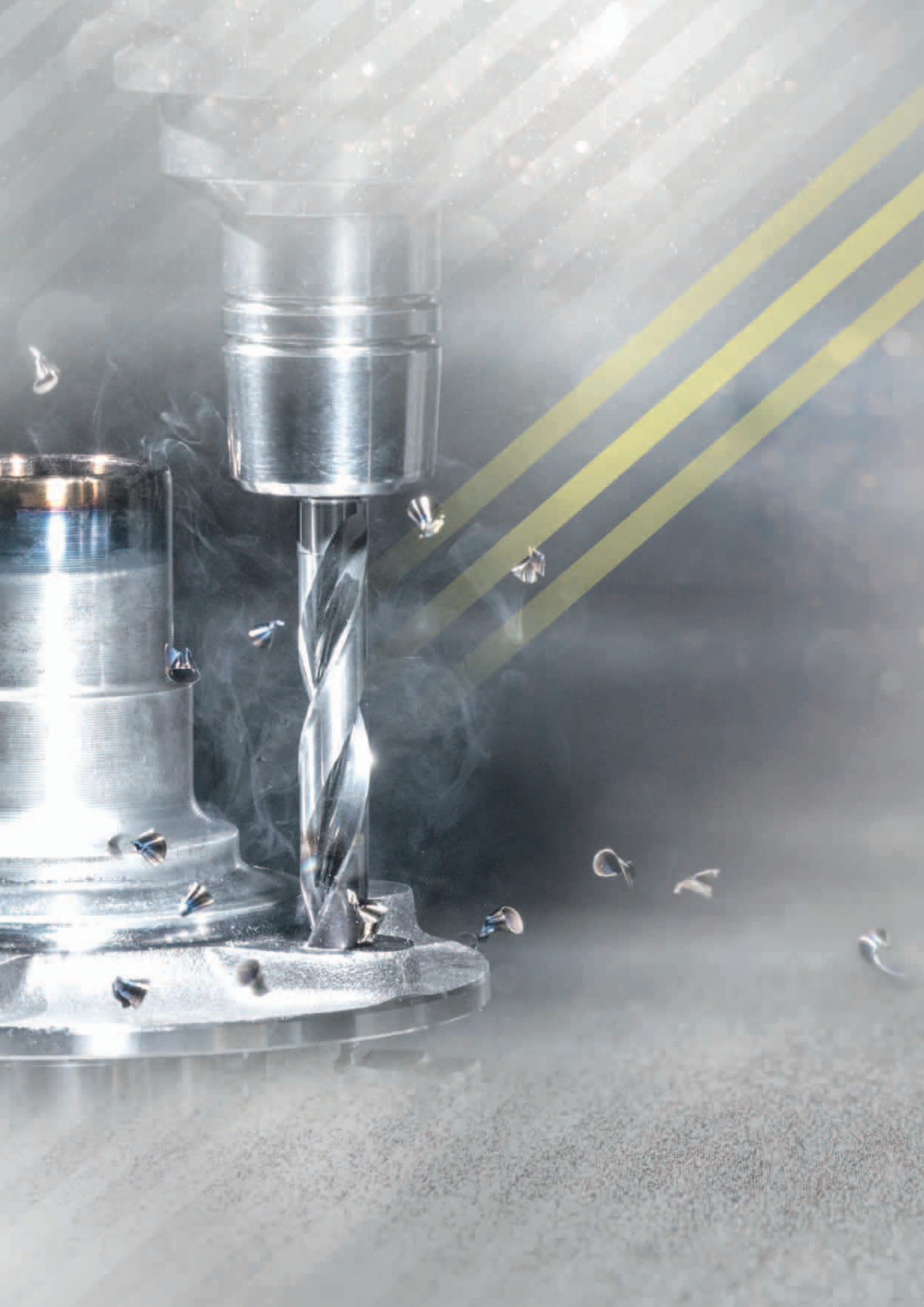
P	M	K	N	S	H	Tool illustration	Shank form	Standard	Form	Cutting direction	Tool material	Surface	d1/mm	Article no.	Page

60° Countersink sets, spiral-fluted

•	•	•	○	○		SL		Cyl	DIN 334	C	R	HSS	A		5672	248
•	•	•	○	○		SL		3	DIN 334	C	R	HSS	A		5673	249

90° Countersink sets, spiral-fluted

•	•	•	○	○		SL		Cyl	DIN 335	C	R	HSCO	A		5538	250
•	•	•	○	○		SL		3	DIN 335	C	R	HSCO	A		5539	251



DRILLING TOOLS

Ratio drills with coolant ducts

3xD | RT 100 U | DIN 6537 K | 140° | m7

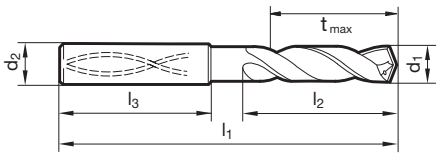
P	•	web thinning ≥ Ø 3.000 • facet point grind • main cutting edge form straight • optimised cutting geometry
M	○	
K	•	
N	○	structural and case hardened steels • free-cutting steels, heat-treatable steels • steels (alloyed/unalloyed) up to 1200 N/mm² • cast materials • bronze, brass • high-alloyed AlSi alloys
S	○	
H	○	

Tool material	Solid carbide		
Surface	F	F	F
Shank form	HA	HE	HB
	SL	SL	SL

GÜHRINGNAVIGATOR

Cutting data page 140

$t_{max} = l_2 - 1{,}5 \times d_1$



Article no.	5510	5610	6023
Discount group	155	155	155
Cutting direction	R	R	R

d1		d2 h6	l1	l2	l3	Availability		
mm	inch	mm	mm	mm	mm			
3.000		6.00	62.00	20.00	36.00	•	•	•
3.100		6.00	62.00	20.00	36.00	•	•	•
3.170	1/8	6.00	62.00	20.00	36.00	•	•	•
3.200		6.00	62.00	20.00	36.00	•	•	•
3.250		6.00	62.00	20.00	36.00	•	•	•
3.300		6.00	62.00	20.00	36.00	•	•	•
3.400		6.00	62.00	20.00	36.00	•	•	•
3.500		6.00	62.00	20.00	36.00	•	•	•
3.570	9/64	6.00	62.00	20.00	36.00	•	•	•
3.600		6.00	62.00	20.00	36.00	•	•	•
3.700		6.00	62.00	20.00	36.00	•	•	•
3.800		6.00	66.00	24.00	36.00	•	•	•
3.900		6.00	66.00	24.00	36.00	•	•	•
3.970	5/32	6.00	66.00	24.00	36.00	•	•	•
4.000		6.00	66.00	24.00	36.00	•	•	•
4.100		6.00	66.00	24.00	36.00	•	•	•
4.200		6.00	66.00	24.00	36.00	•	•	•
4.300		6.00	66.00	24.00	36.00	•	•	•
4.370	11/64	6.00	66.00	24.00	36.00	•	•	•
4.400		6.00	66.00	24.00	36.00	•	•	•
4.500		6.00	66.00	24.00	36.00	•	•	•
4.600		6.00	66.00	24.00	36.00	•	•	•
4.650		6.00	66.00	24.00	36.00	•	•	•
4.700		6.00	66.00	24.00	36.00	•	•	•
4.760	3/16	6.00	66.00	28.00	36.00	•	•	•
4.800		6.00	66.00	28.00	36.00	•	•	•
4.900		6.00	66.00	28.00	36.00	•	•	•
5.000		6.00	66.00	28.00	36.00	•	•	•
5.100		6.00	66.00	28.00	36.00	•	•	•
5.160	13/64	6.00	66.00	28.00	36.00	•	•	•
5.200		6.00	66.00	28.00	36.00	•	•	•
5.300		6.00	66.00	28.00	36.00	•	•	•
5.400		6.00	66.00	28.00	36.00	•	•	•
5.500		6.00	66.00	28.00	36.00	•	•	•
5.550		6.00	66.00	28.00	36.00	•	•	•
5.560	7/32	6.00	66.00	28.00	36.00	•	•	•

						Article no.	5510	5610	6023
						Discount group	155	155	155
						Cutting direction	R	R	R
d1		d2 h6	l1	l2	l3	Availability			
mm	inch	mm	mm	mm	mm				
5.600		6.00	66.00	28.00	36.00		●	●	●
5.700		6.00	66.00	28.00	36.00		●	●	●
5.800		6.00	66.00	28.00	36.00		●	●	●
5.900		6.00	66.00	28.00	36.00		●	●	●
5.950	15/64	6.00	66.00	28.00	36.00		●	●	●
6.000		6.00	66.00	28.00	36.00		●	●	●
6.100		8.00	79.00	34.00	36.00		●	●	●
6.200		8.00	79.00	34.00	36.00		●	●	●
6.300		8.00	79.00	34.00	36.00		●	●	●
6.350	1/4	8.00	79.00	34.00	36.00		●	●	●
6.400		8.00	79.00	34.00	36.00		●	●	●
6.500		8.00	79.00	34.00	36.00		●	●	●
6.600		8.00	79.00	34.00	36.00		●	●	●
6.700		8.00	79.00	34.00	36.00		●	●	●
6.750	17/64	8.00	79.00	34.00	36.00		●	●	●
6.800		8.00	79.00	34.00	36.00		●	●	●
6.900		8.00	79.00	34.00	36.00		●	●	●
7.000		8.00	79.00	34.00	36.00		●	●	●
7.100		8.00	79.00	41.00	36.00		●	●	●
7.140	9/32	8.00	79.00	41.00	36.00		●	●	●
7.200		8.00	79.00	41.00	36.00		●	●	●
7.300		8.00	79.00	41.00	36.00		●	●	●
7.400		8.00	79.00	41.00	36.00		●	●	●
7.500		8.00	79.00	41.00	36.00		●	●	●
7.540	19/64	8.00	79.00	41.00	36.00		●	●	●
7.600		8.00	79.00	41.00	36.00		●	●	●
7.700		8.00	79.00	41.00	36.00		●	●	●
7.800		8.00	79.00	41.00	36.00		●	●	●
7.900		8.00	79.00	41.00	36.00		●	●	●
7.940	5/16	8.00	79.00	41.00	36.00		●	●	●
8.000		8.00	79.00	41.00	36.00		●	●	●
8.100		10.00	89.00	47.00	40.00		●	●	●
8.200		10.00	89.00	47.00	40.00		●	●	●
8.300		10.00	89.00	47.00	40.00		●	●	●
8.330	21/64	10.00	89.00	47.00	40.00		●	●	●
8.400		10.00	89.00	47.00	40.00		●	●	●
8.500		10.00	89.00	47.00	40.00		●	●	●
8.600		10.00	89.00	47.00	40.00		●	●	●
8.700		10.00	89.00	47.00	40.00		●	●	●
8.730	11/32	10.00	89.00	47.00	40.00		●	●	●
8.800		10.00	89.00	47.00	40.00		●	●	●
8.900		10.00	89.00	47.00	40.00		●	●	●
9.000		10.00	89.00	47.00	40.00		●	●	●
9.100		10.00	89.00	47.00	40.00		●	●	●
9.130	23/64	10.00	89.00	47.00	40.00		●	●	●
9.200		10.00	89.00	47.00	40.00		●	●	●
9.250		10.00	89.00	47.00	40.00		●	●	●
9.300		10.00	89.00	47.00	40.00		●	●	●
9.400		10.00	89.00	47.00	40.00		●	●	●
9.500		10.00	89.00	47.00	40.00		●	●	●
9.520	3/8	10.00	89.00	47.00	40.00		●	●	●
9.600		10.00	89.00	47.00	40.00		●	●	●
9.700		10.00	89.00	47.00	40.00		●	●	●
9.800		10.00	89.00	47.00	40.00		●	●	●
9.900		10.00	89.00	47.00	40.00		●	●	●
9.920	25/64	10.00	89.00	47.00	40.00		●	●	●
10.000		10.00	89.00	47.00	40.00		●	●	●
10.100		12.00	102.00	55.00	45.00		●	●	●
10.200		12.00	102.00	55.00	45.00		●	●	●
10.300		12.00	102.00	55.00	45.00		●	●	●

						Article no.	5510	5610	6023
						Discount group	155	155	155
						Cutting direction	R	R	R
d1		d2 h6	l1	l2	l3	Availability			
mm	inch	mm	mm	mm	mm				
10.320	13/32	12.00	102.00	55.00	45.00		●	●	●
10.400		12.00	102.00	55.00	45.00		●	●	●
10.500		12.00	102.00	55.00	45.00		●	●	●
10.600		12.00	102.00	55.00	45.00		●	●	●
10.700		12.00	102.00	55.00	45.00		●	●	●
10.800		12.00	102.00	55.00	45.00		●	●	●
10.900		12.00	102.00	55.00	45.00		●	●	●
11.000		12.00	102.00	55.00	45.00		●	●	●
11.100		12.00	102.00	55.00	45.00		●	●	●
11.110	7/16	12.00	102.00	55.00	45.00		●	●	●
11.200		12.00	102.00	55.00	45.00		●	●	●
11.300		12.00	102.00	55.00	45.00		●	●	●
11.400		12.00	102.00	55.00	45.00		●	●	●
11.500		12.00	102.00	55.00	45.00		●	●	●
11.600		12.00	102.00	55.00	45.00		●	●	●
11.700		12.00	102.00	55.00	45.00		●	●	●
11.800		12.00	102.00	55.00	45.00		●	●	●
11.900		12.00	102.00	55.00	45.00		●	●	●
11.910	15/32	12.00	102.00	55.00	45.00		●	●	●
12.000		12.00	102.00	55.00	45.00		●	●	●
12.200		14.00	107.00	60.00	45.00		●	●	●
12.400		14.00	107.00	60.00	45.00		●		●
12.500		14.00	107.00	60.00	45.00		●	●	●
12.700	1/2	14.00	107.00	60.00	45.00		●	●	●
12.800		14.00	107.00	60.00	45.00		●		●
13.000		14.00	107.00	60.00	45.00		●	●	●
13.500		14.00	107.00	60.00	45.00		●	●	●
13.700		14.00	107.00	60.00	45.00		●	●	●
13.800		14.00	107.00	60.00	45.00		●		●
14.000		14.00	107.00	60.00	45.00		●	●	●
14.200		16.00	115.00	65.00	48.00		●	●	●
14.290	9/16	16.00	115.00	65.00	48.00		●	●	●
14.300		16.00	115.00	65.00	48.00		●		●
14.500		16.00	115.00	65.00	48.00		●	●	●
14.700		16.00	115.00	65.00	48.00		●	●	●
14.800		16.00	115.00	65.00	48.00		●	●	●
15.000		16.00	115.00	65.00	48.00		●	●	●
15.200		16.00	115.00	65.00	48.00		●	●	●
15.500		16.00	115.00	65.00	48.00		●	●	●
15.700		16.00	115.00	65.00	48.00		●	●	●
16.000		16.00	115.00	65.00	48.00		●	●	●
16.500		18.00	123.00	73.00	48.00		●	●	●
17.000		18.00	123.00	73.00	48.00		●	●	●
17.500		18.00	123.00	73.00	48.00		●	●	●
17.700		18.00	123.00	73.00	48.00		●		●
18.000		18.00	123.00	73.00	48.00		●	●	●
18.500		20.00	131.00	79.00	50.00		●	●	●
19.000		20.00	131.00	79.00	50.00		●	●	●
19.500		20.00	131.00	79.00	50.00		●	●	●
20.000		20.00	131.00	79.00	50.00		●	●	●

Ratio drills with coolant ducts

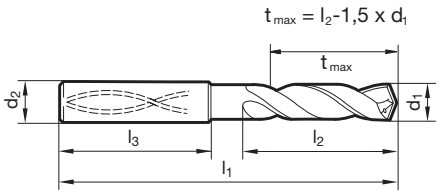
3xD | RT 100 VA | DIN 6537 K | 140° | m7

Tool material	Solid carbide		
Surface	a	a	a
Shank form	HA	HE	HB
	SL	SL	SL

P	web thinning ≥ Ø 3.000 • facet point grind • main cutting edge form straight • optimised cutting geometry
M •	
K	
N	stainless/acid-/heat-resistant steels • Titanium and Titanium alloys • Inconel, Hastelloy, Monel
S •	
H	

GÜHRINGNAVIGATOR

Cutting data page 140



Article no.	5526	5528	6024
Discount group	155	155	155
Cutting direction	R	R	R

d1		d2 h6	l1	l2	l3	Availability		
mm	inch	mm	mm	mm	mm			
3.000		6.00	62.00	20.00	36.00	●	●	●
3.100		6.00	62.00	20.00	36.00	●	●	●
3.170	1/8	6.00	62.00	20.00	36.00	●	●	●
3.200		6.00	62.00	20.00	36.00	●	●	●
3.250		6.00	62.00	20.00	36.00	●	●	●
3.300		6.00	62.00	20.00	36.00	●	●	●
3.400		6.00	62.00	20.00	36.00	●	●	●
3.500		6.00	62.00	20.00	36.00	●	●	●
3.570	9/64	6.00	62.00	20.00	36.00	●	●	●
3.600		6.00	62.00	20.00	36.00	●	●	●
3.700		6.00	62.00	20.00	36.00	●	●	●
3.800		6.00	66.00	24.00	36.00	●	●	●
3.900		6.00	66.00	24.00	36.00	●	●	●
3.970	5/32	6.00	66.00	24.00	36.00	●	●	●
4.000		6.00	66.00	24.00	36.00	●	●	●
4.100		6.00	66.00	24.00	36.00	●	●	●
4.200		6.00	66.00	24.00	36.00	●	●	●
4.300		6.00	66.00	24.00	36.00	●	●	●
4.370	11/64	6.00	66.00	24.00	36.00	●	●	●
4.400		6.00	66.00	24.00	36.00	●	●	●
4.500		6.00	66.00	24.00	36.00	●	●	●
4.600		6.00	66.00	24.00	36.00	●	●	●
4.650		6.00	66.00	24.00	36.00	●	●	●
4.700		6.00	66.00	24.00	36.00	●	●	●
4.760	3/16	6.00	66.00	28.00	36.00	●	●	●
4.800		6.00	66.00	28.00	36.00	●	●	●
4.900		6.00	66.00	28.00	36.00	●	●	●
5.000		6.00	66.00	28.00	36.00	●	●	●
5.100		6.00	66.00	28.00	36.00	●	●	●
5.160	13/64	6.00	66.00	28.00	36.00	●	●	●
5.200		6.00	66.00	28.00	36.00	●	●	●
5.300		6.00	66.00	28.00	36.00	●	●	●
5.400		6.00	66.00	28.00	36.00	●	●	●
5.500		6.00	66.00	28.00	36.00	●	●	●
5.550		6.00	66.00	28.00	36.00	●	●	●
5.560	7/32	6.00	66.00	28.00	36.00	●	●	●

						Article no.	5526	5528	6024
						Discount group	155	155	155
						Cutting direction	R	R	R
d1		d2 h6	l1	l2	l3	Availability			
mm	inch	mm	mm	mm	mm				
5.600		6.00	66.00	28.00	36.00		●	●	●
5.700		6.00	66.00	28.00	36.00		●	●	●
5.800		6.00	66.00	28.00	36.00		●	●	●
5.900		6.00	66.00	28.00	36.00		●	●	●
5.950	15/64	6.00	66.00	28.00	36.00		●	●	●
6.000		6.00	66.00	28.00	36.00		●	●	●
6.100		8.00	79.00	34.00	36.00		●	●	●
6.200		8.00	79.00	34.00	36.00		●	●	●
6.300		8.00	79.00	34.00	36.00		●	●	●
6.350	1/4	8.00	79.00	34.00	36.00		●	●	●
6.400		8.00	79.00	34.00	36.00		●	●	●
6.500		8.00	79.00	34.00	36.00		●	●	●
6.600		8.00	79.00	34.00	36.00		●	●	●
6.700		8.00	79.00	34.00	36.00		●	●	●
6.750	17/64	8.00	79.00	34.00	36.00		●	●	●
6.800		8.00	79.00	34.00	36.00		●	●	●
6.900		8.00	79.00	34.00	36.00		●	●	●
7.000		8.00	79.00	34.00	36.00		●	●	●
7.100		8.00	79.00	41.00	36.00		●	●	●
7.140	9/32	8.00	79.00	41.00	36.00		●	●	●
7.200		8.00	79.00	41.00	36.00		●	●	●
7.300		8.00	79.00	41.00	36.00		●	●	●
7.400		8.00	79.00	41.00	36.00		●	●	●
7.500		8.00	79.00	41.00	36.00		●	●	●
7.540	19/64	8.00	79.00	41.00	36.00		●	●	●
7.600		8.00	79.00	41.00	36.00		●	●	●
7.700		8.00	79.00	41.00	36.00		●	●	●
7.800		8.00	79.00	41.00	36.00		●	●	●
7.900		8.00	79.00	41.00	36.00		●	●	●
7.940	5/16	8.00	79.00	41.00	36.00		●	●	●
8.000		8.00	79.00	41.00	36.00		●	●	●
8.100		10.00	89.00	47.00	40.00		●	●	●
8.200		10.00	89.00	47.00	40.00		●	●	●
8.300		10.00	89.00	47.00	40.00		●	●	●
8.330	21/64	10.00	89.00	47.00	40.00		●	●	●
8.400		10.00	89.00	47.00	40.00		●	●	●
8.500		10.00	89.00	47.00	40.00		●	●	●
8.600		10.00	89.00	47.00	40.00		●	●	●
8.700		10.00	89.00	47.00	40.00		●	●	●
8.730	11/32	10.00	89.00	47.00	40.00		●	●	●
8.800		10.00	89.00	47.00	40.00		●	●	●
8.900		10.00	89.00	47.00	40.00		●	●	●
9.000		10.00	89.00	47.00	40.00		●	●	●
9.100		10.00	89.00	47.00	40.00		●	●	●
9.130	23/64	10.00	89.00	47.00	40.00		●	●	●
9.200		10.00	89.00	47.00	40.00		●	●	●
9.250		10.00	89.00	47.00	40.00		●	●	●
9.300		10.00	89.00	47.00	40.00		●	●	●
9.400		10.00	89.00	47.00	40.00		●	●	●
9.500		10.00	89.00	47.00	40.00		●	●	●
9.520	3/8	10.00	89.00	47.00	40.00		●	●	●
9.600		10.00	89.00	47.00	40.00		●	●	●
9.700		10.00	89.00	47.00	40.00		●	●	●
9.800		10.00	89.00	47.00	40.00		●	●	●
9.900		10.00	89.00	47.00	40.00		●	●	●
9.920	25/64	10.00	89.00	47.00	40.00		●	●	●
10.000		10.00	89.00	47.00	40.00		●	●	●
10.100		12.00	102.00	55.00	45.00		●	●	●
10.200		12.00	102.00	55.00	45.00		●	●	●
10.300		12.00	102.00	55.00	45.00		●	●	●

						Article no.	5526	5528	6024
						Discount group	155	155	155
						Cutting direction	R	R	R
d1		d2 h6	l1	l2	l3	Availability			
mm	inch	mm	mm	mm	mm				
10.320	13/32	12.00	102.00	55.00	45.00		●	●	●
10.400		12.00	102.00	55.00	45.00		●	●	●
10.500		12.00	102.00	55.00	45.00		●	●	●
10.600		12.00	102.00	55.00	45.00		●	●	●
10.700		12.00	102.00	55.00	45.00		●	●	●
10.800		12.00	102.00	55.00	45.00		●	●	●
10.900		12.00	102.00	55.00	45.00		●	●	●
11.000		12.00	102.00	55.00	45.00		●	●	●
11.100		12.00	102.00	55.00	45.00		●	●	●
11.110	7/16	12.00	102.00	55.00	45.00		●	●	●
11.200		12.00	102.00	55.00	45.00		●	●	●
11.300		12.00	102.00	55.00	45.00		●	●	●
11.400		12.00	102.00	55.00	45.00		●	●	●
11.500		12.00	102.00	55.00	45.00		●	●	●
11.600		12.00	102.00	55.00	45.00		●	●	●
11.700		12.00	102.00	55.00	45.00		●	●	●
11.800		12.00	102.00	55.00	45.00		●	●	●
11.900		12.00	102.00	55.00	45.00		●	●	●
11.910	15/32	12.00	102.00	55.00	45.00		●	●	●
12.000		12.00	102.00	55.00	45.00		●	●	●
12.200		14.00	107.00	60.00	45.00		●	●	●
12.500		14.00	107.00	60.00	45.00		●	●	●
12.700	1/2	14.00	107.00	60.00	45.00		●	●	●
13.000		14.00	107.00	60.00	45.00		●	●	●
13.500		14.00	107.00	60.00	45.00		●	●	●
13.700		14.00	107.00	60.00	45.00		●	●	●
14.000		14.00	107.00	60.00	45.00		●	●	●
14.200		16.00	115.00	65.00	48.00		●	●	●
14.290	9/16	16.00	115.00	65.00	48.00		●	●	●
14.500		16.00	115.00	65.00	48.00		●	●	●
14.700		16.00	115.00	65.00	48.00		●	●	●
15.000		16.00	115.00	65.00	48.00		●	●	●
15.200		16.00	115.00	65.00	48.00		●	●	●
15.500		16.00	115.00	65.00	48.00		●	●	●
15.700		16.00	115.00	65.00	48.00		●	●	●
16.000		16.00	115.00	65.00	48.00		●	●	●
16.500		18.00	123.00	73.00	48.00		●	●	●
17.000		18.00	123.00	73.00	48.00		●	●	●
17.500		18.00	123.00	73.00	48.00		●	●	●
18.000		18.00	123.00	73.00	48.00		●	●	●
18.500		20.00	131.00	79.00	50.00		●	●	●
19.000		20.00	131.00	79.00	50.00		●	●	●
19.500		20.00	131.00	79.00	50.00		●	●	●
20.000		20.00	131.00	79.00	50.00		●	●	●

Ratio drills with coolant ducts

5xD | RT 100 Al | DIN 6537 L | 140° | m7

Tool material	Solid carbide
Surface	◯
Shank form	HA

SL

P		relieved cone • main cutting edge is slightly concave • optimised cutting geometry • sharp cutting edges
M		
K		
N	•	aluminium and Al alloys • Al materials with high Si-content
S		
H		

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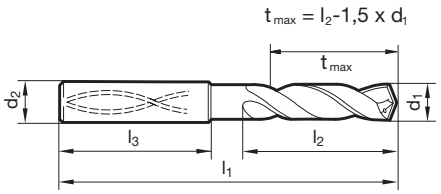
Cutting data page 140



Article no.	5768
Discount group	155
Cutting direction	®

d1		d2 h6	l1	l2	l3	Availability
mm	inch	mm	mm	mm	mm	
3.000		6.00	66.00	28.00	36.00	●
3.100		6.00	66.00	28.00	36.00	●
3.170	1/8	6.00	66.00	28.00	36.00	●
3.200		6.00	66.00	28.00	36.00	●
3.250		6.00	66.00	28.00	36.00	●
3.300		6.00	66.00	28.00	36.00	●
3.400		6.00	66.00	28.00	36.00	●
3.500		6.00	66.00	28.00	36.00	●
3.570	9/64	6.00	66.00	28.00	36.00	●
3.600		6.00	66.00	28.00	36.00	●
3.700		6.00	66.00	28.00	36.00	●
3.800		6.00	74.00	36.00	36.00	●
3.900		6.00	74.00	36.00	36.00	●
3.970	5/32	6.00	74.00	36.00	36.00	●
4.000		6.00	74.00	36.00	36.00	●
4.100		6.00	74.00	36.00	36.00	●
4.200		6.00	74.00	36.00	36.00	●
4.300		6.00	74.00	36.00	36.00	●
4.370	11/64	6.00	74.00	36.00	36.00	●
4.400		6.00	74.00	36.00	36.00	●
4.500		6.00	74.00	36.00	36.00	●
4.600		6.00	74.00	36.00	36.00	●
4.650		6.00	74.00	36.00	36.00	●
4.700		6.00	74.00	36.00	36.00	●
4.760	3/16	6.00	82.00	44.00	36.00	●
4.800		6.00	82.00	44.00	36.00	●
4.900		6.00	82.00	44.00	36.00	●
5.000		6.00	82.00	44.00	36.00	●
5.100		6.00	82.00	44.00	36.00	●
5.160	13/64	6.00	82.00	44.00	36.00	●
5.200		6.00	82.00	44.00	36.00	●
5.300		6.00	82.00	44.00	36.00	●
5.400		6.00	82.00	44.00	36.00	●
5.500		6.00	82.00	44.00	36.00	●
5.550		6.00	82.00	44.00	36.00	●
5.560	7/32	6.00	82.00	44.00	36.00	●

					Article no.	5768
					Discount group	155
					Cutting direction	R
d1		d2 h6	l1	l2	l3	Availability
mm	inch	mm	mm	mm	mm	
5.600		6.00	82.00	44.00	36.00	●
5.700		6.00	82.00	44.00	36.00	●
5.800		6.00	82.00	44.00	36.00	●
5.900		6.00	82.00	44.00	36.00	●
5.950	15/64	6.00	82.00	44.00	36.00	●
6.000		6.00	82.00	44.00	36.00	●
6.100		8.00	91.00	53.00	36.00	●
6.200		8.00	91.00	53.00	36.00	●
6.300		8.00	91.00	53.00	36.00	●
6.350	1/4	8.00	91.00	53.00	36.00	●
6.400		8.00	91.00	53.00	36.00	●
6.500		8.00	91.00	53.00	36.00	●
6.600		8.00	91.00	53.00	36.00	●
6.700		8.00	91.00	53.00	36.00	●
6.750	17/64	8.00	91.00	53.00	36.00	●
6.800		8.00	91.00	53.00	36.00	●
6.900		8.00	91.00	53.00	36.00	●
7.000		8.00	91.00	53.00	36.00	●
7.100		8.00	91.00	53.00	36.00	●
7.140	9/32	8.00	91.00	53.00	36.00	●
7.200		8.00	91.00	53.00	36.00	●
7.300		8.00	91.00	53.00	36.00	●
7.400		8.00	91.00	53.00	36.00	●
7.500		8.00	91.00	53.00	36.00	●
7.540	19/64	8.00	91.00	53.00	36.00	●
7.600		8.00	91.00	53.00	36.00	●
7.700		8.00	91.00	53.00	36.00	●
7.800		8.00	91.00	53.00	36.00	●
7.900		8.00	91.00	53.00	36.00	●
7.940	5/16	8.00	91.00	53.00	36.00	●
8.000		8.00	91.00	53.00	36.00	●
8.100		10.00	103.00	61.00	40.00	●
8.200		10.00	103.00	61.00	40.00	●
8.300		10.00	103.00	61.00	40.00	●
8.330	21/64	10.00	103.00	61.00	40.00	●
8.400		10.00	103.00	61.00	40.00	●
8.500		10.00	103.00	61.00	40.00	●
8.600		10.00	103.00	61.00	40.00	●
8.700		10.00	103.00	61.00	40.00	●
8.730	11/32	10.00	103.00	61.00	40.00	●
8.800		10.00	103.00	61.00	40.00	●
8.900		10.00	103.00	61.00	40.00	●
9.000		10.00	103.00	61.00	40.00	●
9.100		10.00	103.00	61.00	40.00	●
9.130	23/64	10.00	103.00	61.00	40.00	●
9.200		10.00	103.00	61.00	40.00	●
9.250		10.00	103.00	61.00	40.00	●
9.300		10.00	103.00	61.00	40.00	●
9.340		10.00	103.00	61.00	40.00	●
9.400		10.00	103.00	61.00	40.00	●
9.500		10.00	103.00	61.00	40.00	●
9.520	3/8	10.00	103.00	61.00	40.00	●
9.600		10.00	103.00	61.00	40.00	●
9.700		10.00	103.00	61.00	40.00	●
9.800		10.00	103.00	61.00	40.00	●
9.900		10.00	103.00	61.00	40.00	●
9.920	25/64	10.00	103.00	61.00	40.00	●
10.000		10.00	103.00	61.00	40.00	●
10.100		12.00	118.00	71.00	45.00	●
10.200		12.00	118.00	71.00	45.00	●

					Article no.	5768
					Discount group	155
					Cutting direction	®
d1		d2 h6	l1	l2	l3	Availability
mm	inch	mm	mm	mm	mm	
10.300		12.00	118.00	71.00	45.00	●
10.320	13/32	12.00	118.00	71.00	45.00	●
10.400		12.00	118.00	71.00	45.00	●
10.500		12.00	118.00	71.00	45.00	●
10.600		12.00	118.00	71.00	45.00	●
10.700		12.00	118.00	71.00	45.00	●
10.800		12.00	118.00	71.00	45.00	●
10.900		12.00	118.00	71.00	45.00	●
11.000		12.00	118.00	71.00	45.00	●
11.100		12.00	118.00	71.00	45.00	●
11.110	7/16	12.00	118.00	71.00	45.00	●
11.200		12.00	118.00	71.00	45.00	●
11.300		12.00	118.00	71.00	45.00	●
11.400		12.00	118.00	71.00	45.00	●
11.500		12.00	118.00	71.00	45.00	●
11.600		12.00	118.00	71.00	45.00	●
11.700		12.00	118.00	71.00	45.00	●
11.800		12.00	118.00	71.00	45.00	●
11.900		12.00	118.00	71.00	45.00	●
11.910	15/32	12.00	118.00	71.00	45.00	●
12.000		12.00	118.00	71.00	45.00	●
12.100		14.00	124.00	77.00	45.00	●
12.200		14.00	124.00	77.00	45.00	●
12.500		14.00	124.00	77.00	45.00	●
12.600		14.00	124.00	77.00	45.00	●
12.700	1/2	14.00	124.00	77.00	45.00	●
12.800		14.00	124.00	77.00	45.00	●
12.900		14.00	124.00	77.00	45.00	●
13.000		14.00	124.00	77.00	45.00	●
13.100	33/64	14.00	124.00	77.00	45.00	●
13.300		14.00	124.00	77.00	45.00	●
13.400		14.00	124.00	77.00	45.00	●
13.500		14.00	124.00	77.00	45.00	●
13.700		14.00	124.00	77.00	45.00	●
13.800		14.00	124.00	77.00	45.00	●
14.000		14.00	124.00	77.00	45.00	●
14.100		16.00	133.00	83.00	48.00	●
14.200		16.00	133.00	83.00	48.00	●
14.290	9/16	16.00	133.00	83.00	48.00	●
14.300		16.00	133.00	83.00	48.00	●
14.400		16.00	133.00	83.00	48.00	●
14.500		16.00	133.00	83.00	48.00	●
14.700		16.00	133.00	83.00	48.00	●
14.800		16.00	133.00	83.00	48.00	●
15.000		16.00	133.00	83.00	48.00	●
15.100		16.00	133.00	83.00	48.00	●
15.200		16.00	133.00	83.00	48.00	●
15.300		16.00	133.00	83.00	48.00	●
15.500		16.00	133.00	83.00	48.00	●
15.700		16.00	133.00	83.00	48.00	●
15.800		16.00	133.00	83.00	48.00	●
16.000		16.00	133.00	83.00	48.00	●
16.500		18.00	143.00	93.00	48.00	●
16.700		18.00	143.00	93.00	48.00	●
16.900		18.00	143.00	93.00	48.00	●
17.000		18.00	143.00	93.00	48.00	●
17.500		18.00	143.00	93.00	48.00	●
17.700		18.00	143.00	93.00	48.00	●
18.000		18.00	143.00	93.00	48.00	●
18.500		20.00	153.00	101.00	50.00	●

					Article no.	5768
					Discount group	155
					Cutting direction	®

d1		d2 h6	l1	l2	l3	Availability
mm	inch	mm	mm	mm	mm	
18.900		20.00	153.00	101.00	50.00	●
19.000		20.00	153.00	101.00	50.00	●
19.050	3/4	20.00	153.00	101.00	50.00	●
19.300		20.00	153.00	101.00	50.00	●
19.500		20.00	153.00	101.00	50.00	●
20.000		20.00	153.00	101.00	50.00	●

Ratio drills with coolant ducts

5xD | RT 100 U | DIN 6537L | 140° | m7

P	•
M	○
K	•
N	○
S	○
H	○

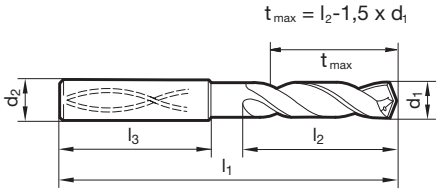
web thinning ≥ Ø 3.000 • facet point grind • main cutting edge form straight • optimised cutting geometry

structural and case hardened steels • free-cutting steels, heat-treatable steels • steels (alloyed/unalloyed) up to 1200 N/mm² • cast materials • bronze, brass • high-alloyed AlSi alloys

GÜHRINGNAVIGATOR

Cutting data page 140

Tool material	Solid carbide		
Surface	F	F	F
Shank form	HA	HE	HB
	SL	SL	SL



Article no.	5511	5611	5650
Discount group	155	155	155
Cutting direction	R	R	R

d1		d2 h6	l1	l2	l3	Availability		
mm	inch	mm	mm	mm	mm			
3.000		6.00	66.00	28.00	36.00	•	•	•
3.100		6.00	66.00	28.00	36.00	•	•	•
3.170	1/8	6.00	66.00	28.00	36.00	•	•	•
3.200		6.00	66.00	28.00	36.00	•	•	•
3.250		6.00	66.00	28.00	36.00	•	•	•
3.300		6.00	66.00	28.00	36.00	•	•	•
3.400		6.00	66.00	28.00	36.00	•	•	•
3.500		6.00	66.00	28.00	36.00	•	•	•
3.570	9/64	6.00	66.00	28.00	36.00	•	•	•
3.600		6.00	66.00	28.00	36.00	•	•	•
3.700		6.00	66.00	28.00	36.00	•	•	•
3.800		6.00	74.00	36.00	36.00	•	•	•
3.900		6.00	74.00	36.00	36.00	•	•	•
3.970	5/32	6.00	74.00	36.00	36.00	•	•	•
4.000		6.00	74.00	36.00	36.00	•	•	•
4.100		6.00	74.00	36.00	36.00	•	•	•
4.200		6.00	74.00	36.00	36.00	•	•	•
4.300		6.00	74.00	36.00	36.00	•	•	•
4.370	11/64	6.00	74.00	36.00	36.00	•	•	•
4.400		6.00	74.00	36.00	36.00	•	•	•
4.500		6.00	74.00	36.00	36.00	•	•	•
4.600		6.00	74.00	36.00	36.00	•	•	•
4.650		6.00	74.00	36.00	36.00	•	•	•
4.700		6.00	74.00	36.00	36.00	•	•	•
4.760	3/16	6.00	82.00	44.00	36.00	•	•	•
4.800		6.00	82.00	44.00	36.00	•	•	•
4.900		6.00	82.00	44.00	36.00	•	•	•
5.000		6.00	82.00	44.00	36.00	•	•	•
5.100		6.00	82.00	44.00	36.00	•	•	•
5.160	13/64	6.00	82.00	44.00	36.00	•	•	•
5.200		6.00	82.00	44.00	36.00	•	•	•
5.300		6.00	82.00	44.00	36.00	•	•	•
5.400		6.00	82.00	44.00	36.00	•	•	•
5.500		6.00	82.00	44.00	36.00	•	•	•
5.550		6.00	82.00	44.00	36.00	•	•	•
5.560	7/32	6.00	82.00	44.00	36.00	•	•	•

					Article no.	5511	5611	5650
					Discount group	155	155	155
					Cutting direction	R	R	R
d1		d2 h6	l1	l2	l3	Availability		
mm	inch	mm	mm	mm	mm			
5.600		6.00	82.00	44.00	36.00	●	●	●
5.700		6.00	82.00	44.00	36.00	●	●	●
5.800		6.00	82.00	44.00	36.00	●	●	●
5.900		6.00	82.00	44.00	36.00	●	●	●
5.950	15/64	6.00	82.00	44.00	36.00	●	●	●
6.000		6.00	82.00	44.00	36.00	●	●	●
6.100		8.00	91.00	53.00	36.00	●	●	●
6.200		8.00	91.00	53.00	36.00	●	●	●
6.300		8.00	91.00	53.00	36.00	●	●	●
6.350	1/4	8.00	91.00	53.00	36.00	●	●	●
6.400		8.00	91.00	53.00	36.00	●	●	●
6.500		8.00	91.00	53.00	36.00	●	●	●
6.600		8.00	91.00	53.00	36.00	●	●	●
6.700		8.00	91.00	53.00	36.00	●	●	●
6.750	17/64	8.00	91.00	53.00	36.00	●	●	●
6.800		8.00	91.00	53.00	36.00	●	●	●
6.900		8.00	91.00	53.00	36.00	●	●	●
7.000		8.00	91.00	53.00	36.00	●	●	●
7.100		8.00	91.00	53.00	36.00	●	●	●
7.140	9/32	8.00	91.00	53.00	36.00	●	●	●
7.200		8.00	91.00	53.00	36.00	●	●	●
7.300		8.00	91.00	53.00	36.00	●	●	●
7.400		8.00	91.00	53.00	36.00	●	●	●
7.500		8.00	91.00	53.00	36.00	●	●	●
7.540	19/64	8.00	91.00	53.00	36.00	●	●	●
7.600		8.00	91.00	53.00	36.00	●	●	●
7.700		8.00	91.00	53.00	36.00	●	●	●
7.800		8.00	91.00	53.00	36.00	●	●	●
7.900		8.00	91.00	53.00	36.00	●	●	●
7.940	5/16	8.00	91.00	53.00	36.00	●	●	●
8.000		8.00	91.00	53.00	36.00	●	●	●
8.100		10.00	103.00	61.00	40.00	●	●	●
8.200		10.00	103.00	61.00	40.00	●	●	●
8.300		10.00	103.00	61.00	40.00	●	●	●
8.330	21/64	10.00	103.00	61.00	40.00	●	●	●
8.400		10.00	103.00	61.00	40.00	●	●	●
8.500		10.00	103.00	61.00	40.00	●	●	●
8.600		10.00	103.00	61.00	40.00	●	●	●
8.700		10.00	103.00	61.00	40.00	●	●	●
8.730	11/32	10.00	103.00	61.00	40.00	●	●	●
8.800		10.00	103.00	61.00	40.00	●	●	●
8.900		10.00	103.00	61.00	40.00	●	●	●
9.000		10.00	103.00	61.00	40.00	●	●	●
9.100		10.00	103.00	61.00	40.00	●	●	●
9.130	23/64	10.00	103.00	61.00	40.00	●	●	●
9.200		10.00	103.00	61.00	40.00	●	●	●
9.250		10.00	103.00	61.00	40.00	●	●	●
9.300		10.00	103.00	61.00	40.00	●	●	●
9.340		10.00	103.00	61.00	40.00	●		
9.400		10.00	103.00	61.00	40.00	●	●	●
9.500		10.00	103.00	61.00	40.00	●	●	●
9.520	3/8	10.00	103.00	61.00	40.00	●	●	●
9.600		10.00	103.00	61.00	40.00	●	●	●
9.700		10.00	103.00	61.00	40.00	●	●	●
9.800		10.00	103.00	61.00	40.00	●	●	●
9.900		10.00	103.00	61.00	40.00	●	●	●
9.920	25/64	10.00	103.00	61.00	40.00	●	●	●
10.000		10.00	103.00	61.00	40.00	●	●	●
10.100		12.00	118.00	71.00	45.00	●	●	●
10.200		12.00	118.00	71.00	45.00	●	●	●

						Article no.	5511	5611	5650
						Discount group	155	155	155
						Cutting direction	R	R	R
d1		d2 h6	l1	l2	l3	Availability			
mm	inch	mm	mm	mm	mm				
10.300		12.00	118.00	71.00	45.00		●	●	●
10.320	13/32	12.00	118.00	71.00	45.00		●	●	●
10.400		12.00	118.00	71.00	45.00		●	●	●
10.500		12.00	118.00	71.00	45.00		●	●	●
10.600		12.00	118.00	71.00	45.00		●	●	●
10.700		12.00	118.00	71.00	45.00		●	●	●
10.800		12.00	118.00	71.00	45.00		●	●	●
10.900		12.00	118.00	71.00	45.00		●	●	●
11.000		12.00	118.00	71.00	45.00		●	●	●
11.100		12.00	118.00	71.00	45.00		●	●	●
11.110	7/16	12.00	118.00	71.00	45.00		●	●	●
11.200		12.00	118.00	71.00	45.00		●	●	●
11.300		12.00	118.00	71.00	45.00		●	●	●
11.400		12.00	118.00	71.00	45.00		●	●	●
11.500		12.00	118.00	71.00	45.00		●	●	●
11.600		12.00	118.00	71.00	45.00		●	●	●
11.700		12.00	118.00	71.00	45.00		●	●	●
11.800		12.00	118.00	71.00	45.00		●	●	●
11.900		12.00	118.00	71.00	45.00		●	●	●
11.910	15/32	12.00	118.00	71.00	45.00		●	●	●
12.000		12.00	118.00	71.00	45.00		●	●	●
12.100		14.00	124.00	77.00	45.00		●	●	
12.200		14.00	124.00	77.00	45.00		●	●	●
12.500		14.00	124.00	77.00	45.00		●	●	●
12.600		14.00	124.00	77.00	45.00		●		
12.700	1/2	14.00	124.00	77.00	45.00		●	●	●
12.800		14.00	124.00	77.00	45.00		●		
12.900		14.00	124.00	77.00	45.00		●		
13.000		14.00	124.00	77.00	45.00		●	●	●
13.300		14.00	124.00	77.00	45.00		●		
13.400		14.00	124.00	77.00	45.00		●		
13.500		14.00	124.00	77.00	45.00		●	●	●
13.700		14.00	124.00	77.00	45.00		●	●	●
13.800		14.00	124.00	77.00	45.00		●		
14.000		14.00	124.00	77.00	45.00		●	●	●
14.100		16.00	133.00	83.00	48.00		●	●	
14.200		16.00	133.00	83.00	48.00		●	●	●
14.290	9/16	16.00	133.00	83.00	48.00		●	●	●
14.400		16.00	133.00	83.00	48.00		●		
14.500		16.00	133.00	83.00	48.00		●	●	●
14.700		16.00	133.00	83.00	48.00		●	●	●
14.800		16.00	133.00	83.00	48.00		●		
15.000		16.00	133.00	83.00	48.00		●	●	●
15.100		16.00	133.00	83.00	48.00		●		
15.200		16.00	133.00	83.00	48.00		●	●	●
15.300		16.00	133.00	83.00	48.00		●		
15.500		16.00	133.00	83.00	48.00		●	●	●
15.700		16.00	133.00	83.00	48.00		●	●	●
15.800		16.00	133.00	83.00	48.00		●		
16.000		16.00	133.00	83.00	48.00		●	●	●
16.500		18.00	143.00	93.00	48.00		●	●	●
16.700		18.00	143.00	93.00	48.00		●	●	
17.000		18.00	143.00	93.00	48.00		●	●	●
17.500		18.00	143.00	93.00	48.00		●	●	●
17.700		18.00	143.00	93.00	48.00		●	●	
18.000		18.00	143.00	93.00	48.00		●	●	●
18.500		20.00	153.00	101.00	50.00		●	●	●
18.900		20.00	153.00	101.00	50.00		●		
19.000		20.00	153.00	101.00	50.00		●	●	●
19.050	3/4	20.00	153.00	101.00	50.00		●	●	●

						Article no.	5511	5611	5650
						Discount group	155	155	155
						Cutting direction	R	R	R
d1		d2 h6	l1	l2	l3	Availability			
mm	inch	mm	mm	mm	mm				
19.500		20.00	153.00	101.00	50.00		●	●	●
20.000		20.00	153.00	101.00	50.00		●	●	●

Ratio drills with coolant ducts

5xD | RT 100 VA | DIN 6537L | 140° | m7

P	
M	•
K	
N	
S	•
H	

web thinning ≥ Ø 3.000 • facet point grind • main cutting edge form straight • optimised cutting geometry

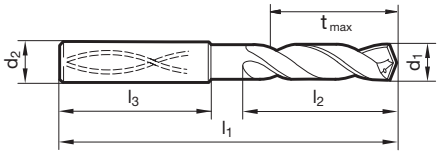
stainless/acid-/heat-resistant steels • Titanium and Titanium alloys • Inconel, Hastelloy, Monel

GÜHRINGNAVIGATOR

Cutting data page 140

Tool material	Solid carbide		
Surface	a	a	a
Shank form	HA	HE	HB
	SL	SL	SL

$t_{max} = l_2\text{-}1{,}5 \times d_1$



Article no.	5580	5581	6025
Discount group	155	155	155
Cutting direction	R	R	R

d1		d2 h6	l1	l2	l3	Availability		
mm	inch	mm	mm	mm	mm			
3.000		6.00	66.00	28.00	36.00	●	●	●
3.100		6.00	66.00	28.00	36.00	●	●	●
3.170	1/8	6.00	66.00	28.00	36.00	●	●	●
3.200		6.00	66.00	28.00	36.00	●	●	●
3.250		6.00	66.00	28.00	36.00	●	●	●
3.300		6.00	66.00	28.00	36.00	●	●	●
3.400		6.00	66.00	28.00	36.00	●	●	●
3.500		6.00	66.00	28.00	36.00	●	●	●
3.570	9/64	6.00	66.00	28.00	36.00	●	●	●
3.600		6.00	66.00	28.00	36.00	●	●	●
3.700		6.00	66.00	28.00	36.00	●	●	●
3.800		6.00	74.00	36.00	36.00	●	●	●
3.900		6.00	74.00	36.00	36.00	●	●	●
3.970	5/32	6.00	74.00	36.00	36.00	●	●	●
4.000		6.00	74.00	36.00	36.00	●	●	●
4.100		6.00	74.00	36.00	36.00	●	●	●
4.200		6.00	74.00	36.00	36.00	●	●	●
4.300		6.00	74.00	36.00	36.00	●	●	●
4.370	11/64	6.00	74.00	36.00	36.00	●	●	●
4.400		6.00	74.00	36.00	36.00	●	●	●
4.500		6.00	74.00	36.00	36.00	●	●	●
4.600		6.00	74.00	36.00	36.00	●	●	●
4.650		6.00	74.00	36.00	36.00	●	●	●
4.700		6.00	74.00	36.00	36.00	●	●	●
4.760	3/16	6.00	82.00	44.00	36.00	●	●	●
4.800		6.00	82.00	44.00	36.00	●	●	●
4.900		6.00	82.00	44.00	36.00	●	●	●
5.000		6.00	82.00	44.00	36.00	●	●	●
5.100		6.00	82.00	44.00	36.00	●	●	●
5.160	13/64	6.00	82.00	44.00	36.00	●	●	●
5.200		6.00	82.00	44.00	36.00	●	●	●
5.300		6.00	82.00	44.00	36.00	●	●	●
5.400		6.00	82.00	44.00	36.00	●	●	●
5.500		6.00	82.00	44.00	36.00	●	●	●
5.550		6.00	82.00	44.00	36.00	●	●	●
5.560	7/32	6.00	82.00	44.00	36.00	●	●	●

					Article no.	5580	5581	6025
					Discount group	155	155	155
					Cutting direction	R	R	R
d1		d2 h6	l1	l2	l3	Availability		
mm	inch	mm	mm	mm	mm			
5.600		6.00	82.00	44.00	36.00	●	●	●
5.700		6.00	82.00	44.00	36.00	●	●	●
5.800		6.00	82.00	44.00	36.00	●	●	●
5.900		6.00	82.00	44.00	36.00	●	●	●
5.950	15/64	6.00	82.00	44.00	36.00	●	●	●
6.000		6.00	82.00	44.00	36.00	●	●	●
6.100		8.00	91.00	53.00	36.00	●	●	●
6.200		8.00	91.00	53.00	36.00	●	●	●
6.300		8.00	91.00	53.00	36.00	●	●	●
6.350	1/4	8.00	91.00	53.00	36.00	●	●	●
6.400		8.00	91.00	53.00	36.00	●	●	●
6.500		8.00	91.00	53.00	36.00	●	●	●
6.600		8.00	91.00	53.00	36.00	●	●	●
6.700		8.00	91.00	53.00	36.00	●	●	●
6.750	17/64	8.00	91.00	53.00	36.00	●	●	●
6.800		8.00	91.00	53.00	36.00	●	●	●
6.900		8.00	91.00	53.00	36.00	●	●	●
7.000		8.00	91.00	53.00	36.00	●	●	●
7.100		8.00	91.00	53.00	36.00	●	●	●
7.140	9/32	8.00	91.00	53.00	36.00	●	●	●
7.200		8.00	91.00	53.00	36.00	●	●	●
7.300		8.00	91.00	53.00	36.00	●	●	●
7.400		8.00	91.00	53.00	36.00	●	●	●
7.500		8.00	91.00	53.00	36.00	●	●	●
7.540	19/64	8.00	91.00	53.00	36.00	●	●	●
7.600		8.00	91.00	53.00	36.00	●	●	●
7.700		8.00	91.00	53.00	36.00	●	●	●
7.800		8.00	91.00	53.00	36.00	●	●	●
7.900		8.00	91.00	53.00	36.00	●	●	●
7.940	5/16	8.00	91.00	53.00	36.00	●	●	●
8.000		8.00	91.00	53.00	36.00	●	●	●
8.100		10.00	103.00	61.00	40.00	●	●	●
8.200		10.00	103.00	61.00	40.00	●	●	●
8.300		10.00	103.00	61.00	40.00	●	●	●
8.330	21/64	10.00	103.00	61.00	40.00	●	●	●
8.400		10.00	103.00	61.00	40.00	●	●	●
8.500		10.00	103.00	61.00	40.00	●	●	●
8.600		10.00	103.00	61.00	40.00	●	●	●
8.700		10.00	103.00	61.00	40.00	●	●	●
8.730	11/32	10.00	103.00	61.00	40.00	●	●	●
8.800		10.00	103.00	61.00	40.00	●	●	●
8.900		10.00	103.00	61.00	40.00	●	●	●
9.000		10.00	103.00	61.00	40.00	●	●	●
9.100		10.00	103.00	61.00	40.00	●	●	●
9.130	23/64	10.00	103.00	61.00	40.00	●	●	●
9.200		10.00	103.00	61.00	40.00	●	●	●
9.250		10.00	103.00	61.00	40.00	●	●	●
9.300		10.00	103.00	61.00	40.00	●	●	●
9.400		10.00	103.00	61.00	40.00	●	●	●
9.500		10.00	103.00	61.00	40.00	●	●	●
9.520	3/8	10.00	103.00	61.00	40.00	●	●	●
9.600		10.00	103.00	61.00	40.00	●	●	●
9.700		10.00	103.00	61.00	40.00	●	●	●
9.800		10.00	103.00	61.00	40.00	●	●	●
9.900		10.00	103.00	61.00	40.00	●	●	●
9.920	25/64	10.00	103.00	61.00	40.00	●	●	●
10.000		10.00	103.00	61.00	40.00	●	●	●
10.100		12.00	118.00	71.00	45.00	●	●	●
10.200		12.00	118.00	71.00	45.00	●	●	●
10.300		12.00	118.00	71.00	45.00	●	●	●

						Article no.	5580	5581	6025
						Discount group	155	155	155
						Cutting direction	R	R	R
d1		d2 h6	l1	l2	l3	Availability			
mm	inch	mm	mm	mm	mm				
10.320	13/32	12.00	118.00	71.00	45.00		●	●	●
10.400		12.00	118.00	71.00	45.00		●	●	●
10.500		12.00	118.00	71.00	45.00		●	●	●
10.600		12.00	118.00	71.00	45.00		●	●	●
10.700		12.00	118.00	71.00	45.00		●	●	●
10.800		12.00	118.00	71.00	45.00		●	●	●
10.900		12.00	118.00	71.00	45.00		●	●	●
11.000		12.00	118.00	71.00	45.00		●	●	●
11.100		12.00	118.00	71.00	45.00		●	●	●
11.110	7/16	12.00	118.00	71.00	45.00		●	●	●
11.200		12.00	118.00	71.00	45.00		●	●	●
11.300		12.00	118.00	71.00	45.00		●	●	●
11.400		12.00	118.00	71.00	45.00		●	●	●
11.500		12.00	118.00	71.00	45.00		●	●	●
11.600		12.00	118.00	71.00	45.00		●	●	●
11.700		12.00	118.00	71.00	45.00		●	●	●
11.800		12.00	118.00	71.00	45.00		●	●	●
11.900		12.00	118.00	71.00	45.00		●	●	●
11.910	15/32	12.00	118.00	71.00	45.00		●	●	●
12.000		12.00	118.00	71.00	45.00		●	●	●
12.200		14.00	124.00	77.00	45.00		●	●	●
12.500		14.00	124.00	77.00	45.00		●	●	●
12.700	1/2	14.00	124.00	77.00	45.00		●	●	●
13.000		14.00	124.00	77.00	45.00		●	●	●
13.500		14.00	124.00	77.00	45.00		●	●	●
13.700		14.00	124.00	77.00	45.00		●	●	●
14.000		14.00	124.00	77.00	45.00		●	●	●
14.200		16.00	133.00	83.00	48.00		●	●	●
14.290	9/16	16.00	133.00	83.00	48.00		●	●	●
14.500		16.00	133.00	83.00	48.00		●	●	●
14.700		16.00	133.00	83.00	48.00		●	●	●
15.000		16.00	133.00	83.00	48.00		●	●	●
15.200		16.00	133.00	83.00	48.00		●	●	●
15.500		16.00	133.00	83.00	48.00		●	●	●
15.700		16.00	133.00	83.00	48.00		●	●	●
16.000		16.00	133.00	83.00	48.00		●	●	●
16.500		18.00	143.00	93.00	48.00		●	●	●
17.000		18.00	143.00	93.00	48.00		●	●	●
17.500		18.00	143.00	93.00	48.00		●	●	●
18.000		18.00	143.00	93.00	48.00		●	●	●
18.500		20.00	153.00	101.00	50.00		●	●	●
19.000		20.00	153.00	101.00	50.00		●	●	●
19.500		20.00	153.00	101.00	50.00		●	●	●
20.000		20.00	153.00	101.00	50.00		●	●	●


RT 100 XF
NEW. EXTREME. POWERFUL.

Ratio drills with coolant ducts

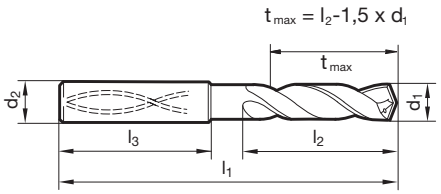
5xD | RT 100 XF | DIN 6537L | 140° | m7

Tool material	Solid carbide
Surface	F
Shank form	HA

P	●	relieved cone • main cutting edge form concave • optimised cutting geometry • maximum performance
M	○	
K	○	
N		structural and case hardened steels • free-cutting steels, heat-treatable steels • steels (alloyed/unalloyed) up to 1400 N/mm²
S	○	
H	○	

GÜHRINGNAVIGATOR

Cutting data page 140



Article no.	5498
Discount group	255
Cutting direction	R

d1		d2 h6	l1	l2	l3	Availability
mm	inch	mm	mm	mm	mm	
3.000		6.00	66.00	28.00	36.00	●
3.100		6.00	66.00	28.00	36.00	●
3.170	1/8	6.00	66.00	28.00	36.00	●
3.200		6.00	66.00	28.00	36.00	●
3.250		6.00	66.00	28.00	36.00	●
3.300		6.00	66.00	28.00	36.00	●
3.400		6.00	66.00	28.00	36.00	●
3.500		6.00	66.00	28.00	36.00	●
3.570	9/64	6.00	66.00	28.00	36.00	●
3.600		6.00	66.00	28.00	36.00	●
3.700		6.00	66.00	28.00	36.00	●
3.800		6.00	74.00	36.00	36.00	●
3.900		6.00	74.00	36.00	36.00	●
3.970	5/32	6.00	74.00	36.00	36.00	●
4.000		6.00	74.00	36.00	36.00	●
4.040		6.00	74.00	36.00	36.00	●
4.100		6.00	74.00	36.00	36.00	●
4.200		6.00	74.00	36.00	36.00	●
4.300		6.00	74.00	36.00	36.00	●
4.370	11/64	6.00	74.00	36.00	36.00	●
4.400		6.00	74.00	36.00	36.00	●
4.500		6.00	74.00	36.00	36.00	●
4.600		6.00	74.00	36.00	36.00	●
4.650		6.00	74.00	36.00	36.00	●
4.700		6.00	74.00	36.00	36.00	●
4.760	3/16	6.00	82.00	44.00	36.00	●
4.800		6.00	82.00	44.00	36.00	●
4.900		6.00	82.00	44.00	36.00	●
5.000		6.00	82.00	44.00	36.00	●
5.100		6.00	82.00	44.00	36.00	●
5.110		6.00	82.00	44.00	36.00	●
5.160	13/64	6.00	82.00	44.00	36.00	●
5.200		6.00	82.00	44.00	36.00	●
5.300		6.00	82.00	44.00	36.00	●
5.400		6.00	82.00	44.00	36.00	●
5.410		6.00	82.00	44.00	36.00	●

					Article no.	5498
					Discount group	255
					Cutting direction	R

d1		d2 h6	l1	l2	l3	Availability
mm	inch	mm	mm	mm	mm	
5.500		6.00	82.00	44.00	36.00	●
5.550		6.00	82.00	44.00	36.00	●
5.560	7/32	6.00	82.00	44.00	36.00	●
5.600		6.00	82.00	44.00	36.00	●
5.700		6.00	82.00	44.00	36.00	●
5.800		6.00	82.00	44.00	36.00	●
5.900		6.00	82.00	44.00	36.00	●
5.950	15/64	6.00	82.00	44.00	36.00	●
6.000		6.00	82.00	44.00	36.00	●
6.100		8.00	91.00	53.00	36.00	●
6.200		8.00	91.00	53.00	36.00	●
6.300		8.00	91.00	53.00	36.00	●
6.350	1/4	8.00	91.00	53.00	36.00	●
6.400		8.00	91.00	53.00	36.00	●
6.500		8.00	91.00	53.00	36.00	●
6.530		8.00	91.00	53.00	36.00	●
6.550		8.00	91.00	53.00	36.00	●
6.600		8.00	91.00	53.00	36.00	●
6.700		8.00	91.00	53.00	36.00	●
6.750	17/64	8.00	91.00	53.00	36.00	●
6.800		8.00	91.00	53.00	36.00	●
6.900		8.00	91.00	53.00	36.00	●
7.000		8.00	91.00	53.00	36.00	●
7.100		8.00	91.00	53.00	36.00	●
7.140	9/32	8.00	91.00	53.00	36.00	●
7.200		8.00	91.00	53.00	36.00	●
7.300		8.00	91.00	53.00	36.00	●
7.400		8.00	91.00	53.00	36.00	●
7.500		8.00	91.00	53.00	36.00	●
7.540	19/64	8.00	91.00	53.00	36.00	●
7.550		8.00	91.00	53.00	36.00	●
7.600		8.00	91.00	53.00	36.00	●
7.650		8.00	91.00	53.00	36.00	●
7.700		8.00	91.00	53.00	36.00	●
7.800		8.00	91.00	53.00	36.00	●
7.900		8.00	91.00	53.00	36.00	●
7.940	5/16	8.00	91.00	53.00	36.00	●
8.000		8.00	91.00	53.00	36.00	●
8.100		10.00	103.00	61.00	40.00	●
8.200		10.00	103.00	61.00	40.00	●
8.300		10.00	103.00	61.00	40.00	●
8.330	21/64	10.00	103.00	61.00	40.00	●
8.400		10.00	103.00	61.00	40.00	●
8.500		10.00	103.00	61.00	40.00	●
8.600		10.00	103.00	61.00	40.00	●
8.700		10.00	103.00	61.00	40.00	●
8.730	11/32	10.00	103.00	61.00	40.00	●
8.800		10.00	103.00	61.00	40.00	●
8.900		10.00	103.00	61.00	40.00	●
9.000		10.00	103.00	61.00	40.00	●
9.100		10.00	103.00	61.00	40.00	●
9.130	23/64	10.00	103.00	61.00	40.00	●
9.200		10.00	103.00	61.00	40.00	●
9.250		10.00	103.00	61.00	40.00	●
9.300		10.00	103.00	61.00	40.00	●
9.340		10.00	103.00	61.00	40.00	●
9.400		10.00	103.00	61.00	40.00	●
9.500		10.00	103.00	61.00	40.00	●
9.520	3/8	10.00	103.00	61.00	40.00	●
9.550		10.00	103.00	61.00	40.00	●

					Article no.	5498
					Discount group	255
					Cutting direction	®

d1		d2 h6	l1	l2	l3	Availability
mm	inch	mm	mm	mm	mm	
9.600		10.00	103.00	61.00	40.00	●
9.700		10.00	103.00	61.00	40.00	●
9.800		10.00	103.00	61.00	40.00	●
9.900		10.00	103.00	61.00	40.00	●
9.920	25/64	10.00	103.00	61.00	40.00	●
10.000		10.00	103.00	61.00	40.00	●
10.100		12.00	118.00	71.00	45.00	●
10.200		12.00	118.00	71.00	45.00	●
10.300		12.00	118.00	71.00	45.00	●
10.320	13/32	12.00	118.00	71.00	45.00	●
10.400		12.00	118.00	71.00	45.00	●
10.500		12.00	118.00	71.00	45.00	●
10.600		12.00	118.00	71.00	45.00	●
10.700		12.00	118.00	71.00	45.00	●
10.720	27/64	12.00	118.00	71.00	45.00	●
10.800		12.00	118.00	71.00	45.00	●
10.900		12.00	118.00	71.00	45.00	●
11.000		12.00	118.00	71.00	45.00	●
11.100		12.00	118.00	71.00	45.00	●
11.110	7/16	12.00	118.00	71.00	45.00	●
11.200		12.00	118.00	71.00	45.00	●
11.300		12.00	118.00	71.00	45.00	●
11.400		12.00	118.00	71.00	45.00	●
11.500		12.00	118.00	71.00	45.00	●
11.510	29/64	12.00	118.00	71.00	45.00	●
11.550		12.00	118.00	71.00	45.00	●
11.600		12.00	118.00	71.00	45.00	●
11.700		12.00	118.00	71.00	45.00	●
11.800		12.00	118.00	71.00	45.00	●
11.900		12.00	118.00	71.00	45.00	●
11.910	15/32	12.00	118.00	71.00	45.00	●
12.000		12.00	118.00	71.00	45.00	●
12.100		14.00	124.00	77.00	45.00	●
12.200		14.00	124.00	77.00	45.00	●
12.300	31/64	14.00	124.00	77.00	45.00	●
12.400		14.00	124.00	77.00	45.00	●
12.500		14.00	124.00	77.00	45.00	●
12.600		14.00	124.00	77.00	45.00	●
12.700	1/2	14.00	124.00	77.00	45.00	●
12.800		14.00	124.00	77.00	45.00	●
12.900		14.00	124.00	77.00	45.00	●
13.000		14.00	124.00	77.00	45.00	●
13.100	33/64	14.00	124.00	77.00	45.00	●
13.200		14.00	124.00	77.00	45.00	●
13.300		14.00	124.00	77.00	45.00	●
13.400		14.00	124.00	77.00	45.00	●
13.490	17/32	14.00	124.00	77.00	45.00	●
13.500		14.00	124.00	77.00	45.00	●
13.600		14.00	124.00	77.00	45.00	●
13.700		14.00	124.00	77.00	45.00	●
13.800		14.00	124.00	77.00	45.00	●
13.890	35/64	14.00	124.00	77.00	45.00	●
13.900		14.00	124.00	77.00	45.00	●
14.000		14.00	124.00	77.00	45.00	●
14.100		16.00	133.00	83.00	48.00	●
14.200		16.00	133.00	83.00	48.00	●
14.290	9/16	16.00	133.00	83.00	48.00	●
14.300		16.00	133.00	83.00	48.00	●
14.400		16.00	133.00	83.00	48.00	●
14.500		16.00	133.00	83.00	48.00	●

					Article no.	5498
					Discount group	255
					Cutting direction	R

d1		d2 h6	l1	l2	l3	Availability
mm	inch	mm	mm	mm	mm	
14.600		16.00	133.00	83.00	48.00	●
14.680	37/64	16.00	133.00	83.00	48.00	●
14.700		16.00	133.00	83.00	48.00	●
14.800		16.00	133.00	83.00	48.00	●
14.900		16.00	133.00	83.00	48.00	●
15.000		16.00	133.00	83.00	48.00	●
15.080	19/32	16.00	133.00	83.00	48.00	●
15.100		16.00	133.00	83.00	48.00	●
15.200		16.00	133.00	83.00	48.00	●
15.300		16.00	133.00	83.00	48.00	●
15.400		16.00	133.00	83.00	48.00	●
15.480	39/64	16.00	133.00	83.00	48.00	●
15.500		16.00	133.00	83.00	48.00	●
15.550		16.00	133.00	83.00	48.00	●
15.600		16.00	133.00	83.00	48.00	●
15.700		16.00	133.00	83.00	48.00	●
15.800		16.00	133.00	83.00	48.00	●
15.870	5/8	16.00	133.00	83.00	48.00	●
15.900		16.00	133.00	83.00	48.00	●
16.000		16.00	133.00	83.00	48.00	●
16.270	41/64	18.00	143.00	93.00	48.00	●
16.300		18.00	143.00	93.00	48.00	●
16.500		18.00	143.00	93.00	48.00	●
16.670	21/32	18.00	143.00	93.00	48.00	●
16.700		18.00	143.00	93.00	48.00	●
16.900		18.00	143.00	93.00	48.00	●
17.000		18.00	143.00	93.00	48.00	●
17.070	43/64	18.00	143.00	93.00	48.00	●
17.460	11/16	18.00	143.00	93.00	48.00	●
17.500		18.00	143.00	93.00	48.00	●
17.550		18.00	143.00	93.00	48.00	●
17.700		18.00	143.00	93.00	48.00	●
17.860	45/64	18.00	143.00	93.00	48.00	●
18.000		18.00	143.00	93.00	48.00	●
18.260	23/32	20.00	153.00	101.00	50.00	●
18.500		20.00	153.00	101.00	50.00	●
18.700		20.00	153.00	101.00	50.00	●
18.900		20.00	153.00	101.00	50.00	●
19.000		20.00	153.00	101.00	50.00	●
19.050	3/4	20.00	153.00	101.00	50.00	●
19.250		20.00	153.00	101.00	50.00	●
19.300		20.00	153.00	101.00	50.00	●
19.450	49/64	20.00	153.00	101.00	50.00	●
19.500		20.00	153.00	101.00	50.00	●
19.550		20.00	153.00	101.00	50.00	●
19.700		20.00	153.00	101.00	50.00	●
19.800		20.00	153.00	101.00	50.00	●
19.840	25/32	20.00	153.00	101.00	50.00	●
20.000		20.00	153.00	101.00	50.00	●

Ratio drills with coolant ducts

7xD | RT 100 U | WN | 140° | m7

P	•
M	○
K	•
N	○
S	○
H	○

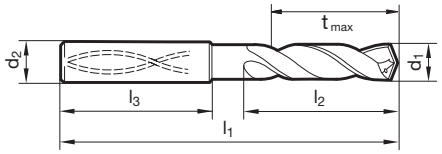
web thinning ≥ Ø 3.000 • facet point grind • main cutting edge form straight • optimised cutting geometry

structural and case hardened steels • free-cutting steels, heat-treatable steels • steels (alloyed/unalloyed) up to 1200 N/mm² • cast materials • bronze, brass • high-alloyed AlSi alloys

GÜHRINGNAVIGATOR

Cutting data page 140

$t_{max} = l_2\text{-}1{,}5 \times d_1$



Tool material	Solid carbide	
Surface	F	F
Shank form	HA	HE
	SL	SL
Article no.	5512	5612
Discount group	155	155
Cutting direction	R	R

d1		d2 h6	l1	l2	l3	Availability	
mm	inch	mm	mm	mm	mm		
3.000		6.00	70.00	30.00	36.00	•	•
3.100		6.00	70.00	30.00	36.00	•	•
3.170	1/8	6.00	70.00	30.00	36.00	•	•
3.200		6.00	70.00	30.00	36.00	•	•
3.250		6.00	70.00	30.00	36.00	•	•
3.300		6.00	70.00	30.00	36.00	•	•
3.400		6.00	75.00	35.50	36.00	•	•
3.500		6.00	75.00	35.50	36.00	•	•
3.570	9/64	6.00	75.00	35.50	36.00	•	•
3.600		6.00	75.00	35.50	36.00	•	•
3.700		6.00	75.00	35.50	36.00	•	•
3.800		6.00	75.00	37.50	36.00	•	•
3.900		6.00	75.00	37.50	36.00	•	•
3.970	5/32	6.00	75.00	37.50	36.00	•	•
4.000		6.00	75.00	37.50	36.00	•	•
4.100		6.00	75.00	37.50	36.00	•	•
4.200		6.00	75.00	37.50	36.00	•	•
4.300		6.00	85.00	45.00	36.00	•	•
4.370	11/64	6.00	85.00	45.00	36.00	•	•
4.400		6.00	85.00	45.00	36.00	•	•
4.500		6.00	85.00	45.00	36.00	•	•
4.600		6.00	85.00	45.00	36.00	•	•
4.650		6.00	85.00	45.00	36.00	•	•
4.700		6.00	85.00	45.00	36.00	•	•
4.760	3/16	6.00	90.00	50.00	36.00	•	•
4.800		6.00	90.00	50.00	36.00	•	•
4.900		6.00	90.00	50.00	36.00	•	•
5.000		6.00	90.00	50.00	36.00	•	•
5.100		6.00	90.00	50.00	36.00	•	•
5.160	13/64	6.00	90.00	50.00	36.00	•	•
5.200		6.00	90.00	50.00	36.00	•	•
5.300		6.00	90.00	50.00	36.00	•	•
5.400		6.00	97.00	57.00	36.00	•	•
5.500		6.00	97.00	57.00	36.00	•	•
5.600		6.00	97.00	57.00	36.00	•	
5.700		6.00	97.00	57.00	36.00	•	•

						Article no.	5512	5612
						Discount group	155	155
						Cutting direction	®	®
d1		d2 h6	l1	l2	l3	Availability		
mm	inch	mm	mm	mm	mm			
5.800		6.00	97.00	57.00	36.00		●	●
5.900		6.00	97.00	57.00	36.00		●	●
6.000		6.00	97.00	57.00	36.00		●	●
6.100		8.00	106.00	66.00	36.00		●	
6.200		8.00	106.00	66.00	36.00		●	●
6.300		8.00	106.00	66.00	36.00		●	●
6.350	1/4	8.00	106.00	66.00	36.00		●	●
6.500		8.00	106.00	66.00	36.00		●	●
6.600		8.00	106.00	66.00	36.00		●	●
6.700		8.00	106.00	66.00	36.00		●	●
6.800		8.00	106.00	66.00	36.00		●	●
6.900		8.00	116.00	76.00	36.00		●	●
7.000		8.00	116.00	76.00	36.00		●	●
7.100		8.00	116.00	76.00	36.00		●	●
7.200		8.00	116.00	76.00	36.00		●	●
7.300		8.00	116.00	76.00	36.00		●	
7.400		8.00	116.00	76.00	36.00		●	●
7.500		8.00	116.00	76.00	36.00		●	●
7.600		8.00	116.00	76.00	36.00		●	●
7.700		8.00	116.00	76.00	36.00		●	●
7.800		8.00	116.00	76.00	36.00		●	●
8.000		8.00	116.00	76.00	36.00		●	●
8.100		10.00	131.00	87.00	40.00		●	●
8.200		10.00	131.00	87.00	40.00		●	●
8.400		10.00	131.00	87.00	40.00		●	●
8.500		10.00	131.00	87.00	40.00		●	●
8.600		10.00	131.00	87.00	40.00		●	●
8.700		10.00	131.00	87.00	40.00		●	●
8.800		10.00	131.00	87.00	40.00		●	●
9.000		10.00	131.00	87.00	40.00		●	●
9.100		10.00	139.00	95.00	40.00		●	●
9.200		10.00	139.00	95.00	40.00		●	●
9.300		10.00	139.00	95.00	40.00		●	●
9.400		10.00	139.00	95.00	40.00		●	●
9.500		10.00	139.00	95.00	40.00		●	●
9.520	3/8	10.00	139.00	95.00	40.00		●	●
9.700		10.00	139.00	95.00	40.00		●	●
9.800		10.00	139.00	95.00	40.00		●	●
9.900		10.00	139.00	95.00	40.00		●	●
10.000		10.00	139.00	95.00	40.00		●	●
10.200		12.00	155.00	106.00	45.00		●	●
10.500		12.00	155.00	106.00	45.00		●	●
10.700		12.00	155.00	106.00	45.00		●	
10.800		12.00	155.00	106.00	45.00		●	●
11.000		12.00	155.00	106.00	45.00		●	●
11.200		12.00	163.00	114.00	45.00		●	●
11.500		12.00	163.00	114.00	45.00		●	●
11.800		12.00	163.00	114.00	45.00		●	●
12.000		12.00	163.00	114.00	45.00		●	●
12.200		14.00	182.00	133.00	45.00		●	●
12.500		14.00	182.00	133.00	45.00		●	●
12.700	1/2	14.00	182.00	133.00	45.00		●	●
13.000		14.00	182.00	133.00	45.00		●	●
13.500		14.00	182.00	133.00	45.00		●	●
14.000		14.00	182.00	133.00	45.00		●	●
14.200		16.00	204.00	152.00	48.00		●	●
14.500		16.00	204.00	152.00	48.00		●	●
15.000		16.00	204.00	152.00	48.00		●	●
15.500		16.00	204.00	152.00	48.00		●	●
16.000		16.00	204.00	152.00	48.00		●	●

						Article no.	5512	5612
						Discount group	155	155
						Cutting direction	R	R
d1		d2 h6	l1	l2	l3	Availability		
mm	inch	mm	mm	mm	mm			
16.500		18.00	223.00	171.00	48.00		●	●
17.000		18.00	223.00	171.00	48.00		●	●
17.500		18.00	223.00	171.00	48.00		●	●
18.000		18.00	223.00	171.00	48.00		●	●
18.500		20.00	244.00	190.00	50.00		●	●
19.000		20.00	244.00	190.00	50.00		●	●
19.050	3/4	20.00	244.00	190.00	50.00		●	●
19.500		20.00	244.00	190.00	50.00		●	●
20.000		20.00	244.00	190.00	50.00		●	●

Ratio drills with coolant ducts

7xD | RT 100 XF | WN | 140° | m7

Tool material	Solid carbide
Surface	F
Shank form	HA

P	•
M	○
K	○
N	
S	○
H	○

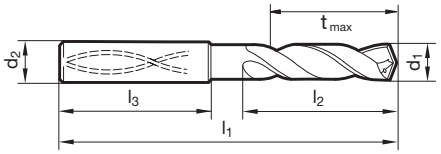
relieved cone • main cutting edge form concave • optimised cutting geometry • maximum performance

structural and case hardened steels • free-cutting steels, heat-treatable steels • steels (alloyed/unalloyed) up to 1400 N/mm²

GÜHRINGNAVIGATOR

Cutting data page 140

$t_{max} = l_2\text{-}1{,}5 \times d_1$



Article no.	5499
Discount group	255
Cutting direction	R

d1		d2 h6	l1	l2	l3	Availability
mm	inch	mm	mm	mm	mm	
3.000		6.00	70.00	30.00	36.00	•
3.100		6.00	70.00	30.00	36.00	•
3.170	1/8	6.00	70.00	30.00	36.00	•
3.200		6.00	70.00	30.00	36.00	•
3.250		6.00	70.00	30.00	36.00	•
3.300		6.00	70.00	30.00	36.00	•
3.400		6.00	75.00	35.50	36.00	•
3.500		6.00	75.00	35.50	36.00	•
3.570	9/64	6.00	75.00	35.50	36.00	•
3.600		6.00	75.00	35.50	36.00	•
3.700		6.00	75.00	35.50	36.00	•
3.800		6.00	75.00	37.50	36.00	•
3.900		6.00	75.00	37.50	36.00	•
3.970	5/32	6.00	75.00	37.50	36.00	•
4.000		6.00	75.00	37.50	36.00	•
4.040		6.00	75.00	37.50	36.00	•
4.100		6.00	75.00	37.50	36.00	•
4.200		6.00	75.00	37.50	36.00	•
4.300		6.00	85.00	45.00	36.00	•
4.370	11/64	6.00	85.00	45.00	36.00	•
4.400		6.00	85.00	45.00	36.00	•
4.500		6.00	85.00	45.00	36.00	•
4.600		6.00	85.00	45.00	36.00	•
4.650		6.00	85.00	45.00	36.00	•
4.700		6.00	85.00	45.00	36.00	•
4.760	3/16	6.00	90.00	50.00	36.00	•
4.800		6.00	90.00	50.00	36.00	•
4.900		6.00	90.00	50.00	36.00	•
5.000		6.00	90.00	50.00	36.00	•
5.100		6.00	90.00	50.00	36.00	•
5.110		6.00	90.00	50.00	36.00	•
5.160	13/64	6.00	90.00	50.00	36.00	•
5.200		6.00	90.00	50.00	36.00	•
5.300		6.00	90.00	50.00	36.00	•
5.400		6.00	97.00	57.00	36.00	•
5.410		6.00	97.00	57.00	36.00	•

					Article no.	5499
					Discount group	255
					Cutting direction	R
d1		d2 h6	l1	l2	l3	Availability
mm	inch	mm	mm	mm	mm	
5.500		6.00	97.00	57.00	36.00	●
5.550		6.00	97.00	57.00	36.00	●
5.560	7/32	6.00	97.00	57.00	36.00	●
5.600		6.00	97.00	57.00	36.00	●
5.700		6.00	97.00	57.00	36.00	●
5.800		6.00	97.00	57.00	36.00	●
5.900		6.00	97.00	57.00	36.00	●
5.950	15/64	6.00	97.00	57.00	36.00	●
6.000		6.00	97.00	57.00	36.00	●
6.100		8.00	106.00	66.00	36.00	●
6.200		8.00	106.00	66.00	36.00	●
6.300		8.00	106.00	66.00	36.00	●
6.350	1/4	8.00	106.00	66.00	36.00	●
6.400		8.00	106.00	66.00	36.00	●
6.500		8.00	106.00	66.00	36.00	●
6.530		8.00	106.00	66.00	36.00	●
6.550		8.00	106.00	66.00	36.00	●
6.600		8.00	106.00	66.00	36.00	●
6.700		8.00	106.00	66.00	36.00	●
6.750	17/64	8.00	106.00	66.00	36.00	●
6.800		8.00	106.00	66.00	36.00	●
6.900		8.00	116.00	76.00	36.00	●
7.000		8.00	116.00	76.00	36.00	●
7.100		8.00	116.00	76.00	36.00	●
7.140	9/32	8.00	116.00	76.00	36.00	●
7.200		8.00	116.00	76.00	36.00	●
7.300		8.00	116.00	76.00	36.00	●
7.400		8.00	116.00	76.00	36.00	●
7.500		8.00	116.00	76.00	36.00	●
7.540	19/64	8.00	116.00	76.00	36.00	●
7.600		8.00	116.00	76.00	36.00	●
7.700		8.00	116.00	76.00	36.00	●
7.800		8.00	116.00	76.00	36.00	●
7.900		8.00	116.00	76.00	36.00	●
7.940	5/16	8.00	116.00	76.00	36.00	●
8.000		8.00	116.00	76.00	36.00	●
8.100		10.00	131.00	87.00	40.00	●
8.200		10.00	131.00	87.00	40.00	●
8.300		10.00	131.00	87.00	40.00	●
8.330	21/64	10.00	131.00	87.00	40.00	●
8.400		10.00	131.00	87.00	40.00	●
8.500		10.00	131.00	87.00	40.00	●
8.600		10.00	131.00	87.00	40.00	●
8.700		10.00	131.00	87.00	40.00	●
8.730	11/32	10.00	131.00	87.00	40.00	●
8.800		10.00	131.00	87.00	40.00	●
8.900		10.00	131.00	87.00	40.00	●
9.000		10.00	131.00	87.00	40.00	●
9.100		10.00	139.00	95.00	40.00	●
9.130	23/64	10.00	139.00	95.00	40.00	●
9.200		10.00	139.00	95.00	40.00	●
9.250		10.00	139.00	95.00	40.00	●
9.300		10.00	139.00	95.00	40.00	●
9.340		10.00	139.00	95.00	40.00	●
9.400		10.00	139.00	95.00	40.00	●
9.500		10.00	139.00	95.00	40.00	●
9.520	3/8	10.00	139.00	95.00	40.00	●
9.600		10.00	139.00	95.00	40.00	●
9.700		10.00	139.00	95.00	40.00	●
9.800		10.00	139.00	95.00	40.00	●

					Article no.	5499
					Discount group	255
					Cutting direction	R

d1		d2 h6	l1	l2	l3	Availability
mm	inch	mm	mm	mm	mm	
9.900		10.00	139.00	95.00	40.00	●
9.920	25/64	10.00	139.00	95.00	40.00	●
10.000		10.00	139.00	95.00	40.00	●
10.100		12.00	155.00	106.00	45.00	●
10.200		12.00	155.00	106.00	45.00	●
10.300		12.00	155.00	106.00	45.00	●
10.320	13/32	12.00	155.00	106.00	45.00	●
10.400		12.00	155.00	106.00	45.00	●
10.500		12.00	155.00	106.00	45.00	●
10.600		12.00	155.00	106.00	45.00	●
10.700		12.00	155.00	106.00	45.00	●
10.720	27/64	12.00	155.00	106.00	45.00	●
10.800		12.00	155.00	106.00	45.00	●
10.900		12.00	155.00	106.00	45.00	●
11.000		12.00	155.00	106.00	45.00	●
11.100		12.00	163.00	114.00	45.00	●
11.110	7/16	12.00	163.00	114.00	45.00	●
11.200		12.00	163.00	114.00	45.00	●
11.300		12.00	163.00	114.00	45.00	●
11.400		12.00	163.00	114.00	45.00	●
11.500		12.00	163.00	114.00	45.00	●
11.510	29/64	12.00	163.00	114.00	45.00	●
11.600		12.00	163.00	114.00	45.00	●
11.700		12.00	163.00	114.00	45.00	●
11.800		12.00	163.00	114.00	45.00	●
11.900		12.00	163.00	114.00	45.00	●
11.910	15/32	12.00	163.00	114.00	45.00	●
12.000		12.00	163.00	114.00	45.00	●
12.100		14.00	182.00	133.00	45.00	●
12.200		14.00	182.00	133.00	45.00	●
12.300	31/64	14.00	182.00	133.00	45.00	●
12.400		14.00	182.00	133.00	45.00	●
12.500		14.00	182.00	133.00	45.00	●
12.600		14.00	182.00	133.00	45.00	●
12.700	1/2	14.00	182.00	133.00	45.00	●
12.800		14.00	182.00	133.00	45.00	●
12.900		14.00	182.00	133.00	45.00	●
13.000		14.00	182.00	133.00	45.00	●
13.100	33/64	14.00	182.00	133.00	45.00	●
13.490	17/32	14.00	182.00	133.00	45.00	●
13.500		14.00	182.00	133.00	45.00	●
13.700		14.00	182.00	133.00	45.00	●
13.890	35/64	14.00	182.00	133.00	45.00	●
14.000		14.00	182.00	133.00	45.00	●
14.100		16.00	204.00	152.00	48.00	●
14.200		16.00	204.00	152.00	48.00	●
14.290	9/16	16.00	204.00	152.00	48.00	●
14.300		16.00	204.00	152.00	48.00	●
14.500		16.00	204.00	152.00	48.00	●
14.700		16.00	204.00	152.00	48.00	●
14.800		16.00	204.00	152.00	48.00	●
15.000		16.00	204.00	152.00	48.00	●
15.100		16.00	204.00	152.00	48.00	●
15.300		16.00	204.00	152.00	48.00	●
15.480	39/64	16.00	204.00	152.00	48.00	●
15.500		16.00	204.00	152.00	48.00	●
15.700		16.00	204.00	152.00	48.00	●
15.800		16.00	204.00	152.00	48.00	●
15.870	5/8	16.00	204.00	152.00	48.00	●
16.000		16.00	204.00	152.00	48.00	●

					Article no.	5499
					Discount group	255
					Cutting direction	R

d1		d2 h6	l1	l2	l3	Availability
mm	inch	mm	mm	mm	mm	
16.300		18.00	223.00	171.00	48.00	●
16.500		18.00	223.00	171.00	48.00	●
16.700		18.00	223.00	171.00	48.00	●
16.900		18.00	223.00	171.00	48.00	●
17.000		18.00	223.00	171.00	48.00	●
17.500		18.00	223.00	171.00	48.00	●
17.700		18.00	223.00	171.00	48.00	●
18.000		18.00	223.00	171.00	48.00	●
18.500		20.00	244.00	190.00	50.00	●
18.900		20.00	244.00	190.00	50.00	●
19.000		20.00	244.00	190.00	50.00	●
19.050	3/4	20.00	244.00	190.00	50.00	●
19.500		20.00	244.00	190.00	50.00	●
19.800		20.00	244.00	190.00	50.00	●
20.000		20.00	244.00	190.00	50.00	●

Ratio drills with coolant ducts

10xD | RT 150 GG | WN | 120° | m7

Tool material	Solid carbide
Surface	◯
Shank form	HA

SL

P	
M	
K	•
N	•
S	
H	

web thinning ≥ Ø 3.000 • relieved cone • close diameter tolerances • very good surface quality of hole • observe coolant pressure

aluminium and Al alloys • Al materials with high Si-content • grey cast iron, malleable and spheroidal iron

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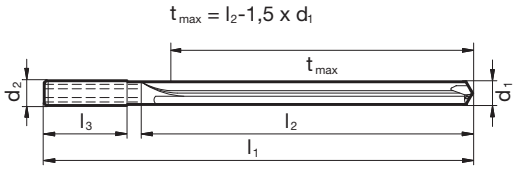
Cutting data page 142



Article no.	5513
Discount group	155
Cutting direction	®

d1		d2 h6	l1	l2	l3	Availability
mm	inch	mm	mm	mm	mm	
3.000		6.00	91.00	42.00	36.00	•
3.100		6.00	91.00	42.00	36.00	•
3.170	1/8	6.00	91.00	42.00	36.00	•
3.200		6.00	91.00	42.00	36.00	•
3.250		6.00	91.00	42.00	36.00	•
3.300		6.00	91.00	42.00	36.00	•
3.400		6.00	91.00	48.00	36.00	•
3.500		6.00	91.00	48.00	36.00	•
3.570	9/64	6.00	91.00	48.00	36.00	•
3.600		6.00	91.00	48.00	36.00	•
3.700		6.00	91.00	48.00	36.00	•
3.800		6.00	121.00	77.00	36.00	•
3.900		6.00	121.00	77.00	36.00	•
3.970	5/32	6.00	121.00	77.00	36.00	•
4.000		6.00	121.00	77.00	36.00	•
4.200		6.00	121.00	77.00	36.00	•
4.500		6.00	121.00	77.00	36.00	•
5.000		6.00	121.00	82.00	36.00	•
5.500		6.00	121.00	82.00	36.00	•
6.000		6.00	121.00	82.00	36.00	•
6.350	1/4	8.00	146.00	106.00	36.00	•
6.500		8.00	146.00	106.00	36.00	•
6.800		8.00	146.00	106.00	36.00	•
7.000		8.00	146.00	106.00	36.00	•
7.500		8.00	146.00	106.00	36.00	•
7.800		8.00	146.00	106.00	36.00	•
8.000		8.00	146.00	106.00	36.00	•
8.500		10.00	175.00	130.00	40.00	•
9.000		10.00	175.00	130.00	40.00	•
9.500		10.00	175.00	130.00	40.00	•
9.520	3/8	10.00	175.00	130.00	40.00	•
10.000		10.00	175.00	130.00	40.00	•
10.200		12.00	209.00	159.00	45.00	•
10.500		12.00	209.00	159.00	45.00	•
11.000		12.00	209.00	159.00	45.00	•
11.500		12.00	209.00	159.00	45.00	•

					Article no.	5513
					Discount group	155
					Cutting direction	R

d1		d2 h6	l1	l2	l3	Availability
mm	inch	mm	mm	mm	mm	
12.000		12.00	209.00	159.00	45.00	●
12.500		14.00	233.00	183.00	45.00	●
12.700	1/2	14.00	233.00	183.00	45.00	●
13.000		14.00	233.00	183.00	45.00	●
13.500		14.00	233.00	183.00	45.00	●
14.000		14.00	233.00	183.00	45.00	●
14.500		16.00	260.00	207.00	48.00	●
15.000		16.00	260.00	207.00	48.00	●
15.500		16.00	260.00	207.00	48.00	●
16.000		16.00	260.00	207.00	48.00	●

Ratio drills with coolant ducts

12xD | RT 100 U | WN | 135° | h7

Tool material	Solid carbide
Surface	F
Shank form	HA

P	•
M	○
K	•
N	○
S	○
H	○

web thinning ≥ Ø 3.000 • facet point grind • main cutting edge form straight • optimised cutting geometry

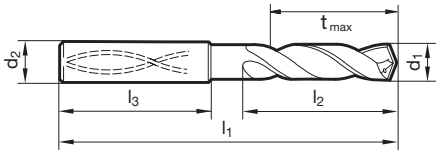
structural and case hardened steels • free-cutting steels, heat-treatable steels • alloyed steels up to 1200 N/mm² • cast materials • bronze, brass • high-alloyed AlSi alloys

GÜHRINGNAVIGATOR

Cutting data page 142

SL

$t_{max} = l_2\text{-}1{,}5 \times d_1$



Article no.	5525
Discount group	155
Cutting direction	R

d1		d2 h6	l1	l2	l3	Availability
mm	inch	mm	mm	mm	mm	
3.000		6.00	90.00	50.00	36.00	●
3.100		6.00	90.00	50.00	36.00	●
3.170	1/8	6.00	90.00	50.00	36.00	●
3.200		6.00	90.00	50.00	36.00	●
3.250		6.00	90.00	50.00	36.00	●
3.300		6.00	90.00	50.00	36.00	●
3.400		6.00	90.00	50.00	36.00	●
3.500		6.00	90.00	50.00	36.00	●
3.600		6.00	90.00	50.00	36.00	●
3.700		6.00	90.00	50.00	36.00	●
3.800		6.00	102.00	64.00	36.00	●
3.900		6.00	102.00	64.00	36.00	●
4.000		6.00	102.00	64.00	36.00	●
4.100		6.00	102.00	64.00	36.00	●
4.200		6.00	102.00	64.00	36.00	●
4.300		6.00	102.00	64.00	36.00	●
4.400		6.00	102.00	64.00	36.00	●
4.500		6.00	102.00	64.00	36.00	●
4.600		6.00	102.00	64.00	36.00	●
4.650		6.00	102.00	64.00	36.00	●
4.700		6.00	102.00	64.00	36.00	●
4.800		6.00	116.00	78.00	36.00	●
4.900		6.00	116.00	78.00	36.00	●
5.000		6.00	116.00	78.00	36.00	●
5.100		6.00	116.00	78.00	36.00	●
5.200		6.00	116.00	78.00	36.00	●
5.300		6.00	116.00	78.00	36.00	●
5.400		6.00	116.00	78.00	36.00	●
5.500		6.00	116.00	78.00	36.00	●
5.600		6.00	116.00	78.00	36.00	●
5.700		6.00	116.00	78.00	36.00	●
5.800		6.00	116.00	78.00	36.00	●
5.900		6.00	116.00	78.00	36.00	●
5.950	15/64	6.00	116.00	78.00	36.00	●
6.000		6.00	116.00	78.00	36.00	●
6.100		8.00	146.00	108.00	36.00	●

					Article no.	5525
					Discount group	155
					Cutting direction	®
d1		d2 h6	l1	l2	l3	Availability
mm	inch	mm	mm	mm	mm	
6.200		8.00	146.00	108.00	36.00	●
6.300		8.00	146.00	108.00	36.00	●
6.350	1/4	8.00	146.00	108.00	36.00	●
6.400		8.00	146.00	108.00	36.00	●
6.500		8.00	146.00	108.00	36.00	●
6.600		8.00	146.00	108.00	36.00	●
6.700		8.00	146.00	108.00	36.00	●
6.750	17/64	8.00	146.00	108.00	36.00	●
6.800		8.00	146.00	108.00	36.00	●
6.900		8.00	146.00	108.00	36.00	●
7.000		8.00	146.00	108.00	36.00	●
7.100		8.00	146.00	108.00	36.00	●
7.200		8.00	146.00	108.00	36.00	●
7.300		8.00	146.00	108.00	36.00	●
7.400		8.00	146.00	108.00	36.00	●
7.500		8.00	146.00	108.00	36.00	●
7.600		8.00	146.00	108.00	36.00	●
7.700		8.00	146.00	108.00	36.00	●
7.800		8.00	146.00	108.00	36.00	●
7.900		8.00	146.00	108.00	36.00	●
8.000		8.00	146.00	108.00	36.00	●
8.100		10.00	162.00	120.00	40.00	●
8.200		10.00	162.00	120.00	40.00	●
8.300		10.00	162.00	120.00	40.00	●
8.400		10.00	162.00	120.00	40.00	●
8.500		10.00	162.00	120.00	40.00	●
8.600		10.00	162.00	120.00	40.00	●
8.700		10.00	162.00	120.00	40.00	●
8.800		10.00	162.00	120.00	40.00	●
8.900		10.00	162.00	120.00	40.00	●
9.000		10.00	162.00	120.00	40.00	●
9.100		10.00	162.00	120.00	40.00	●
9.200		10.00	162.00	120.00	40.00	●
9.250		10.00	162.00	120.00	40.00	●
9.300		10.00	162.00	120.00	40.00	●
9.400		10.00	162.00	120.00	40.00	●
9.500		10.00	162.00	120.00	40.00	●
9.520	3/8	10.00	162.00	120.00	40.00	●
9.600		10.00	162.00	120.00	40.00	●
9.700		10.00	162.00	120.00	40.00	●
9.800		10.00	162.00	120.00	40.00	●
9.900		10.00	162.00	120.00	40.00	●
10.000		10.00	162.00	120.00	40.00	●
10.100		12.00	204.00	156.00	45.00	●
10.200		12.00	204.00	156.00	45.00	●
10.300		12.00	204.00	156.00	45.00	●
10.500		12.00	204.00	156.00	45.00	●
10.600		12.00	204.00	156.00	45.00	●
10.700		12.00	204.00	156.00	45.00	●
10.800		12.00	204.00	156.00	45.00	●
10.900		12.00	204.00	156.00	45.00	●
11.000		12.00	204.00	156.00	45.00	●
11.500		12.00	204.00	156.00	45.00	●
12.000		12.00	204.00	156.00	45.00	●
12.300	31/64	14.00	230.00	182.00	45.00	●
12.500		14.00	230.00	182.00	45.00	●
12.700	1/2	14.00	230.00	182.00	45.00	●
13.000		14.00	230.00	182.00	45.00	●
13.500		14.00	230.00	182.00	45.00	●
14.000		14.00	230.00	182.00	45.00	●

					Article no.	5525
					Discount group	155
					Cutting direction	R

d1		d2 h6	l1	l2	l3	Availability
mm	inch	mm	mm	mm	mm	
14.500		16.00	260.00	208.00	48.00	●
15.000		16.00	260.00	208.00	48.00	●
15.500		16.00	260.00	208.00	48.00	●
16.000		16.00	260.00	208.00	48.00	●
16.500		18.00	285.00	234.00	48.00	●
17.000		18.00	285.00	234.00	48.00	●
17.500		18.00	285.00	234.00	48.00	●
18.000		18.00	285.00	234.00	48.00	●
18.500		20.00	310.00	258.00	50.00	●
19.000		20.00	310.00	258.00	50.00	●
19.050	3/4	20.00	310.00	258.00	50.00	●
19.500		20.00	310.00	258.00	50.00	●
20.000		20.00	310.00	258.00	50.00	●

Ratio drills with coolant ducts

15xD | RT 100 T | WN | 135° | h7

Tool material	Solid carbide
Surface	A
Shank form	HA

P	•	web thinning ≥ Ø 3.000 • main cutting edge form concave • optimised flute design • maximum diameter of coolant ducts • observe coolant pressure
M	•	
K	•	
N	○	structural and case hardened steels • free-cutting steels, heat-treatable steels • alloyed steels up to 1200 N/mm² • stainless steels • cast materials
S	○	
H	○	

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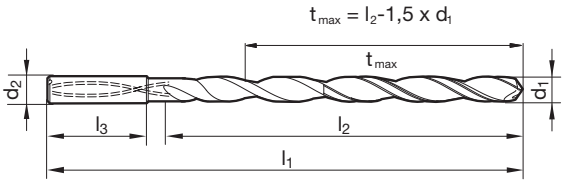
Cutting data page 142



Article no.	6509
Discount group	165
Cutting direction	R

d1		d2 h6	l1	l2	l3	Availability
mm	inch	mm	mm	mm	mm	
3.000		6.00	94.00	55.00	36.00	•
3.100		6.00	106.00	66.00	36.00	•
3.170	1/8	6.00	106.00	66.00	36.00	•
3.200		6.00	106.00	66.00	36.00	•
3.300		6.00	106.00	66.00	36.00	•
3.500		6.00	116.00	76.00	36.00	•
3.570	9/64	6.00	116.00	76.00	36.00	•
3.700		6.00	116.00	76.00	36.00	•
3.800		6.00	116.00	76.00	36.00	•
3.970	5/32	6.00	116.00	76.00	36.00	•
4.000		6.00	116.00	76.00	36.00	•
4.200		6.00	133.00	93.00	36.00	•
4.300		6.00	133.00	93.00	36.00	•
4.370	11/64	6.00	133.00	93.00	36.00	•
4.500		6.00	133.00	93.00	36.00	•
4.600		6.00	133.00	93.00	36.00	•
4.760	3/16	6.00	133.00	93.00	36.00	•
4.800		6.00	133.00	93.00	36.00	•
5.000		6.00	133.00	93.00	36.00	•
5.100		6.00	150.00	110.00	36.00	•
5.160	13/64	6.00	150.00	110.00	36.00	•
5.410		6.00	150.00	110.00	36.00	•
5.500		6.00	150.00	110.00	36.00	•
5.560	7/32	6.00	150.00	110.00	36.00	•
5.600		6.00	150.00	110.00	36.00	•
5.800		6.00	150.00	110.00	36.00	•
5.950	15/64	6.00	150.00	110.00	36.00	•
6.000		6.00	150.00	110.00	36.00	•
6.300		8.00	167.00	127.00	36.00	•
6.350	1/4	8.00	167.00	127.00	36.00	•
6.500		8.00	167.00	127.00	36.00	•
6.750	17/64	8.00	167.00	127.00	36.00	•
6.800		8.00	167.00	127.00	36.00	•
7.000		8.00	167.00	127.00	36.00	•
7.140	9/32	8.00	183.00	143.00	36.00	•
7.500		8.00	183.00	143.00	36.00	•

					Article no.	6509
					Discount group	165
					Cutting direction	®
d1		d2 h6	l1	l2	l3	Availability
mm	inch	mm	mm	mm	mm	
7.540	19/64	8.00	183.00	143.00	36.00	●
7.800		8.00	183.00	143.00	36.00	●
7.940	5/16	8.00	183.00	143.00	36.00	●
8.000		8.00	183.00	143.00	36.00	●
8.330	21/64	10.00	204.00	160.00	40.00	●
8.500		10.00	204.00	160.00	40.00	●
8.730	11/32	10.00	204.00	160.00	40.00	●
8.800		10.00	204.00	160.00	40.00	●
9.000		10.00	204.00	160.00	40.00	●
9.130	23/64	10.00	221.00	177.00	40.00	●
9.500		10.00	221.00	177.00	40.00	●
9.520	3/8	10.00	221.00	177.00	40.00	●
9.800		10.00	221.00	177.00	40.00	●
9.920	25/64	10.00	221.00	177.00	40.00	●
10.000		10.00	221.00	177.00	40.00	●
10.200		12.00	247.00	198.00	45.00	●
10.320	13/32	12.00	247.00	198.00	45.00	●
10.500		12.00	247.00	198.00	45.00	●
10.720	27/64	12.00	247.00	198.00	45.00	●
11.000		12.00	247.00	198.00	45.00	●
11.110	7/16	12.00	263.00	214.00	45.00	●
11.510	29/64	12.00	263.00	214.00	45.00	●
11.800		12.00	263.00	214.00	45.00	●
11.910	15/32	12.00	263.00	214.00	45.00	●
12.000		12.00	263.00	214.00	45.00	●
12.300	31/64	14.00	297.00	248.00	45.00	●
12.500		14.00	297.00	248.00	45.00	●
12.700	1/2	14.00	297.00	248.00	45.00	●
13.000		14.00	297.00	248.00	45.00	●
13.100	33/64	14.00	297.00	248.00	45.00	●
13.490	17/32	14.00	297.00	248.00	45.00	●
13.890	35/64	14.00	297.00	248.00	45.00	●
14.000		14.00	297.00	248.00	45.00	●
14.290	9/16	16.00	333.00	281.00	48.00	●
15.000		16.00	333.00	281.00	48.00	●
15.870	5/8	16.00	333.00	281.00	48.00	●
16.000		16.00	333.00	281.00	48.00	●

Ratio drills with coolant ducts

20xD | RT 100 T | WN | 135° | h7

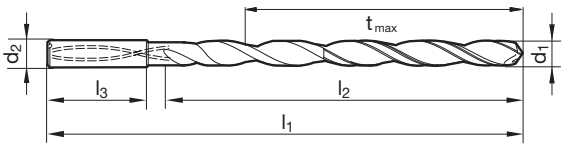
Tool material	Solid carbide
Surface	A
Shank form	HA

P	●	web thinning ≥ Ø 3.000 • main cutting edge form concave • optimised flute design • maximum diameter of coolant ducts • observe coolant pressure
M	●	
K	●	
N	○	structural and case hardened steels • free-cutting steels, heat-treatable steels • alloyed steels up to 1200 N/mm² • stainless steels • cast materials
S	○	
H	○	

GÜHRINGNAVIGATOR

Cutting data page 142

$t_{max} = l_2 - 1{,}5 \times d_1$



Article no.	6511
Discount group	165
Cutting direction	R

d1 mm	inch	d2 h6 mm	l1 mm	l2 mm	l3 mm	Availability
3.000		6.00	110.00	70.00	36.00	●
3.100		6.00	123.00	83.00	36.00	●
3.170	1/8	6.00	123.00	83.00	36.00	●
3.200		6.00	123.00	83.00	36.00	●
3.300		6.00	123.00	83.00	36.00	●
3.500		6.00	136.00	96.00	36.00	●
3.570	9/64	6.00	136.00	96.00	36.00	●
3.700		6.00	136.00	96.00	36.00	●
3.800		6.00	136.00	96.00	36.00	●
3.970	5/32	6.00	136.00	96.00	36.00	●
4.000		6.00	136.00	96.00	36.00	●
4.200		6.00	158.00	118.00	36.00	●
4.300		6.00	158.00	118.00	36.00	●
4.370	11/64	6.00	158.00	118.00	36.00	●
4.500		6.00	158.00	118.00	36.00	●
4.600		6.00	158.00	118.00	36.00	●
4.760	3/16	6.00	158.00	118.00	36.00	●
4.800		6.00	158.00	118.00	36.00	●
5.000		6.00	158.00	118.00	36.00	●
5.100		6.00	180.00	140.00	36.00	●
5.160	13/64	6.00	180.00	140.00	36.00	●
5.410		6.00	180.00	140.00	36.00	●
5.500		6.00	180.00	140.00	36.00	●
5.560	7/32	6.00	180.00	140.00	36.00	●
5.800		6.00	180.00	140.00	36.00	●
5.950	15/64	6.00	180.00	140.00	36.00	●
6.000		6.00	180.00	140.00	36.00	●
6.300		8.00	202.00	162.00	36.00	●
6.350	1/4	8.00	202.00	162.00	36.00	●
6.500		8.00	202.00	162.00	36.00	●
6.750	17/64	8.00	202.00	162.00	36.00	●
6.800		8.00	202.00	162.00	36.00	●
7.000		8.00	202.00	162.00	36.00	●
7.140	9/32	8.00	223.00	183.00	36.00	●
7.500		8.00	223.00	183.00	36.00	●
7.540	19/64	8.00	223.00	183.00	36.00	●

					Article no.	6511
					Discount group	165
					Cutting direction	R

d1		d2 h6	l1	l2	l3	Availability
mm	inch	mm	mm	mm	mm	
7.800		8.00	223.00	183.00	36.00	●
7.940	5/16	8.00	223.00	183.00	36.00	●
8.000		8.00	223.00	183.00	36.00	●
8.330	21/64	10.00	249.00	205.00	40.00	●
8.500		10.00	249.00	205.00	40.00	●
8.730	11/32	10.00	249.00	205.00	40.00	●
8.800		10.00	249.00	205.00	40.00	●
9.000		10.00	249.00	205.00	40.00	●
9.130	23/64	10.00	271.00	227.00	40.00	●
9.520	3/8	10.00	271.00	227.00	40.00	●
9.920	25/64	10.00	271.00	227.00	40.00	●
10.000		10.00	271.00	227.00	40.00	●
10.200		12.00	302.00	253.00	45.00	●
10.320	13/32	12.00	302.00	253.00	45.00	●
10.500		12.00	302.00	253.00	45.00	●
10.720	27/64	12.00	302.00	253.00	45.00	●
11.000		12.00	302.00	253.00	45.00	●
11.110	7/16	12.00	323.00	274.00	45.00	●
11.510	29/64	12.00	323.00	274.00	45.00	●
11.800		12.00	323.00	274.00	45.00	●
11.910	15/32	12.00	323.00	274.00	45.00	●
12.000		12.00	323.00	274.00	45.00	●
12.300	31/64	14.00	367.00	318.00	45.00	●
12.500		14.00	367.00	318.00	45.00	●
12.700	1/2	14.00	367.00	318.00	45.00	●
13.000		14.00	367.00	318.00	45.00	●
13.100	33/64	14.00	367.00	318.00	45.00	●
13.490	17/32	14.00	367.00	318.00	45.00	●
13.890	35/64	14.00	367.00	318.00	45.00	●
14.000		14.00	367.00	318.00	45.00	●
14.290	9/16	16.00	413.00	361.00	48.00	●
15.000		16.00	413.00	361.00	48.00	●
15.870	5/8	16.00	413.00	361.00	48.00	●
16.000		16.00	413.00	361.00	48.00	●

Ratio drills with coolant ducts

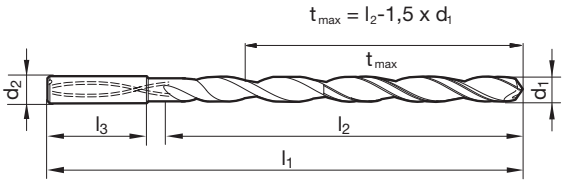
25xD | RT 100 T | WN | 135° | h7

Tool material	Solid carbide
Surface	A
Shank form	HA

P	●	web thinning ≥ Ø 3.000 • main cutting edge form concave • optimised flute design • maximum diameter of coolant ducts • observe coolant pressure
M	●	
K	●	
N	○	structural and case hardened steels • free-cutting steels, heat-treatable steels • alloyed steels up to 1200 N/mm² • stainless steels • cast materials
S	○	
H	○	

GÜHRINGNAVIGATOR

Cutting data page 142



Article no.	6512
Discount group	165
Cutting direction	R

d1 mm	inch	d2 h6 mm	l1 mm	l2 mm	l3 mm	Availability
3.000		6.00	125.00	85.00	36.00	●
3.100		6.00	141.00	101.00	36.00	●
3.170	1/8	6.00	141.00	101.00	36.00	●
3.200		6.00	141.00	101.00	36.00	●
3.300		6.00	141.00	101.00	36.00	●
3.500		6.00	156.00	116.00	36.00	●
3.570	9/64	6.00	156.00	116.00	36.00	●
3.700		6.00	156.00	116.00	36.00	●
3.800		6.00	156.00	116.00	36.00	●
3.970	5/32	6.00	156.00	116.00	36.00	●
4.000		6.00	156.00	116.00	36.00	●
4.200		6.00	183.00	143.00	36.00	●
4.300		6.00	183.00	143.00	36.00	●
4.370	11/64	6.00	183.00	143.00	36.00	●
4.500		6.00	183.00	143.00	36.00	●
4.600		6.00	183.00	143.00	36.00	●
4.760	3/16	6.00	183.00	143.00	36.00	●
4.800		6.00	183.00	143.00	36.00	●
5.000		6.00	183.00	143.00	36.00	●
5.100		6.00	210.00	170.00	36.00	●
5.160	13/64	6.00	210.00	170.00	36.00	●
5.410		6.00	210.00	170.00	36.00	●
5.500		6.00	210.00	170.00	36.00	●
5.560	7/32	6.00	210.00	170.00	36.00	●
5.800		6.00	210.00	170.00	36.00	●
5.950	15/64	6.00	210.00	170.00	36.00	●
6.000		6.00	210.00	170.00	36.00	●
6.300		8.00	237.00	197.00	36.00	●
6.350	1/4	8.00	237.00	197.00	36.00	●
6.500		8.00	237.00	197.00	36.00	●
6.750	17/64	8.00	237.00	197.00	36.00	●
6.800		8.00	237.00	197.00	36.00	●
7.000		8.00	237.00	197.00	36.00	●
7.140	9/32	8.00	263.00	223.00	36.00	●
7.500		8.00	263.00	223.00	36.00	●
7.540	19/64	8.00	263.00	223.00	36.00	●

					Article no.	6512
					Discount group	165
					Cutting direction	®

d1		d2 h6	l1	l2	l3	Availability
mm	inch	mm	mm	mm	mm	
7.940	5/16	8.00	263.00	223.00	36.00	●
8.000		8.00	263.00	223.00	36.00	●
8.330	21/64	10.00	294.00	250.00	40.00	●
8.500		10.00	294.00	250.00	40.00	●
8.730	11/32	10.00	294.00	250.00	40.00	●
9.000		10.00	294.00	250.00	40.00	●
9.130	23/64	10.00	321.00	277.00	40.00	●
9.520	3/8	10.00	321.00	277.00	40.00	●
9.920	25/64	10.00	321.00	277.00	40.00	●
10.000		10.00	321.00	277.00	40.00	●
10.320	13/32	12.00	359.00	310.00	45.00	●
10.720	27/64	12.00	359.00	310.00	45.00	●
11.000		12.00	359.00	310.00	45.00	●
11.110	7/16	12.00	386.00	337.00	45.00	●
11.510	29/64	12.00	386.00	337.00	45.00	●
11.910	15/32	12.00	386.00	337.00	45.00	●
12.000		12.00	386.00	337.00	45.00	●
12.300	31/64	14.00	437.00	388.00	45.00	●
12.700	1/2	14.00	437.00	388.00	45.00	●
13.000		14.00	437.00	388.00	45.00	●
13.100	33/64	14.00	437.00	388.00	45.00	●
13.490	17/32	14.00	437.00	388.00	45.00	●
13.890	35/64	14.00	437.00	388.00	45.00	●
14.000		14.00	437.00	388.00	45.00	●
14.290	9/16	16.00	493.00	441.00	48.00	●
15.000		16.00	493.00	441.00	48.00	●
15.870	5/8	16.00	493.00	441.00	48.00	●
16.000		16.00	493.00	441.00	48.00	●

Ratio drills with coolant ducts

30xD | RT 100 T | WN | 135° | h7

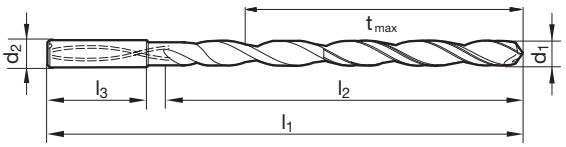
Tool material	Solid carbide
Surface	A
Shank form	HA

P	•	web thinning ≥ Ø 3.000 • main cutting edge form concave • optimised flute design • maximum diameter of coolant ducts • observe coolant pressure
M	•	
K	•	
N	○	structural and case hardened steels • free-cutting steels, heat-treatable steels • alloyed steels up to 1200 N/mm² • stainless steels • cast materials
S	○	
H	○	

GÜHRINGNAVIGATOR

Cutting data page 142

$t_{max} = l_2 - 1{,}5 \times d_1$

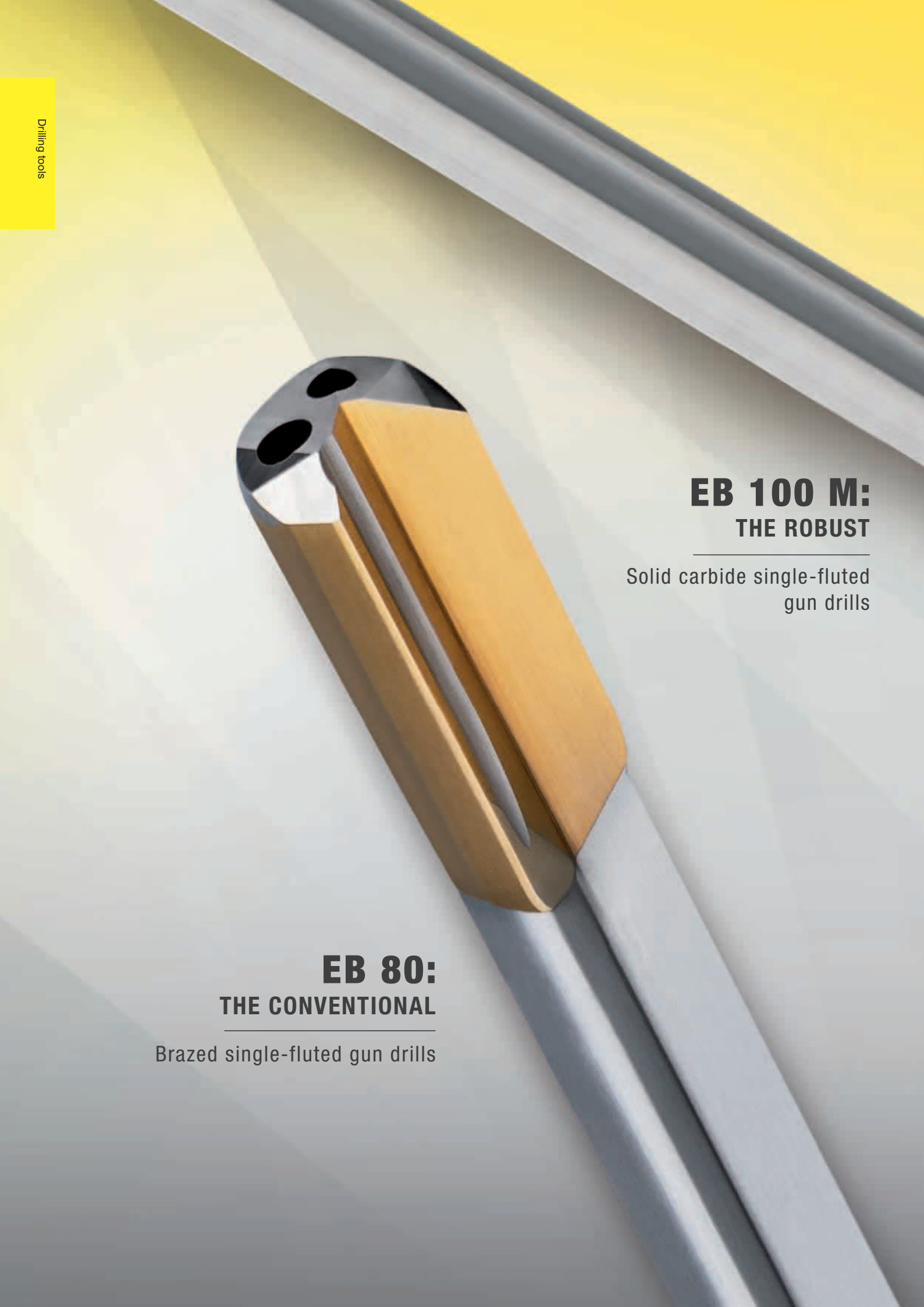


Article no.	6513
Discount group	165
Cutting direction	R

d1		d2 h6	l1	l2	l3	Availability
mm	inch	mm	mm	mm	mm	
3.000		6.00	140.00	100.00	36.00	●
3.100		6.00	158.00	118.00	36.00	●
3.170	1/8	6.00	158.00	118.00	36.00	●
3.200		6.00	158.00	118.00	36.00	●
3.300		6.00	158.00	118.00	36.00	●
3.500		6.00	176.00	136.00	36.00	●
3.570	9/64	6.00	176.00	136.00	36.00	●
3.700		6.00	176.00	136.00	36.00	●
3.800		6.00	176.00	136.00	36.00	●
3.970	5/32	6.00	176.00	136.00	36.00	●
4.000		6.00	176.00	136.00	36.00	●
4.200		6.00	208.00	168.00	36.00	●
4.370	11/64	6.00	208.00	168.00	36.00	●
4.500		6.00	208.00	168.00	36.00	●
4.760	3/16	6.00	208.00	168.00	36.00	●
5.000		6.00	208.00	168.00	36.00	●
5.100		6.00	240.00	200.00	36.00	●
5.160	13/64	6.00	240.00	200.00	36.00	●
5.410		6.00	240.00	200.00	36.00	●
5.500		6.00	240.00	200.00	36.00	●
5.560	7/32	6.00	240.00	200.00	36.00	●
5.950	15/64	6.00	240.00	200.00	36.00	●
6.000		6.00	240.00	200.00	36.00	●
6.300		8.00	272.00	232.00	36.00	●
6.350	1/4	8.00	272.00	232.00	36.00	●
6.500		8.00	272.00	232.00	36.00	●
6.750	17/64	8.00	272.00	232.00	36.00	●
6.800		8.00	272.00	232.00	36.00	●
7.000		8.00	272.00	232.00	36.00	●
7.140	9/32	8.00	303.00	263.00	36.00	●
7.500		8.00	303.00	263.00	36.00	●
7.540	19/64	8.00	303.00	263.00	36.00	●
7.940	5/16	8.00	303.00	263.00	36.00	●
8.000		8.00	303.00	263.00	36.00	●
8.330	21/64	10.00	339.00	295.00	40.00	●
8.500		10.00	339.00	295.00	40.00	●

					Article no.	6513
					Discount group	165
					Cutting direction	R

d1		d2 h6	l1	l2	l3	Availability
mm	inch	mm	mm	mm	mm	
8.730	11/32	10.00	339.00	295.00	40.00	●
8.800		10.00	339.00	295.00	40.00	●
9.000		10.00	339.00	295.00	40.00	●
9.130	23/64	10.00	371.00	327.00	40.00	●
9.520	3/8	10.00	371.00	327.00	40.00	●
9.920	25/64	10.00	371.00	327.00	40.00	●
10.000		10.00	371.00	327.00	40.00	●
10.320	13/32	12.00	412.00	363.00	45.00	●
10.720	27/64	12.00	412.00	363.00	45.00	●
11.000		12.00	412.00	363.00	45.00	●
11.110	7/16	12.00	443.00	394.00	45.00	●
11.510	29/64	12.00	443.00	394.00	45.00	●
11.910	15/32	12.00	443.00	394.00	45.00	●
12.000		12.00	443.00	394.00	45.00	●
12.300	31/64	14.00	507.00	458.00	45.00	●
12.700	1/2	14.00	507.00	458.00	45.00	●
13.000		14.00	507.00	458.00	45.00	●
13.100	33/64	14.00	507.00	458.00	45.00	●
13.490	17/32	14.00	507.00	458.00	45.00	●
13.890	35/64	14.00	507.00	458.00	45.00	●
14.000		14.00	507.00	458.00	45.00	●



EB 100 M:
THE ROBUST

Solid carbide single-fluted
gun drills

EB 80:
THE CONVENTIONAL

Brazed single-fluted gun drills

EB 800:
THE FLEXIBLE

Modular single-fluted gun drill

ZB 80:
THE SPECIALIST FOR CAST IRON

Brazed two-fluted gun drills

CONVENTIONAL DEEP HOLE DRILLS

THE RIGHT TOOL
FOR EVERY APPLICATION.

Ratio drills without coolant ducts

3xD | RT 100 U | DIN 6537 K | 140° | m7

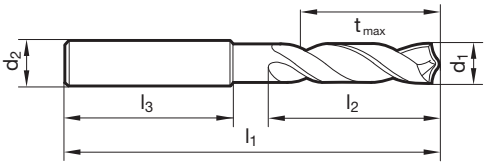
P	•	web thinning ≥ Ø 3.000 • facet point grind • main cutting edge form straight • optimised cutting geometry
M	○	
K	•	
N	○	structural and case hardened steels • free-cutting steels, heat-treatable steels • steels (alloyed/unalloyed) up to 1200 N/mm² • cast materials • bronze, brass • high-alloyed AlSi alloys
S	○	
H	○	

Tool material	Solid carbide		
Surface	F	F	F
Shank form	HA	HE	HB
	SL	SL	SL

GÜHRINGNAVIGATOR

Cutting data page 140

$t_{max} = l_2\text{-}1{,}5 \times d_1$



Article no.	5514	5614	6026
Discount group	155	155	155
Cutting direction	R	R	R

d1		d2 h6	l1	l2	l3	Availability		
mm	inch	mm	mm	mm	mm			
3.000		6.00	62.00	20.00	36.00	●	●	●
3.100		6.00	62.00	20.00	36.00	●	●	●
3.170	1/8	6.00	62.00	20.00	36.00	●	●	●
3.200		6.00	62.00	20.00	36.00	●	●	●
3.250		6.00	62.00	20.00	36.00	●	●	●
3.300		6.00	62.00	20.00	36.00	●	●	●
3.400		6.00	62.00	20.00	36.00	●	●	●
3.500		6.00	62.00	20.00	36.00	●	●	●
3.570	9/64	6.00	62.00	20.00	36.00	●	●	●
3.600		6.00	62.00	20.00	36.00	●	●	●
3.700		6.00	62.00	20.00	36.00	●	●	●
3.800		6.00	66.00	24.00	36.00	●	●	●
3.900		6.00	66.00	24.00	36.00	●	●	●
3.970	5/32	6.00	66.00	24.00	36.00	●	●	●
4.000		6.00	66.00	24.00	36.00	●	●	●
4.100		6.00	66.00	24.00	36.00	●	●	●
4.200		6.00	66.00	24.00	36.00	●	●	●
4.300		6.00	66.00	24.00	36.00	●	●	●
4.370	11/64	6.00	66.00	24.00	36.00	●	●	●
4.400		6.00	66.00	24.00	36.00	●	●	●
4.500		6.00	66.00	24.00	36.00	●	●	●
4.600		6.00	66.00	24.00	36.00	●	●	●
4.650		6.00	66.00	24.00	36.00	●	●	●
4.700		6.00	66.00	24.00	36.00	●	●	●
4.760	3/16	6.00	66.00	28.00	36.00	●	●	●
4.800		6.00	66.00	28.00	36.00	●	●	●
4.900		6.00	66.00	28.00	36.00	●	●	●
5.000		6.00	66.00	28.00	36.00	●	●	●
5.100		6.00	66.00	28.00	36.00	●	●	●
5.160	13/64	6.00	66.00	28.00	36.00	●	●	●
5.200		6.00	66.00	28.00	36.00	●	●	●
5.300		6.00	66.00	28.00	36.00	●	●	●
5.400		6.00	66.00	28.00	36.00	●	●	●
5.500		6.00	66.00	28.00	36.00	●	●	●
5.550		6.00	66.00	28.00	36.00	●	●	●
5.560	7/32	6.00	66.00	28.00	36.00	●	●	●

						Article no.	5514	5614	6026
						Discount group	155	155	155
						Cutting direction	R	R	R
d1		d2 h6	l1	l2	l3	Availability			
mm	inch	mm	mm	mm	mm				
5.600		6.00	66.00	28.00	36.00		●	●	●
5.700		6.00	66.00	28.00	36.00		●	●	●
5.800		6.00	66.00	28.00	36.00		●	●	●
5.900		6.00	66.00	28.00	36.00		●	●	●
5.950	15/64	6.00	66.00	28.00	36.00		●	●	●
6.000		6.00	66.00	28.00	36.00		●	●	●
6.100		8.00	79.00	34.00	36.00		●	●	●
6.200		8.00	79.00	34.00	36.00		●	●	●
6.300		8.00	79.00	34.00	36.00		●	●	●
6.350	1/4	8.00	79.00	34.00	36.00		●	●	●
6.400		8.00	79.00	34.00	36.00		●	●	●
6.500		8.00	79.00	34.00	36.00		●	●	●
6.600		8.00	79.00	34.00	36.00		●	●	●
6.700		8.00	79.00	34.00	36.00		●	●	●
6.750	17/64	8.00	79.00	34.00	36.00		●	●	●
6.800		8.00	79.00	34.00	36.00		●	●	●
6.900		8.00	79.00	34.00	36.00		●	●	●
7.000		8.00	79.00	34.00	36.00		●	●	●
7.100		8.00	79.00	41.00	36.00		●	●	●
7.140	9/32	8.00	79.00	41.00	36.00		●	●	●
7.200		8.00	79.00	41.00	36.00		●	●	●
7.300		8.00	79.00	41.00	36.00		●	●	●
7.400		8.00	79.00	41.00	36.00		●	●	●
7.500		8.00	79.00	41.00	36.00		●	●	●
7.540	19/64	8.00	79.00	41.00	36.00		●	●	●
7.600		8.00	79.00	41.00	36.00		●	●	●
7.700		8.00	79.00	41.00	36.00		●	●	●
7.800		8.00	79.00	41.00	36.00		●	●	●
7.900		8.00	79.00	41.00	36.00		●	●	●
7.940	5/16	8.00	79.00	41.00	36.00		●	●	●
8.000		8.00	79.00	41.00	36.00		●	●	●
8.100		10.00	89.00	47.00	40.00		●	●	●
8.200		10.00	89.00	47.00	40.00		●	●	●
8.300		10.00	89.00	47.00	40.00		●	●	●
8.330	21/64	10.00	89.00	47.00	40.00		●	●	●
8.400		10.00	89.00	47.00	40.00		●	●	●
8.500		10.00	89.00	47.00	40.00		●	●	●
8.600		10.00	89.00	47.00	40.00		●	●	●
8.700		10.00	89.00	47.00	40.00		●	●	●
8.730	11/32	10.00	89.00	47.00	40.00		●	●	●
8.800		10.00	89.00	47.00	40.00		●	●	●
8.900		10.00	89.00	47.00	40.00		●	●	●
9.000		10.00	89.00	47.00	40.00		●	●	●
9.100		10.00	89.00	47.00	40.00		●	●	●
9.130	23/64	10.00	89.00	47.00	40.00		●	●	●
9.200		10.00	89.00	47.00	40.00		●	●	●
9.250		10.00	89.00	47.00	40.00		●	●	●
9.300		10.00	89.00	47.00	40.00		●	●	●
9.400		10.00	89.00	47.00	40.00		●	●	●
9.500		10.00	89.00	47.00	40.00		●	●	●
9.520	3/8	10.00	89.00	47.00	40.00		●	●	●
9.600		10.00	89.00	47.00	40.00		●	●	●
9.700		10.00	89.00	47.00	40.00		●	●	●
9.800		10.00	89.00	47.00	40.00		●	●	●
9.900		10.00	89.00	47.00	40.00		●	●	●
9.920	25/64	10.00	89.00	47.00	40.00		●	●	●
10.000		10.00	89.00	47.00	40.00		●	●	●
10.100		12.00	102.00	55.00	45.00		●	●	●
10.200		12.00	102.00	55.00	45.00		●	●	●
10.300		12.00	102.00	55.00	45.00		●	●	●

						Article no.	5514	5614	6026
						Discount group	155	155	155
						Cutting direction	R	R	R
d1		d2 h6	l1	l2	l3	Availability			
mm	inch	mm	mm	mm	mm				
10.320	13/32	12.00	102.00	55.00	45.00		●	●	●
10.400		12.00	102.00	55.00	45.00		●	●	●
10.500		12.00	102.00	55.00	45.00		●	●	●
10.600		12.00	102.00	55.00	45.00		●	●	●
10.700		12.00	102.00	55.00	45.00		●	●	●
10.800		12.00	102.00	55.00	45.00		●	●	●
10.900		12.00	102.00	55.00	45.00		●	●	●
11.000		12.00	102.00	55.00	45.00		●	●	●
11.100		12.00	102.00	55.00	45.00		●	●	●
11.110	7/16	12.00	102.00	55.00	45.00		●	●	●
11.200		12.00	102.00	55.00	45.00		●	●	●
11.300		12.00	102.00	55.00	45.00		●	●	●
11.400		12.00	102.00	55.00	45.00		●	●	●
11.500		12.00	102.00	55.00	45.00		●	●	●
11.600		12.00	102.00	55.00	45.00		●	●	●
11.700		12.00	102.00	55.00	45.00		●	●	●
11.800		12.00	102.00	55.00	45.00		●	●	●
11.900		12.00	102.00	55.00	45.00		●	●	●
11.910	15/32	12.00	102.00	55.00	45.00		●	●	●
12.000		12.00	102.00	55.00	45.00		●	●	●
12.200		14.00	107.00	60.00	45.00		●	●	●
12.500		14.00	107.00	60.00	45.00		●	●	●
12.700	1/2	14.00	107.00	60.00	45.00		●	●	●
12.800		14.00	107.00	60.00	45.00		●		●
13.000		14.00	107.00	60.00	45.00		●	●	●
13.200		14.00	107.00	60.00	45.00		●		●
13.500		14.00	107.00	60.00	45.00		●	●	●
13.700		14.00	107.00	60.00	45.00		●	●	●
14.000		14.00	107.00	60.00	45.00		●	●	●
14.200		16.00	115.00	65.00	48.00		●	●	●
14.290	9/16	16.00	115.00	65.00	48.00		●	●	●
14.500		16.00	115.00	65.00	48.00		●	●	●
14.700		16.00	115.00	65.00	48.00		●	●	●
15.000		16.00	115.00	65.00	48.00		●	●	●
15.200		16.00	115.00	65.00	48.00		●	●	●
15.500		16.00	115.00	65.00	48.00		●	●	●
15.700		16.00	115.00	65.00	48.00		●	●	●
16.000		16.00	115.00	65.00	48.00		●	●	●
16.500		18.00	123.00	73.00	48.00		●	●	●
17.000		18.00	123.00	73.00	48.00		●	●	●
17.500		18.00	123.00	73.00	48.00		●	●	●
18.000		18.00	123.00	73.00	48.00		●	●	●
18.500		20.00	131.00	79.00	50.00		●	●	●
19.000		20.00	131.00	79.00	50.00		●	●	●
19.500		20.00	131.00	79.00	50.00		●	●	●
20.000		20.00	131.00	79.00	50.00		●	●	●

Ratio drills without coolant ducts

5xD | RT 100 U | DIN 6537 L | 140° | m7

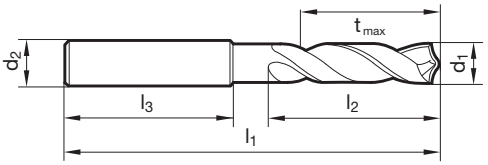
P	•	web thinning ≥ Ø 3.000 • facet point grind • main cutting edge form straight • optimised cutting geometry
M	○	
K	•	
N	○	structural and case hardened steels • free-cutting steels, heat-treatable steels • steels (alloyed/unalloyed) up to 1200 N/mm² • cast materials • bronze, brass • high-alloyed AlSi alloys
S	○	
H	○	

GÜHRINGNAVIGATOR

Cutting data page 140

Tool material	Solid carbide		
Surface	F	F	F
Shank form	HA	HE	HB
	SL	SL	SL

$t_{max} = l_2\text{-}1{,}5 \times d_1$



Article no.	5515	5615	5651
Discount group	155	155	155
Cutting direction	R	R	R

d1		d2 h6	l1	l2	l3	Availability		
mm	inch	mm	mm	mm	mm			
3.000		6.00	66.00	28.00	36.00	●	●	●
3.100		6.00	66.00	28.00	36.00	●	●	●
3.170	1/8	6.00	66.00	28.00	36.00	●	●	●
3.200		6.00	66.00	28.00	36.00	●	●	●
3.250		6.00	66.00	28.00	36.00	●	●	●
3.300		6.00	66.00	28.00	36.00	●	●	●
3.400		6.00	66.00	28.00	36.00	●	●	●
3.500		6.00	66.00	28.00	36.00	●	●	●
3.570	9/64	6.00	66.00	28.00	36.00	●	●	●
3.600		6.00	66.00	28.00	36.00	●	●	●
3.700		6.00	66.00	28.00	36.00	●	●	●
3.800		6.00	74.00	36.00	36.00	●	●	●
3.900		6.00	74.00	36.00	36.00	●	●	●
3.970	5/32	6.00	74.00	36.00	36.00	●	●	●
4.000		6.00	74.00	36.00	36.00	●	●	●
4.100		6.00	74.00	36.00	36.00	●	●	●
4.200		6.00	74.00	36.00	36.00	●	●	●
4.300		6.00	74.00	36.00	36.00	●	●	●
4.370	11/64	6.00	74.00	36.00	36.00	●	●	●
4.400		6.00	74.00	36.00	36.00	●	●	●
4.500		6.00	74.00	36.00	36.00	●	●	●
4.600		6.00	74.00	36.00	36.00	●	●	●
4.650		6.00	74.00	36.00	36.00	●	●	●
4.700		6.00	74.00	36.00	36.00	●	●	●
4.760	3/16	6.00	82.00	44.00	36.00	●	●	●
4.800		6.00	82.00	44.00	36.00	●	●	●
4.900		6.00	82.00	44.00	36.00	●	●	●
5.000		6.00	82.00	44.00	36.00	●	●	●
5.100		6.00	82.00	44.00	36.00	●	●	●
5.160	13/64	6.00	82.00	44.00	36.00	●	●	●
5.200		6.00	82.00	44.00	36.00	●	●	●
5.300		6.00	82.00	44.00	36.00	●	●	●
5.400		6.00	82.00	44.00	36.00	●	●	●
5.500		6.00	82.00	44.00	36.00	●	●	●
5.550		6.00	82.00	44.00	36.00	●	●	●
5.560	7/32	6.00	82.00	44.00	36.00	●	●	●

						Article no.	5515	5615	5651
						Discount group	155	155	155
						Cutting direction	R	R	R
d1		d2 h6	l1	l2	l3	Availability			
mm	inch	mm	mm	mm	mm				
5.600		6.00	82.00	44.00	36.00		●	●	●
5.700		6.00	82.00	44.00	36.00		●	●	●
5.800		6.00	82.00	44.00	36.00		●	●	●
5.900		6.00	82.00	44.00	36.00		●	●	●
5.950	15/64	6.00	82.00	44.00	36.00		●	●	●
6.000		6.00	82.00	44.00	36.00		●	●	●
6.100		8.00	91.00	53.00	36.00		●	●	●
6.200		8.00	91.00	53.00	36.00		●	●	●
6.300		8.00	91.00	53.00	36.00		●	●	●
6.350	1/4	8.00	91.00	53.00	36.00		●	●	●
6.400		8.00	91.00	53.00	36.00		●	●	●
6.500		8.00	91.00	53.00	36.00		●	●	●
6.600		8.00	91.00	53.00	36.00		●	●	●
6.700		8.00	91.00	53.00	36.00		●	●	●
6.750	17/64	8.00	91.00	53.00	36.00		●	●	●
6.800		8.00	91.00	53.00	36.00		●	●	●
6.900		8.00	91.00	53.00	36.00		●	●	●
7.000		8.00	91.00	53.00	36.00		●	●	●
7.100		8.00	91.00	53.00	36.00		●	●	●
7.140	9/32	8.00	91.00	53.00	36.00		●	●	●
7.200		8.00	91.00	53.00	36.00		●	●	●
7.300		8.00	91.00	53.00	36.00		●	●	●
7.400		8.00	91.00	53.00	36.00		●	●	●
7.500		8.00	91.00	53.00	36.00		●	●	●
7.540	19/64	8.00	91.00	53.00	36.00		●	●	●
7.600		8.00	91.00	53.00	36.00		●	●	●
7.700		8.00	91.00	53.00	36.00		●	●	●
7.800		8.00	91.00	53.00	36.00		●	●	●
7.900		8.00	91.00	53.00	36.00		●	●	●
7.940	5/16	8.00	91.00	53.00	36.00		●	●	●
8.000		8.00	91.00	53.00	36.00		●	●	●
8.100		10.00	103.00	61.00	40.00		●	●	●
8.200		10.00	103.00	61.00	40.00		●	●	●
8.300		10.00	103.00	61.00	40.00		●	●	●
8.330	21/64	10.00	103.00	61.00	40.00		●	●	●
8.400		10.00	103.00	61.00	40.00		●	●	●
8.500		10.00	103.00	61.00	40.00		●	●	●
8.600		10.00	103.00	61.00	40.00		●	●	●
8.700		10.00	103.00	61.00	40.00		●	●	●
8.730	11/32	10.00	103.00	61.00	40.00		●	●	●
8.800		10.00	103.00	61.00	40.00		●	●	●
8.900		10.00	103.00	61.00	40.00		●	●	●
9.000		10.00	103.00	61.00	40.00		●	●	●
9.100		10.00	103.00	61.00	40.00		●	●	●
9.130	23/64	10.00	103.00	61.00	40.00		●	●	●
9.200		10.00	103.00	61.00	40.00		●	●	●
9.250		10.00	103.00	61.00	40.00		●	●	●
9.300		10.00	103.00	61.00	40.00		●	●	●
9.400		10.00	103.00	61.00	40.00		●	●	●
9.500		10.00	103.00	61.00	40.00		●	●	●
9.520	3/8	10.00	103.00	61.00	40.00		●	●	●
9.600		10.00	103.00	61.00	40.00		●	●	●
9.700		10.00	103.00	61.00	40.00		●	●	●
9.800		10.00	103.00	61.00	40.00		●	●	●
9.900		10.00	103.00	61.00	40.00		●	●	●
9.920	25/64	10.00	103.00	61.00	40.00		●	●	●
10.000		10.00	103.00	61.00	40.00		●	●	●
10.100		12.00	118.00	71.00	45.00		●	●	●
10.200		12.00	118.00	71.00	45.00		●	●	●
10.300		12.00	118.00	71.00	45.00		●	●	●

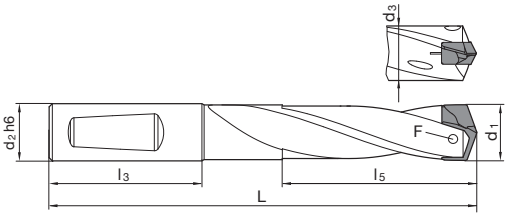
						Article no.	5515	5615	5651
						Discount group	155	155	155
						Cutting direction	R	R	R
d1		d2 h6	l1	l2	l3	Availability			
mm	inch	mm	mm	mm	mm				
10.320	13/32	12.00	118.00	71.00	45.00		●	●	●
10.400		12.00	118.00	71.00	45.00		●	●	●
10.500		12.00	118.00	71.00	45.00		●	●	●
10.600		12.00	118.00	71.00	45.00		●	●	●
10.700		12.00	118.00	71.00	45.00		●	●	●
10.800		12.00	118.00	71.00	45.00		●	●	●
10.900		12.00	118.00	71.00	45.00		●	●	●
11.000		12.00	118.00	71.00	45.00		●	●	●
11.100		12.00	118.00	71.00	45.00		●	●	●
11.110	7/16	12.00	118.00	71.00	45.00		●	●	●
11.200		12.00	118.00	71.00	45.00		●	●	●
11.300		12.00	118.00	71.00	45.00		●	●	●
11.400		12.00	118.00	71.00	45.00		●	●	●
11.500		12.00	118.00	71.00	45.00		●	●	●
11.600		12.00	118.00	71.00	45.00		●	●	●
11.700		12.00	118.00	71.00	45.00		●	●	●
11.800		12.00	118.00	71.00	45.00		●	●	●
11.900		12.00	118.00	71.00	45.00		●	●	●
11.910	15/32	12.00	118.00	71.00	45.00		●	●	●
12.000		12.00	118.00	71.00	45.00		●	●	●
12.200		14.00	124.00	77.00	45.00		●	●	●
12.500		14.00	124.00	77.00	45.00		●	●	●
12.700	1/2	14.00	124.00	77.00	45.00		●	●	●
13.000		14.00	124.00	77.00	45.00		●	●	●
13.500		14.00	124.00	77.00	45.00		●	●	●
13.700		14.00	124.00	77.00	45.00		●	●	●
14.000		14.00	124.00	77.00	45.00		●	●	●
14.200		16.00	133.00	83.00	48.00		●	●	●
14.290	9/16	16.00	133.00	83.00	48.00		●	●	●
14.500		16.00	133.00	83.00	48.00		●	●	●
14.700		16.00	133.00	83.00	48.00		●	●	●
15.000		16.00	133.00	83.00	48.00		●	●	●
15.200		16.00	133.00	83.00	48.00		●	●	●
15.500		16.00	133.00	83.00	48.00		●	●	●
15.700		16.00	133.00	83.00	48.00		●	●	●
16.000		16.00	133.00	83.00	48.00		●	●	●
16.500		18.00	143.00	93.00	48.00		●	●	●
17.000		18.00	143.00	93.00	48.00		●	●	●
17.500		18.00	143.00	93.00	48.00		●	●	●
18.000		18.00	143.00	93.00	48.00		●	●	●
18.500		20.00	153.00	101.00	50.00		●	●	●
19.000		20.00	153.00	101.00	50.00		●	●	●
19.500		20.00	153.00	101.00	50.00		●	●	●
20.000		20.00	153.00	101.00	50.00		●	●	●

Tool holders for interchangeable inserts HT 800

HT 800 WP | 3xD | WN

Surface	Ni
Shank form	HE

especially high wear resistance • optimised coolant duct exit • optimised flute design • nickel-plated • screwdriver art. no. 1612 included • clamping screws art. no. 4071 included



Article no.	4107
Discount group	140
Cutting direction	R

d1	d2 h6	d3	L	l3	l5	F	Code no.	Availability
	mm	mm	mm	mm	mm			
11.00-11.49	12.000	10.70	101.00	45.00	36.60	4071 2.200	11.000	●
11.00-11.49	12.700	10.70	101.00	45.00	36.60	4071 2.200	11.005	●
11.50-11.99	12.000	11.20	103.00	45.00	38.10	4071 2.200	11.500	●
11.50-11.99	12.700	11.20	103.00	45.00	38.10	4071 2.200	11.505	●
12.00-12.49	12.000	11.70	106.00	45.00	39.70	4071 2.201	12.000	●
12.00-12.49	12.700	11.70	106.00	45.00	39.70	4071 2.201	12.005	●
12.50-12.99	14.000	12.20	108.00	45.00	41.30	4071 2.201	12.500	●
12.50-12.99	15.875	12.20	108.00	45.00	41.30	4071 2.201	12.505	●
13.00-13.49	14.000	12.70	110.00	45.00	42.90	4071 2.500	13.000	●
13.00-13.49	15.875	12.70	110.00	45.00	42.90	4071 2.500	13.005	●
13.50-13.99	14.000	13.20	113.00	45.00	44.60	4071 2.500	13.500	●
13.50-13.99	15.875	13.20	113.00	45.00	44.60	4071 2.500	13.505	●
14.00-14.49	14.000	13.70	115.00	45.00	46.20	4071 3.000	14.000	●
14.00-14.49	15.875	13.70	115.00	45.00	46.20	4071 3.000	14.005	●
14.50-14.99	15.875	14.20	120.00	48.00	47.80	4071 3.000	14.505	●
14.50-14.99	16.000	14.20	120.00	48.00	47.80	4071 3.000	14.500	●
15.00-15.49	15.875	14.70	123.00	48.00	49.30	4071 3.001	15.005	●
15.00-15.49	16.000	14.70	123.00	48.00	49.30	4071 3.001	15.000	●
15.50-15.99	15.875	15.20	125.00	48.00	50.90	4071 3.001	15.505	●
15.50-15.99	16.000	15.20	125.00	48.00	50.90	4071 3.001	15.500	●
16.00-16.49	15.875	15.70	127.00	48.00	52.90	4071 3.500	16.005	●
16.00-16.49	16.000	15.70	127.00	48.00	52.90	4071 3.500	16.000	●
16.50-16.99	18.000	16.20	130.00	48.00	54.10	4071 3.500	16.500	●
16.50-16.99	19.050	16.20	130.00	48.00	54.10	4071 3.500	16.505	●
17.00-17.49	18.000	16.70	132.00	48.00	55.80	4071 3.500	17.000	●
17.00-17.49	19.050	16.70	132.00	48.00	55.80	4071 3.500	17.005	●
17.50-17.99	18.000	17.20	134.00	48.00	57.40	4071 3.500	17.500	●
17.50-17.99	19.050	17.20	134.00	48.00	57.40	4071 3.500	17.505	●
18.00-18.49	18.000	17.70	137.00	48.00	58.90	4071 4.000	18.000	●
18.00-18.49	19.050	17.70	137.00	48.00	58.90	4071 4.000	18.005	●
18.50-18.99	19.050	18.20	141.00	50.00	60.50	4071 4.000	18.505	●
18.50-18.99	20.000	18.20	141.00	50.00	60.50	4071 4.000	18.500	●
19.00-19.49	19.050	18.70	143.00	50.00	62.10	4071 4.000	19.005	●
19.00-19.49	20.000	18.70	143.00	50.00	62.10	4071 4.000	19.000	●
19.50-19.99	19.050	19.20	146.00	50.00	63.70	4071 4.000	19.505	●
19.50-19.99	20.000	19.20	146.00	50.00	63.70	4071 4.000	19.500	●

						Article no.	4107
						Discount group	140
						Cutting direction	(R)

d1	d2 h6	d3	L	l3	l5	F	Code no.	Availability
	mm	mm	mm	mm	mm			
20.00-20.49	19.050	19.70	148.00	50.00	65.30	4071 4.500	20.005	●
20.00-20.49	20.000	19.70	148.00	50.00	65.30	4071 4.500	20.000	●
20.50-20.99	25.000	20.20	159.00	56.00	67.00	4071 4.500	20.500	●
20.50-20.99	25.400	20.20	159.00	56.00	67.00	4071 4.500	20.505	●
21.00-21.49	25.000	20.70	161.00	56.00	68.60	4071 4.500	21.000	●
21.00-21.49	25.400	20.70	161.00	56.00	68.60	4071 4.500	21.005	●
21.50-21.99	25.000	21.20	163.00	56.00	70.10	4071 4.500	21.500	●
21.50-21.99	25.400	21.20	163.00	56.00	70.10	4071 4.500	21.505	●
22.00-22.49	25.000	21.70	165.00	56.00	71.70	4071 5.000	22.000	●
22.00-22.49	25.400	21.70	165.00	56.00	71.70	4071 5.000	22.005	●
22.50-22.99	25.000	22.20	168.00	56.00	73.30	4071 5.000	22.500	●
22.50-22.99	25.400	22.20	168.00	56.00	73.30	4071 5.000	22.505	●
23.00-23.49	25.000	22.70	170.00	56.00	74.90	4071 5.000	23.000	●
23.00-23.49	25.400	22.70	170.00	56.00	74.90	4071 5.000	23.005	●
23.50-23.99	25.000	23.20	173.00	56.00	76.50	4071 5.000	23.500	●
23.50-23.99	25.400	23.20	173.00	56.00	76.50	4071 5.000	23.505	●
24.00-24.49	25.000	23.70	175.00	56.00	78.10	4071 5.001	24.000	●
24.00-24.49	25.400	23.70	175.00	56.00	78.10	4071 5.001	24.005	●
24.50-24.99	25.000	24.20	177.00	56.00	79.70	4071 5.001	24.500	●
24.50-24.99	25.400	24.20	177.00	56.00	79.70	4071 5.001	24.505	●
25.00-25.49	25.000	24.70	180.00	56.00	81.30	4071 5.001	25.000	●
25.00-25.49	25.400	24.70	180.00	56.00	81.30	4071 5.001	25.005	●
25.50-25.99	31.750	25.20	187.00	60.00	82.90	4071 5.001	25.505	●
25.50-25.99	32.000	25.20	187.00	60.00	82.90	4071 5.001	25.500	●
26.00-26.49	31.750	25.70	191.00	60.00	84.00	4071 5.003	26.005	●
26.00-26.49	32.000	25.70	191.00	60.00	84.00	4071 5.003	26.000	●
26.50-26.99	31.750	26.20	193.00	60.00	86.10	4071 5.003	26.505	●
26.50-26.99	32.000	26.20	193.00	60.00	86.10	4071 5.003	26.500	●
27.00-27.49	31.750	26.70	196.00	60.00	87.20	4071 5.003	27.005	●
27.00-27.49	32.000	26.70	196.00	60.00	87.20	4071 5.003	27.000	●
27.50-27.99	31.750	27.20	198.00	60.00	88.90	4071 5.003	27.505	●
27.50-27.99	32.000	27.20	198.00	60.00	88.90	4071 5.003	27.500	●
28.00-28.49	31.750	27.70	200.00	60.00	90.40	4071 5.003	28.005	●
28.00-28.49	32.000	27.70	200.00	60.00	90.40	4071 5.003	28.000	●
28.50-28.99	31.750	28.20	202.00	60.00	92.50	4071 5.003	28.505	●
28.50-28.99	32.000	28.20	202.00	60.00	92.50	4071 5.003	28.500	●
29.00-29.49	31.750	28.70	205.00	60.00	94.60	4071 5.003	29.005	●
29.00-29.49	32.000	28.70	205.00	60.00	94.60	4071 5.003	29.000	●
29.50-29.99	31.750	29.20	207.00	60.00	95.10	4071 5.003	29.505	●
29.50-29.99	32.000	29.20	207.00	60.00	95.10	4071 5.003	29.500	●
30.00-30.49	31.750	29.70	210.00	60.00	96.70	4071 6.000	30.005	●
30.00-30.49	32.000	29.70	210.00	60.00	96.70	4071 6.000	30.000	●
30.50-30.99	31.750	30.20	212.00	60.00	98.30	4071 6.000	30.505	●
30.50-30.99	32.000	30.20	212.00	60.00	98.30	4071 6.000	30.500	●
31.00-31.49	31.750	30.70	214.00	60.00	99.80	4071 6.000	31.005	●
31.00-31.49	32.000	30.70	214.00	60.00	99.80	4071 6.000	31.000	●
31.50-31.99	31.750	31.20	216.00	60.00	101.40	4071 6.000	31.505	●
31.50-31.99	32.000	31.20	216.00	60.00	101.40	4071 6.000	31.500	●
32.00-32.99	31.750	31.70	221.00	60.00	104.60	4071 6.001	32.005	●
32.00-32.99	32.000	31.70	221.00	60.00	104.60	4071 6.001	32.000	●
33.00-33.99	31.750	32.70	226.00	60.00	107.80	4071 6.001	33.005	●
33.00-33.99	32.000	32.70	226.00	60.00	107.80	4071 6.001	33.000	●
34.00-34.99	31.750	33.70	230.00	60.00	111.00	4071 6.001	34.005	●
34.00-34.99	32.000	33.70	230.00	60.00	111.00	4071 6.001	34.000	●
35.00-35.99	31.750	34.70	235.00	60.00	114.20	4071 6.001	35.005	●
35.00-35.99	32.000	34.70	235.00	60.00	114.20	4071 6.001	35.000	●
36.00-36.99	31.750	35.70	240.00	60.00	117.30	4071 6.002	36.005	●
36.00-36.99	32.000	35.70	240.00	60.00	117.30	4071 6.002	36.000	●
37.00-37.99	31.750	36.70	245.00	60.00	120.50	4071 6.002	37.005	●
37.00-37.99	32.000	36.70	245.00	60.00	120.50	4071 6.002	37.000	●

Article no.	**4107**
Discount group	**140**
Cutting direction	®

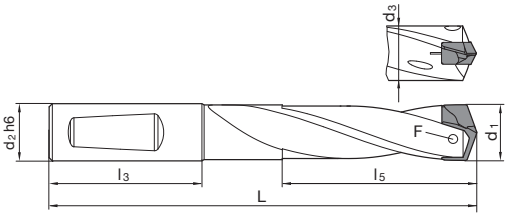
d1	d2 h6	d3	L	l3	l5	F	Code no.	Availability
	mm	mm	mm	mm	mm			
38.00-38.99	31.750	37.70	249.00	60.00	123.70	4071 6.002	38.005	●
38.00-38.99	32.000	37.70	249.00	60.00	123.70	4071 6.002	38.000	●
39.00-40.00	31.750	38.70	254.00	60.00	126.90	4071 6.002	39.005	●
39.00-40.00	32.000	38.70	254.00	60.00	126.90	4071 6.002	39.000	●

Tool holders for interchangeable inserts HT 800

HT 800 WP | 5xD | WN

Surface	Ni
Shank form	HE

especially high wear resistance • optimised coolant duct exit • optimised flute design • nickel-plated • screwdriver art. no. 1612 included • clamping screws art. no. 4071 included



Article no.	4108
Discount group	140
Cutting direction	R

d1	d2 h6	d3	L	l3	l5	F	Code no.	Availability
	mm	mm	mm	mm	mm			
11.00-11.49	12.000	10.70	124.00	45.00	59.60	4071 2.200	11.000	●
11.00-11.49	12.700	10.70	124.00	45.00	59.60	4071 2.200	11.005	●
11.50-11.99	12.000	11.20	127.00	45.00	62.10	4071 2.200	11.500	●
11.50-11.99	12.700	11.20	127.00	45.00	62.10	4071 2.200	11.505	●
12.00-12.49	12.000	11.70	131.00	45.00	64.70	4071 2.201	12.000	●
12.00-12.49	12.700	11.70	131.00	45.00	64.70	4071 2.201	12.005	●
12.50-12.99	14.000	12.20	134.00	45.00	67.30	4071 2.201	12.500	●
12.50-12.99	15.875	12.20	134.00	45.00	67.30	4071 2.201	12.505	●
13.00-13.49	14.000	12.70	137.00	45.00	69.90	4071 2.500	13.000	●
13.00-13.49	15.875	12.70	137.00	45.00	69.90	4071 2.500	13.005	●
13.50-13.99	14.000	13.20	141.00	45.00	72.60	4071 2.500	13.500	●
13.50-13.99	15.875	13.20	141.00	45.00	72.60	4071 2.500	13.505	●
14.00-14.49	14.000	13.70	144.00	45.00	75.20	4071 3.000	14.000	●
14.00-14.49	15.875	13.70	144.00	45.00	75.20	4071 3.000	14.005	●
14.50-14.99	15.875	14.20	150.00	48.00	77.80	4071 3.000	14.505	●
14.50-14.99	16.000	14.20	150.00	48.00	77.80	4071 3.000	14.500	●
15.00-15.49	15.875	14.70	154.00	48.00	80.30	4071 3.001	15.005	●
15.00-15.49	16.000	14.70	154.00	48.00	80.30	4071 3.001	15.000	●
15.50-15.99	15.875	15.20	157.00	48.00	82.90	4071 3.001	15.505	●
15.50-15.99	16.000	15.20	157.00	48.00	82.90	4071 3.001	15.500	●
16.00-16.49	15.875	15.70	160.00	48.00	85.90	4071 3.500	16.005	●
16.00-16.49	16.000	15.70	160.00	48.00	85.90	4071 3.500	16.000	●
16.50-16.99	18.000	16.20	164.00	48.00	88.10	4071 3.500	16.500	●
16.50-16.99	19.050	16.20	164.00	48.00	88.10	4071 3.500	16.505	●
17.00-17.49	18.000	16.70	167.00	48.00	90.80	4071 3.500	17.000	●
17.00-17.49	19.050	16.70	167.00	48.00	90.80	4071 3.500	17.005	●
17.50-17.99	18.000	17.20	170.00	48.00	93.40	4071 3.500	17.500	●
17.50-17.99	19.050	17.20	170.00	48.00	93.40	4071 3.500	17.505	●
18.00-18.49	18.000	17.70	174.00	48.00	95.90	4071 4.000	18.000	●
18.00-18.49	19.050	17.70	174.00	48.00	95.90	4071 4.000	18.005	●
18.50-18.99	19.050	18.20	179.00	50.00	98.50	4071 4.000	18.505	●
18.50-18.99	20.000	18.20	179.00	50.00	98.50	4071 4.000	18.500	●
19.00-19.49	19.050	18.70	182.00	50.00	101.10	4071 4.000	19.005	●
19.00-19.49	20.000	18.70	182.00	50.00	101.10	4071 4.000	19.000	●
19.50-19.99	19.050	19.20	186.00	50.00	103.70	4071 4.000	19.505	●
19.50-19.99	20.000	19.20	186.00	50.00	103.70	4071 4.000	19.500	●

							Article no.	4108
							Discount group	140
							Cutting direction	®
d1	d2 h6	d3	L	l3	l5	F	Code no.	Availability
	mm	mm	mm	mm	mm			
20.00-20.49	19.050	19.70	189.00	50.00	106.30	4071 4.500	20.005	●
20.00-20.49	20.000	19.70	189.00	50.00	106.30	4071 4.500	20.000	●
20.50-20.99	25.000	20.20	201.00	56.00	109.00	4071 4.500	20.500	●
20.50-20.99	25.400	20.20	201.00	56.00	109.00	4071 4.500	20.505	●
21.00-21.49	25.000	20.70	204.00	56.00	111.60	4071 4.500	21.000	●
21.00-21.49	25.400	20.70	204.00	56.00	111.60	4071 4.500	21.005	●
21.50-21.99	25.000	21.20	207.00	56.00	114.10	4071 4.500	21.500	●
21.50-21.99	25.400	21.20	207.00	56.00	114.10	4071 4.500	21.505	●
22.00-22.49	25.000	21.70	210.00	56.00	116.70	4071 5.000	22.000	●
22.00-22.49	25.400	21.70	210.00	56.00	116.70	4071 5.000	22.005	●
22.50-22.99	25.000	22.20	214.00	56.00	119.30	4071 5.000	22.500	●
22.50-22.99	25.400	22.20	214.00	56.00	119.30	4071 5.000	22.505	●
23.00-23.49	25.000	22.70	217.00	56.00	121.90	4071 5.000	23.000	●
23.00-23.49	25.400	22.70	217.00	56.00	121.90	4071 5.000	23.005	●
23.50-23.99	25.000	23.20	221.00	56.00	124.50	4071 5.000	23.500	●
23.50-23.99	25.400	23.20	221.00	56.00	124.50	4071 5.000	23.505	●
24.00-24.49	25.000	23.70	224.00	56.00	127.10	4071 5.001	24.000	●
24.00-24.49	25.400	23.70	224.00	56.00	127.10	4071 5.001	24.005	●
24.50-24.99	25.000	24.20	227.00	56.00	129.70	4071 5.001	24.500	●
24.50-24.99	25.400	24.20	227.00	56.00	129.70	4071 5.001	24.505	●
25.00-25.49	25.000	24.70	231.00	56.00	132.30	4071 5.001	25.000	●
25.00-25.49	25.400	24.70	231.00	56.00	132.30	4071 5.001	25.005	●
25.50-25.99	31.750	25.20	239.00	60.00	134.90	4071 5.001	25.505	●
25.50-25.99	32.000	25.20	239.00	60.00	134.90	4071 5.001	25.500	●
26.00-26.49	31.750	25.70	244.00	60.00	137.00	4071 5.003	26.005	●
26.00-26.49	32.000	25.70	244.00	60.00	137.00	4071 5.003	26.000	●
26.50-26.99	31.750	26.20	247.00	60.00	140.00	4071 5.003	26.505	●
26.50-26.99	32.000	26.20	247.00	60.00	140.00	4071 5.003	26.500	●
27.00-27.49	31.750	26.70	251.00	60.00	142.20	4071 5.003	27.005	●
27.00-27.49	32.000	26.70	251.00	60.00	142.20	4071 5.003	27.000	●
27.50-27.99	31.750	27.20	254.00	60.00	144.80	4071 5.003	27.505	●
27.50-27.99	32.000	27.20	254.00	60.00	144.80	4071 5.003	27.500	●
28.00-28.49	31.750	27.70	257.00	60.00	147.40	4071 5.003	28.005	●
28.00-28.49	32.000	27.70	257.00	60.00	147.40	4071 5.003	28.000	●
28.50-28.99	31.750	28.20	260.00	60.00	150.40	4071 5.003	28.505	●
28.50-28.99	32.000	28.20	260.00	60.00	150.40	4071 5.003	28.500	●
29.00-29.49	31.750	28.70	264.00	60.00	153.50	4071 5.003	29.005	●
29.00-29.49	32.000	28.70	264.00	60.00	153.50	4071 5.003	29.000	●
29.50-29.99	31.750	29.20	267.00	60.00	155.10	4071 5.003	29.505	●
29.50-29.99	32.000	29.20	267.00	60.00	155.10	4071 5.003	29.500	●
30.00-30.49	31.750	29.70	271.00	60.00	157.60	4071 6.000	30.005	●
30.00-30.49	32.000	29.70	271.00	60.00	157.60	4071 6.000	30.000	●
30.50-30.99	31.750	30.20	274.00	60.00	160.20	4071 6.000	30.505	●
30.50-30.99	32.000	30.20	274.00	60.00	160.20	4071 6.000	30.500	●
31.00-31.49	31.750	30.70	277.00	60.00	162.80	4071 6.000	31.005	●
31.00-31.49	32.000	30.70	277.00	60.00	162.80	4071 6.000	31.000	●
31.50-31.99	31.750	31.20	280.00	60.00	165.40	4071 6.000	31.505	●
31.50-31.99	32.000	31.20	280.00	60.00	165.40	4071 6.000	31.500	●
32.00-32.99	31.750	31.70	287.00	60.00	170.60	4071 6.001	32.005	●
32.00-32.99	32.000	31.70	287.00	60.00	170.60	4071 6.001	32.000	●
33.00-33.99	31.750	32.70	294.00	60.00	175.80	4071 6.001	33.005	●
33.00-33.99	32.000	32.70	294.00	60.00	175.80	4071 6.001	33.000	●
34.00-34.99	31.750	33.70	300.00	60.00	181.00	4071 6.001	34.005	●
34.00-34.99	32.000	33.70	300.00	60.00	181.00	4071 6.001	34.000	●
35.00-35.99	31.750	34.70	307.00	60.00	186.20	4071 6.001	35.005	●
35.00-35.99	32.000	34.70	307.00	60.00	186.20	4071 6.001	35.000	●
36.00-36.99	31.750	35.70	314.00	60.00	191.30	4071 6.002	36.005	●
36.00-36.99	32.000	35.70	314.00	60.00	191.30	4071 6.002	36.000	●
37.00-37.99	31.750	36.70	321.00	60.00	196.50	4071 6.002	37.005	●
37.00-37.99	32.000	36.70	321.00	60.00	196.50	4071 6.002	37.000	●

Article no.	**4108**
Discount group	**140**
Cutting direction	®

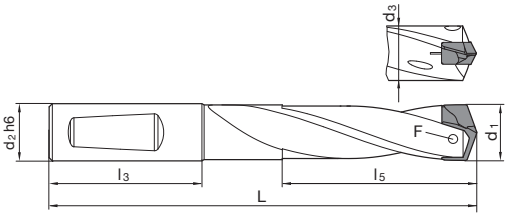
d1	d2 h6	d3	L	l3	l5	F	Code no.	Availability
	mm	mm	mm	mm	mm			
38.00-38.99	31.750	37.70	327.00	60.00	201.70	4071 6.002	38.005	●
38.00-38.99	32.000	37.70	327.00	60.00	201.70	4071 6.002	38.000	●
39.00-40.00	31.750	38.70	334.00	60.00	206.90	4071 6.002	39.005	●
39.00-40.00	32.000	38.70	334.00	60.00	206.90	4071 6.002	39.000	●

Tool holders for interchangeable inserts HT 800

HT 800 WP | 7xD | WN

especially high wear resistance • optimised coolant duct exit • optimised flute design • nickel-plated • screwdriver art. no. 1612 included • clamping screws art. no. 4071 included

Surface	Ni
Shank form	HE



Article no.	4109
Discount group	140
Cutting direction	R

d1	d2 h6	d3	L	l3	l5	F	Code no.	Availability
	mm	mm	mm	mm	mm			
11.00-11.49	12.000	10.70	147.00	45.00	82.60	4071 2.200	11.000	●
11.00-11.49	12.700	10.70	147.00	45.00	82.60	4071 2.200	11.005	●
11.50-11.99	12.000	11.20	151.00	45.00	86.10	4071 2.200	11.500	●
11.50-11.99	12.700	11.20	151.00	45.00	86.10	4071 2.200	11.505	●
12.00-12.49	12.000	11.70	156.00	45.00	89.70	4071 2.201	12.000	●
12.00-12.49	12.700	11.70	156.00	45.00	89.70	4071 2.201	12.005	●
12.50-12.99	14.000	12.20	160.00	45.00	93.30	4071 2.201	12.500	●
12.50-12.99	15.875	12.20	160.00	45.00	93.30	4071 2.201	12.505	●
13.00-13.49	14.000	12.70	164.00	45.00	96.90	4071 2.500	13.000	●
13.00-13.49	15.875	12.70	164.00	45.00	96.90	4071 2.500	13.005	●
13.50-13.99	14.000	13.20	169.00	45.00	100.60	4071 2.500	13.500	●
13.50-13.99	15.875	13.20	169.00	45.00	100.60	4071 2.500	13.505	●
14.00-14.49	14.000	13.70	173.00	45.00	104.20	4071 3.000	14.000	●
14.00-14.49	15.875	13.70	173.00	45.00	104.20	4071 3.000	14.005	●
14.50-14.99	15.875	14.20	180.00	48.00	107.80	4071 3.000	14.505	●
14.50-14.99	16.000	14.20	180.00	48.00	107.80	4071 3.000	14.500	●
15.00-15.49	15.875	14.70	185.00	48.00	111.30	4071 3.001	15.005	●
15.00-15.49	16.000	14.70	185.00	48.00	111.30	4071 3.001	15.000	●
15.50-15.99	15.875	15.20	189.00	48.00	114.90	4071 3.001	15.505	●
15.50-15.99	16.000	15.20	189.00	48.00	114.90	4071 3.001	15.500	●
16.00-16.49	15.875	15.70	193.00	48.00	118.90	4071 3.500	16.005	●
16.00-16.49	16.000	15.70	193.00	48.00	118.90	4071 3.500	16.000	●
16.50-16.99	18.000	16.20	198.00	48.00	122.10	4071 3.500	16.500	●
16.50-16.99	19.050	16.20	198.00	48.00	122.10	4071 3.500	16.505	●
17.00-17.49	18.000	16.70	202.00	48.00	125.80	4071 3.500	17.000	●
17.00-17.49	19.050	16.70	202.00	48.00	125.80	4071 3.500	17.005	●
17.50-17.99	18.000	17.20	206.00	48.00	129.40	4071 3.500	17.500	●
17.50-17.99	19.050	17.20	206.00	48.00	129.40	4071 3.500	17.505	●
18.00-18.49	18.000	17.70	211.00	48.00	132.90	4071 4.000	18.000	●
18.00-18.49	19.050	17.70	211.00	48.00	132.90	4071 4.000	18.005	●
18.50-18.99	19.050	18.20	217.00	50.00	136.50	4071 4.000	18.505	●
18.50-18.99	20.000	18.20	217.00	50.00	136.50	4071 4.000	18.500	●
19.00-19.49	19.050	18.70	221.00	50.00	140.10	4071 4.000	19.005	●
19.00-19.49	20.000	18.70	221.00	50.00	140.10	4071 4.000	19.000	●
19.50-19.99	19.050	19.20	226.00	50.00	143.70	4071 4.000	19.505	●
19.50-19.99	20.000	19.20	226.00	50.00	143.70	4071 4.000	19.500	●

Article no.	**4109**
Discount group	**140**
Cutting direction	®

d1	d2 h6	d3	L	l3	l5	F	Code no.	Availability
	mm	mm	mm	mm	mm			
20.00-20.49	19.050	19.70	230.00	50.00	147.30	4071 4.500	20.005	●
20.00-20.49	20.000	19.70	230.00	50.00	147.30	4071 4.500	20.000	●
20.50-20.99	25.000	20.20	243.00	56.00	151.00	4071 4.500	20.500	●
20.50-20.99	25.400	20.20	243.00	56.00	151.00	4071 4.500	20.505	●
21.00-21.49	25.000	20.70	247.00	56.00	154.60	4071 4.500	21.000	●
21.00-21.49	25.400	20.70	247.00	56.00	154.60	4071 4.500	21.005	●
21.50-21.99	25.000	21.20	251.00	56.00	158.10	4071 4.500	21.500	●
21.50-21.99	25.400	21.20	251.00	56.00	158.10	4071 4.500	21.505	●
22.00-22.49	25.000	21.70	255.00	56.00	161.70	4071 5.000	22.000	●
22.00-22.49	25.400	21.70	255.00	56.00	161.70	4071 5.000	22.005	●
22.50-22.99	25.000	22.20	260.00	56.00	165.30	4071 5.000	22.500	●
22.50-22.99	25.400	22.20	260.00	56.00	165.30	4071 5.000	22.505	●
23.00-23.49	25.000	22.70	264.00	56.00	168.90	4071 5.000	23.000	●
23.00-23.49	25.400	22.70	264.00	56.00	168.90	4071 5.000	23.005	●
23.50-23.99	25.000	23.20	269.00	56.00	172.50	4071 5.000	23.500	●
23.50-23.99	25.400	23.20	269.00	56.00	172.50	4071 5.000	23.505	●
24.00-24.49	25.000	23.70	273.00	56.00	176.10	4071 5.001	24.000	●
24.00-24.49	25.400	23.70	273.00	56.00	176.10	4071 5.001	24.005	●
24.50-24.99	25.000	24.20	277.00	56.00	179.70	4071 5.001	24.500	●
24.50-24.99	25.400	24.20	277.00	56.00	179.70	4071 5.001	24.505	●
25.00-25.49	25.000	24.70	282.00	56.00	183.30	4071 5.001	25.000	●
25.00-25.49	25.400	24.70	282.00	56.00	183.30	4071 5.001	25.005	●
25.50-25.99	31.750	25.20	291.00	60.00	186.90	4071 5.001	25.505	●
25.50-25.99	32.000	25.20	291.00	60.00	186.90	4071 5.001	25.500	●
26.00-26.49	31.750	25.70	297.00	60.00	190.00	4071 5.003	26.005	●
26.00-26.49	32.000	25.70	297.00	60.00	190.00	4071 5.003	26.000	●
26.50-26.99	31.750	26.20	301.00	60.00	194.00	4071 5.003	26.505	●
26.50-26.99	32.000	26.20	301.00	60.00	194.00	4071 5.003	26.500	●
27.00-27.49	31.750	26.70	306.00	60.00	197.20	4071 5.003	27.005	●
27.00-27.49	32.000	26.70	306.00	60.00	197.20	4071 5.003	27.000	●
27.50-27.99	31.750	27.20	310.00	60.00	200.80	4071 5.003	27.505	●
27.50-27.99	32.000	27.20	310.00	60.00	200.80	4071 5.003	27.500	●
28.00-28.49	31.750	27.70	314.00	60.00	204.40	4071 5.003	28.005	●
28.00-28.49	32.000	27.70	314.00	60.00	204.40	4071 5.003	28.000	●
28.50-28.99	31.750	28.20	318.00	60.00	208.40	4071 5.003	28.505	●
28.50-28.99	32.000	28.20	318.00	60.00	208.40	4071 5.003	28.500	●
29.00-29.49	31.750	28.70	323.00	60.00	212.50	4071 5.003	29.005	●
29.00-29.49	32.000	28.70	323.00	60.00	212.50	4071 5.003	29.000	●
29.50-29.99	31.750	29.20	327.00	60.00	215.10	4071 5.003	29.505	●
29.50-29.99	32.000	29.20	327.00	60.00	215.10	4071 5.003	29.500	●
30.00-30.49	31.750	29.70	332.00	60.00	218.60	4071 6.000	30.005	●
30.00-30.49	32.000	29.70	332.00	60.00	218.60	4071 6.000	30.000	●
30.50-30.99	31.750	30.20	336.00	60.00	222.20	4071 6.000	30.505	●
30.50-30.99	32.000	30.20	336.00	60.00	222.20	4071 6.000	30.500	●
31.00-31.49	31.750	30.70	340.00	60.00	225.80	4071 6.000	31.005	●
31.00-31.49	32.000	30.70	340.00	60.00	225.80	4071 6.000	31.000	●
31.50-31.99	31.750	31.20	344.00	60.00	229.40	4071 6.000	31.505	●
31.50-31.99	32.000	31.20	344.00	60.00	229.40	4071 6.000	31.500	●
33.00-33.99	32.000	32.70	362.00	60.00	244.60	4071 6.001	33.000	●
36.00-36.99	32.000	35.70	387.00	60.00	265.80	4071 6.002	36.000	●
39.00-40.00	32.000	38.70	413.00	60.00	287.40	4071 6.002	39.000	●

Interchangeable inserts HT 800

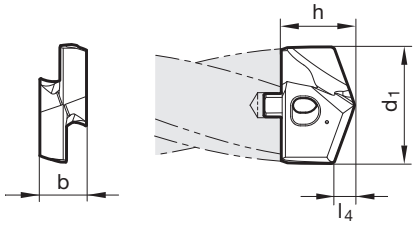
HT 800 WP | WN | 140° | h7

Tool material	Solid carbide
Surface	F
Type	HT 800 WP

P	•	web thinning ≥ Ø 11.000 • facet point grind • main cutting edge form straight (after correction) • clamping screws art. no. 4071 included
M	○	
K	○	
N		free-cutting steels, heat-treatable steels • structural and case hardened steels • alloyed steels up to 1200 N/mm²
S		
H		

GÜHRINGNAVIGATOR

Cutting data page 144



Article no.	4112
Discount group	141
Cutting direction	R

d1		l4	b	h	Code no.	Availability
mm	inch	mm	mm	mm		
11.00		2.10	4.50	7.50	11.000	●
11.20		2.10	4.50	7.50	11.200	●
11.50		2.10	4.50	7.50	11.500	●
11.51	29/64	2.10	4.50	7.50	11.510	●
11.70		2.20	4.50	7.50	11.700	●
11.80		2.20	4.50	7.50	11.800	●
11.91	15/32	2.20	4.50	7.50	11.910	●
12.00		2.20	5.00	7.70	12.000	●
12.10		2.30	5.00	7.70	12.100	●
12.20		2.30	5.00	7.70	12.200	●
12.30	31/64	2.30	5.00	7.70	12.300	●
12.50		2.30	5.00	7.70	12.500	●
12.60		2.30	5.00	7.70	12.600	●
12.70	1/2	2.40	5.00	7.70	12.700	●
12.80		2.40	5.00	7.70	12.800	●
12.90		2.40	5.00	7.70	12.900	●
13.00		2.40	5.50	8.50	13.000	●
13.10	33/64	2.40	5.50	8.50	13.100	●
13.30		2.50	5.50	8.50	13.300	●
13.49	17/32	2.50	5.50	8.50	13.490	●
13.50		2.50	5.50	8.50	13.500	●
13.60		2.50	5.50	8.50	13.600	●
13.70		2.50	5.50	8.50	13.700	●
13.80		2.60	5.50	8.50	13.800	●
13.89	35/64	2.60	5.50	8.50	13.890	●
14.00		2.60	6.00	9.60	14.000	●
14.10		2.60	6.00	9.60	14.100	●
14.29	9/16	2.70	6.00	9.60	14.290	●
14.40		2.70	6.00	9.60	14.400	●
14.50		2.70	6.00	9.60	14.500	●
14.60		2.70	6.00	9.60	14.600	●
14.68	37/64	2.70	6.00	9.60	14.680	●
14.70		2.70	6.00	9.60	14.700	●
14.80		2.70	6.00	9.60	14.800	●
15.00		2.80	6.00	9.80	15.000	●
15.08	19/32	2.80	6.00	9.80	15.080	●

					Article no.	4112
					Discount group	141
					Cutting direction	R
d1		l4	b	h	Code no.	Availability
mm	inch	mm	mm	mm		
15.10		2.80	6.00	9.80	15.100	●
15.20		2.80	6.00	9.80	15.200	●
15.30		2.80	6.00	9.80	15.300	●
15.48	39/64	2.90	6.00	9.80	15.480	●
15.50		2.90	6.00	9.80	15.500	●
15.60		2.90	6.00	9.80	15.600	●
15.70		2.90	6.00	9.80	15.700	●
15.80		2.90	6.00	9.80	15.800	●
15.87	5/8	2.90	6.00	9.80	15.870	●
16.00		3.00	7.00	11.00	16.000	●
16.27	41/64	3.00	7.00	11.00	16.270	●
16.50		3.10	7.00	11.00	16.500	●
16.67	21/32	3.10	7.00	11.00	16.670	●
17.00		3.10	7.00	11.00	17.000	●
17.07	43/64	3.20	7.00	11.00	17.070	●
17.25		3.20	7.00	11.00	17.250	●
17.30		3.20	7.00	11.00	17.300	●
17.46	11/16	3.20	7.00	11.00	17.460	●
17.50		3.20	7.00	11.00	17.500	●
17.60		3.30	7.00	11.00	17.600	●
17.86	45/64	3.30	7.00	11.00	17.860	●
18.00		3.30	8.00	12.60	18.000	●
18.26	23/32	3.40	8.00	12.60	18.260	●
18.50		3.40	8.00	12.60	18.500	●
18.65	47/64	3.40	8.00	12.60	18.650	●
18.90		3.50	8.00	12.60	18.900	●
19.00		3.50	8.00	12.60	19.000	●
19.05	3/4	3.50	8.00	12.60	19.050	●
19.25		3.60	8.00	12.60	19.250	●
19.30		3.60	8.00	12.60	19.300	●
19.45	49/64	3.60	8.00	12.60	19.450	●
19.50		3.60	8.00	12.60	19.500	●
19.60		3.60	8.00	12.60	19.600	●
19.84	25/32	3.70	8.00	12.60	19.840	●
20.00		3.70	9.00	13.90	20.000	●
20.24	51/64	3.70	9.00	13.90	20.240	●
20.50		3.80	9.00	13.90	20.500	●
20.64	13/16	3.80	9.00	13.90	20.640	●
20.90		3.90	9.00	13.90	20.900	●
21.00		3.90	9.00	13.90	21.000	●
21.03	53/64	3.90	9.00	13.90	21.030	●
21.10		3.90	9.00	13.90	21.100	●
21.43	27/32	3.90	9.00	13.90	21.430	●
21.50		4.00	9.00	13.90	21.500	●
21.70		4.00	9.00	13.90	21.700	●
21.83	55/64	4.00	9.00	13.90	21.830	●
22.00		4.10	10.00	15.30	22.000	●
22.22	7/8	4.10	10.00	15.30	22.220	●
22.50		4.10	10.00	15.30	22.500	●
22.62	57/64	4.20	10.00	15.30	22.620	●
22.70		4.20	10.00	15.30	22.700	●
23.00		4.20	10.00	15.30	23.000	●
23.02	29/32	4.20	10.00	15.30	23.020	●
23.42	59/64	4.30	10.00	15.30	23.420	●
23.50		4.30	10.00	15.30	23.500	●
23.70		4.40	10.00	15.30	23.700	●
23.81	15/16	4.40	10.00	15.30	23.810	●
24.00		4.40	11.00	15.80	24.000	●
24.10		4.40	11.00	15.80	24.100	●
24.21	61/64	4.50	11.00	15.80	24.210	●

					Article no.	4112
					Discount group	141
					Cutting direction	®
d1		l4	b	h	Code no.	Availability
mm	inch	mm	mm	mm		
24.50		4.50	11.00	15.80	24.500	●
24.61	31/32	4.50	11.00	15.80	24.610	●
25.00	63/64	4.60	11.00	15.80	25.000	●
25.25		4.60	11.00	15.80	25.250	●
25.40	1	4.70	11.00	15.80	25.400	●
25.50		4.70	11.00	15.80	25.500	●
25.65		4.70	11.00	15.80	25.650	●
25.67		4.70	11.00	15.80	25.670	●
25.70		4.70	11.00	15.80	25.700	●
25.81		4.70	11.00	15.80	25.810	●
26.00		4.80	12.00	20.00	26.000	●
26.19	1 1/32	4.80	12.00	20.00	26.190	●
26.50		4.90	12.00	20.00	26.500	●
26.59	1 3/64	4.90	12.00	20.00	26.590	●
27.00		5.00	12.00	20.00	27.000	●
27.50		5.10	12.00	20.00	27.500	●
27.70		5.10	12.00	20.00	27.700	●
27.78	1 3/32	5.10	12.00	20.00	27.780	●
28.00		5.10	13.00	20.70	28.000	●
28.18	1 7/64	5.20	13.00	20.70	28.180	●
28.50		5.20	13.00	20.70	28.500	●
28.58		5.30	13.00	20.70	28.580	●
29.00		5.30	13.00	20.70	29.000	●
29.37	1 5/32	5.40	13.00	20.70	29.370	●
29.50		5.40	13.00	20.70	29.500	●
29.60		5.40	13.00	20.70	29.600	●
29.77	1 11/64	5.50	13.00	20.70	29.770	●
30.00		5.50	14.00	22.30	30.000	●
30.16	1 3/16	5.50	14.00	22.30	30.160	●
30.50		5.60	14.00	22.30	30.500	●
30.96	1 7/32	5.70	14.00	22.30	30.960	●
31.00		5.70	14.00	22.30	31.000	●
31.50		5.80	14.00	22.30	31.500	●
31.75	1 1/4	5.80	14.00	22.30	31.750	●
32.00		5.90	15.00	23.10	32.000	●
32.50		6.00	15.00	23.10	32.500	●
32.54	1 9/32	6.00	15.00	23.10	32.540	●
32.94	1 19/64	6.00	15.00	23.10	32.940	●
33.00		6.10	15.00	23.10	33.000	●
33.34	1 5/16	6.10	15.00	23.10	33.340	●
33.50		6.10	15.00	23.10	33.500	●
34.00		6.20	15.00	23.10	34.000	●
34.13	1 11/32	6.30	15.00	23.10	34.130	●
34.50		6.30	15.00	23.10	34.500	●
34.93		6.40	15.00	23.10	34.930	●
35.00		6.40	15.00	23.10	35.000	●
35.50		6.50	15.00	23.10	35.500	●
35.72	1 13/32	6.60	15.00	23.10	35.720	●
36.00		6.60	16.00	23.90	36.000	●
36.50		6.70	16.00	23.90	36.500	●
36.51	1 7/16	6.70	16.00	23.90	36.510	●
37.00		6.80	16.00	23.90	37.000	●
37.31	1 15/32	6.80	16.00	23.90	37.310	●
37.50		6.90	16.00	23.90	37.500	●
38.00		7.00	16.00	23.90	38.000	●
38.10	1 1/2	7.00	16.00	23.90	38.100	●
38.50	1 33/64	7.10	16.00	23.90	38.500	●
39.00		7.10	16.00	23.90	39.000	●
39.50		7.20	16.00	23.90	39.500	●
40.00		7.30	16.00	23.90	40.000	●

Interchangeable inserts HT 800

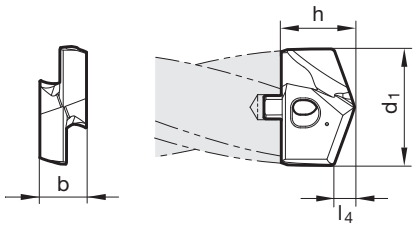
HT 800 WP | WN | 140° | m7

P	○	web thinning ≥ Ø 11.000 • facet point grind • main cutting edge form straight (after correction) • clamping screws art. no. 4071 included
M		
K	•	
N		vermicular cast iron GGV • grey cast iron, malleable and spheroidal iron
S		
H		

Tool material	**Solid carbide**
Surface	Y
Type	HT 800 WP

GÜHRINGNAVIGATOR

Cutting data page 144



Article no.	**4113**
Discount group	**141**
Cutting direction	R

d1		l4	b	h	Code no.	Availability
mm	inch	mm	mm	mm		
11.00		2.60	4.50	7.50	11.000	●
11.20		2.60	4.50	7.50	11.200	●
11.50		2.70	4.50	7.50	11.500	●
11.51	29/64	2.70	4.50	7.50	11.510	●
11.70		2.70	4.50	7.50	11.700	●
11.80		2.70	4.50	7.50	11.800	●
11.91	15/32	2.70	4.50	7.50	11.910	●
12.00		2.90	5.00	7.70	12.000	●
12.10		2.90	5.00	7.70	12.100	●
12.20		2.90	5.00	7.70	12.200	●
12.30	31/64	2.90	5.00	7.70	12.300	●
12.50		3.00	5.00	7.70	12.500	●
12.60		3.00	5.00	7.70	12.600	●
12.70	1/2	3.00	5.00	7.70	12.700	●
12.80		3.00	5.00	7.70	12.800	●
12.90		3.00	5.00	7.70	12.900	●
13.00		3.10	5.50	8.50	13.000	●
13.10	33/64	3.10	5.50	8.50	13.100	●
13.30		3.10	5.50	8.50	13.300	●
13.49	17/32	3.10	5.50	8.50	13.490	●
13.50		3.30	5.50	8.50	13.500	●
13.60		3.30	5.50	8.50	13.600	●
13.70		3.30	5.50	8.50	13.700	●
13.80		3.30	5.50	8.50	13.800	●
13.89	35/64	3.30	5.50	8.50	13.890	●
14.00		3.40	6.00	9.60	14.000	●
14.10		3.40	6.00	9.60	14.100	●
14.29	9/16	3.40	6.00	9.60	14.290	●
14.40		3.40	6.00	9.60	14.400	●
14.50		3.50	6.00	9.60	14.500	●
14.60		3.50	6.00	9.60	14.600	●
14.68	37/64	3.50	6.00	9.60	14.680	●
14.70		3.50	6.00	9.60	14.700	●
14.80		3.50	6.00	9.60	14.800	●
15.00		3.60	6.00	9.80	15.000	●
15.08	19/32	3.60	6.00	9.80	15.080	●

					Article no.	4113
					Discount group	141
					Cutting direction	®

d1		l4	b	h	Code no.	Availability
mm	inch	mm	mm	mm		
15.10		3.60	6.00	9.80	15.100	●
15.20		3.60	6.00	9.80	15.200	●
15.30		3.60	6.00	9.80	15.300	●
15.48	39/64	3.60	6.00	9.80	15.480	●
15.50		3.80	6.00	9.80	15.500	●
15.60		3.80	6.00	9.80	15.600	●
15.70		3.80	6.00	9.80	15.700	●
15.80		3.80	6.00	9.80	15.800	●
15.87	5/8	3.80	6.00	9.80	15.870	●
16.00		3.80	7.00	11.00	16.000	●
16.27	41/64	3.80	7.00	11.00	16.270	●
16.50		4.00	7.00	11.00	16.500	●
16.67	21/32	4.00	7.00	11.00	16.670	●
17.00		4.10	7.00	11.00	17.000	●
17.07	43/64	4.10	7.00	11.00	17.070	●
17.30		4.10	7.00	11.00	17.300	●
17.46	11/16	4.10	7.00	11.00	17.460	●
17.50		4.20	7.00	11.00	17.500	●
17.60		4.20	7.00	11.00	17.600	●
17.86	45/64	4.20	7.00	11.00	17.860	●
18.00		4.30	8.00	12.60	18.000	●
18.26	23/32	4.30	8.00	12.60	18.260	●
18.50		4.40	8.00	12.60	18.500	●
18.65	47/64	4.40	8.00	12.60	18.650	●
18.90		4.40	8.00	12.60	18.900	●
19.00		4.60	8.00	12.60	19.000	●
19.05	3/4	4.60	8.00	12.60	19.050	●
19.25		4.60	8.00	12.60	19.250	●
19.30		4.60	8.00	12.60	19.300	●
19.45	49/64	4.60	8.00	12.60	19.450	●
19.50		4.70	8.00	12.60	19.500	●
19.60		4.70	8.00	12.60	19.600	●
19.84	25/32	4.70	8.00	12.60	19.840	●
20.00		4.80	9.00	13.90	20.000	●
20.24	51/64	4.80	9.00	13.90	20.240	●
20.50		5.00	9.00	13.90	20.500	●
20.64	13/16	5.00	9.00	13.90	20.640	●
20.90		5.00	9.00	13.90	20.900	●
21.00		5.10	9.00	13.90	21.000	●
21.03	53/64	5.10	9.00	13.90	21.030	●
21.10		5.10	9.00	13.90	21.100	●
21.43	27/32	5.10	9.00	13.90	21.430	●
21.50		5.20	9.00	13.90	21.500	●
21.70		5.20	9.00	13.90	21.700	●
21.83	55/64	5.20	9.00	13.90	21.830	●
22.00		5.30	10.00	15.30	22.000	●
22.22	7/8	5.30	10.00	15.30	22.220	●
22.50		5.40	10.00	15.30	22.500	●
22.62	57/64	5.40	10.00	15.30	22.620	●
22.70		5.40	10.00	15.30	22.700	●
23.00		5.60	10.00	15.30	23.000	●
23.02	29/32	5.60	10.00	15.30	23.020	●
23.42	59/64	5.60	10.00	15.30	23.420	●
23.50		5.70	10.00	15.30	23.500	●
23.70		5.70	10.00	15.30	23.700	●
23.81	15/16	5.70	10.00	15.30	23.810	●
24.00		5.80	11.00	15.80	24.000	●
24.10		5.80	11.00	15.80	24.100	●
24.21	61/64	5.80	11.00	15.80	24.210	●
24.50		6.00	11.00	15.80	24.500	●

					Article no.	4113
					Discount group	141
					Cutting direction	R

d1		l4	b	h	Code no.	Availability
mm	inch	mm	mm	mm		
24.61	31/32	6.00	11.00	15.80	24.610	●
25.00	63/64	6.10	11.00	15.80	25.000	●
25.40	1	6.10	11.00	15.80	25.400	●
25.50		6.20	11.00	15.80	25.500	●
25.67		6.20	11.00	15.80	25.670	●
25.70		6.20	11.00	15.80	25.700	●
25.81		6.20	11.00	15.80	25.810	●
26.00		6.00	12.00	20.00	26.000	●
26.19	1 1/32	6.00	12.00	20.00	26.190	●
26.50		6.10	12.00	20.00	26.500	●
26.59	1 3/64	6.10	12.00	20.00	26.590	●
27.00		6.30	12.00	20.00	27.000	●
27.50		6.40	12.00	20.00	27.500	●
27.70		6.40	12.00	20.00	27.700	●
27.78	1 3/32	6.40	12.00	20.00	27.780	●
28.00		6.60	13.00	20.70	28.000	●
28.18	1 7/64	6.60	13.00	20.70	28.180	●
28.50		6.70	13.00	20.70	28.500	●
28.58		6.70	13.00	20.70	28.580	●
29.00		6.90	13.00	20.70	29.000	●
29.37	1 5/32	6.90	13.00	20.70	29.370	●
29.50		7.00	13.00	20.70	29.500	●
29.77	1 11/64	7.00	13.00	20.70	29.770	●
30.00		6.90	14.00	22.30	30.000	●
30.16	1 3/16	6.90	14.00	22.30	30.160	●
30.50		7.00	14.00	22.30	30.500	●
30.96	1 7/32	7.00	14.00	22.30	30.960	●
31.00		7.20	14.00	22.30	31.000	●
31.50		7.30	14.00	22.30	31.500	●
31.75	1 1/4	7.30	14.00	22.30	31.750	●
32.00		7.50	15.00	23.10	32.000	●
32.50		7.60	15.00	23.10	32.500	●
32.54	1 9/32	7.60	15.00	23.10	32.540	●
32.94	1 19/64	7.60	15.00	23.10	32.940	●
33.00		7.80	15.00	23.10	33.000	●
33.34	1 5/16	7.80	15.00	23.10	33.340	●
33.50		7.90	15.00	23.10	33.500	●
34.00		8.10	15.00	23.10	34.000	●
34.13	1 11/32	8.10	15.00	23.10	34.130	●
34.50		8.20	15.00	23.10	34.500	●
34.93		8.20	15.00	23.10	34.930	●
35.00		8.30	15.00	23.10	35.000	●
35.50		8.40	15.00	23.10	35.500	●
35.72	1 13/32	8.40	15.00	23.10	35.720	●
36.00		8.50	16.00	23.90	36.000	●
36.50		8.60	16.00	23.90	36.500	●
36.51	1 7/16	8.60	16.00	23.90	36.510	●
37.00		8.80	16.00	23.90	37.000	●
37.31	1 15/32	8.80	16.00	23.90	37.310	●
37.50		8.90	16.00	23.90	37.500	●
38.00		9.00	16.00	23.90	38.000	●
38.10	1 1/2	9.00	16.00	23.90	38.100	●
38.50	1 33/64	9.10	16.00	23.90	38.500	●
39.00		9.30	16.00	23.90	39.000	●
39.50		9.40	16.00	23.90	39.500	●
40.00		9.40	16.00	23.90	40.000	●

Interchangeable inserts HT 800

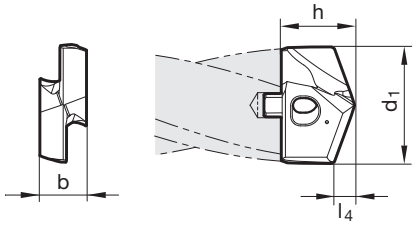
HT 800 WP | WN | 140° | h7

Tool material	Solid carbide
Surface	a
Type	HT 800 WP

P	○	web thinning ≥ Ø 11.000 • relieved cone • main cutting edge form straight (after correction) • clamping screws art. no. 4071 included
M	•	
K		
N		stainless steels
S	○	
H	○	

GÜHRINGNAVIGATOR

Cutting data page 144



Article no.	4115
Discount group	141
Cutting direction	R

d1		l4	b	h	Code no.	Availability
mm	inch	mm	mm	mm		
11.00		2.10	4.50	7.50	11.000	•
11.20		2.10	4.50	7.50	11.200	•
11.50		2.10	4.50	7.50	11.500	•
11.51	29/64	2.10	4.50	7.50	11.510	•
11.70		2.20	4.50	7.50	11.700	•
11.80		2.20	4.50	7.50	11.800	•
11.91	15/32	2.20	4.50	7.50	11.910	•
12.00		2.20	5.00	7.70	12.000	•
12.10		2.30	5.00	7.70	12.100	•
12.20		2.30	5.00	7.70	12.200	•
12.30	31/64	2.30	5.00	7.70	12.300	•
12.50		2.30	5.00	7.70	12.500	•
12.60		2.30	5.00	7.70	12.600	•
12.70	1/2	2.40	5.00	7.70	12.700	•
12.80		2.40	5.00	7.70	12.800	•
12.90		2.40	5.00	7.70	12.900	•
13.00		2.40	5.50	8.50	13.000	•
13.10	33/64	2.40	5.50	8.50	13.100	•
13.49	17/32	2.50	5.50	8.50	13.490	•
13.50		2.50	5.50	8.50	13.500	•
13.60		2.50	5.50	8.50	13.600	•
13.70		2.50	5.50	8.50	13.700	•
13.80		2.60	5.50	8.50	13.800	•
13.89	35/64	2.60	5.50	8.50	13.890	•
14.00		2.60	6.00	9.60	14.000	•
14.10		2.60	6.00	9.60	14.100	•
14.29	9/16	2.70	6.00	9.60	14.290	•
14.40		2.70	6.00	9.60	14.400	•
14.50		2.70	6.00	9.60	14.500	•
14.60		2.70	6.00	9.60	14.600	•
14.68	37/64	2.70	6.00	9.60	14.680	•
14.70		2.70	6.00	9.60	14.700	•
14.80		2.70	6.00	9.60	14.800	•
15.00		2.80	6.00	9.80	15.000	•
15.08	19/32	2.80	6.00	9.80	15.080	•
15.10		2.80	6.00	9.80	15.100	•

					Article no.	4115
					Discount group	141
					Cutting direction	R

d1		l4	b	h	Code no.	Availability
mm	inch	mm	mm	mm		
15.20		2.80	6.00	9.80	15.200	●
15.30		2.80	6.00	9.80	15.300	●
15.48	39/64	2.90	6.00	9.80	15.480	●
15.50		2.90	6.00	9.80	15.500	●
15.60		2.90	6.00	9.80	15.600	●
15.70		2.90	6.00	9.80	15.700	●
15.80		2.90	6.00	9.80	15.800	●
15.87	5/8	2.90	6.00	9.80	15.870	●
16.00		3.00	7.00	11.00	16.000	●
16.27	41/64	3.00	7.00	11.00	16.270	●
16.50		3.10	7.00	11.00	16.500	●
16.67	21/32	3.10	7.00	11.00	16.670	●
17.00		3.10	7.00	11.00	17.000	●
17.07	43/64	3.20	7.00	11.00	17.070	●
17.25		3.20	7.00	11.00	17.250	●
17.46	11/16	3.20	7.00	11.00	17.460	●
17.50		3.20	7.00	11.00	17.500	●
17.60		3.30	7.00	11.00	17.600	●
17.86	45/64	3.30	7.00	11.00	17.860	●
18.00		3.30	8.00	12.60	18.000	●
18.26	23/32	3.40	8.00	12.60	18.260	●
18.50		3.40	8.00	12.60	18.500	●
18.65	47/64	3.40	8.00	12.60	18.650	●
19.00		3.50	8.00	12.60	19.000	●
19.05	3/4	3.50	8.00	12.60	19.050	●
19.25		3.60	8.00	12.60	19.250	●
19.45	49/64	3.60	8.00	12.60	19.450	●
19.50		3.60	8.00	12.60	19.500	●
19.60		3.60	8.00	12.60	19.600	●
19.84	25/32	3.70	8.00	12.60	19.840	●
20.00		3.70	9.00	13.90	20.000	●
20.24	51/64	3.70	9.00	13.90	20.240	●
20.50		3.80	9.00	13.90	20.500	●
20.64	13/16	3.80	9.00	13.90	20.640	●
21.00		3.90	9.00	13.90	21.000	●
21.03	53/64	3.90	9.00	13.90	21.030	●
21.10		3.90	9.00	13.90	21.100	●
21.43	27/32	3.90	9.00	13.90	21.430	●
21.50		4.00	9.00	13.90	21.500	●
21.83	55/64	4.00	9.00	13.90	21.830	●
22.00		4.10	10.00	15.30	22.000	●
22.22	7/8	4.10	10.00	15.30	22.220	●
22.50		4.10	10.00	15.30	22.500	●
22.62	57/64	4.20	10.00	15.30	22.620	●
23.00		4.20	10.00	15.30	23.000	●
23.02	29/32	4.20	10.00	15.30	23.020	●
23.42	59/64	4.30	10.00	15.30	23.420	●
23.50		4.30	10.00	15.30	23.500	●
23.81	15/16	4.40	10.00	15.30	23.810	●
24.00		4.40	11.00	15.80	24.000	●
24.10		4.40	11.00	15.80	24.100	●
24.21	61/64	4.50	11.00	15.80	24.210	●
24.50		4.50	11.00	15.80	24.500	●
24.61	31/32	4.50	11.00	15.80	24.610	●
25.00	63/64	4.60	11.00	15.80	25.000	●
25.25		4.60	11.00	15.80	25.250	●
25.40	1	4.70	11.00	15.80	25.400	●
25.50		4.70	11.00	15.80	25.500	●
25.65		4.70	11.00	15.80	25.650	●
25.70		4.70	11.00	15.80	25.700	●

					Article no.	4115
					Discount group	141
					Cutting direction	®

d1		l4	b	h	Code no.	Availability
mm	inch	mm	mm	mm		
26.00		4.80	12.00	20.00	26.000	●
26.19	1 1/32	4.80	12.00	20.00	26.190	●
26.50		4.90	12.00	20.00	26.500	●
26.59	1 3/64	4.90	12.00	20.00	26.590	●
27.00		5.00	12.00	20.00	27.000	●
27.50		5.10	12.00	20.00	27.500	●
27.70		5.10	12.00	20.00	27.700	●
27.78	1 3/32	5.10	12.00	20.00	27.780	●
28.00		5.10	13.00	20.70	28.000	●
28.18	1 7/64	5.20	13.00	20.70	28.180	●
28.50		5.20	13.00	20.70	28.500	●
28.58		5.30	13.00	20.70	28.580	●
29.00		5.30	13.00	20.70	29.000	●
29.37	1 5/32	5.40	13.00	20.70	29.370	●
29.50		5.40	13.00	20.70	29.500	●
29.60		5.40	13.00	20.70	29.600	●
29.77	1 11/64	5.50	13.00	20.70	29.770	●
30.00		5.50	14.00	22.30	30.000	●
30.16	1 3/16	5.50	14.00	22.30	30.160	●
30.50		5.60	14.00	22.30	30.500	●
30.96	1 7/32	5.70	14.00	22.30	30.960	●
31.00		5.70	14.00	22.30	31.000	●
31.50		5.80	14.00	22.30	31.500	●
31.75	1 1/4	5.80	14.00	22.30	31.750	●
32.00		5.90	15.00	23.10	32.000	●
32.50		6.00	15.00	23.10	32.500	●
32.54	1 9/32	6.00	15.00	23.10	32.540	●
32.94	1 19/64	6.00	15.00	23.10	32.940	●
33.00		6.10	15.00	23.10	33.000	●
33.34	1 5/16	6.10	15.00	23.10	33.340	●
33.50		6.10	15.00	23.10	33.500	●
34.00		6.20	15.00	23.10	34.000	●
34.13	1 11/32	6.30	15.00	23.10	34.130	●
34.50		6.30	15.00	23.10	34.500	●
34.93		6.40	15.00	23.10	34.930	●
35.00		6.40	15.00	23.10	35.000	●
35.50		6.50	15.00	23.10	35.500	●
35.72	1 13/32	6.60	15.00	23.10	35.720	●
36.00		6.60	16.00	23.90	36.000	●
36.50		6.70	16.00	23.90	36.500	●
36.51	1 7/16	6.70	16.00	23.90	36.510	●
37.00		6.80	16.00	23.90	37.000	●
37.31	1 15/32	6.80	16.00	23.90	37.310	●
37.50		6.90	16.00	23.90	37.500	●
38.00		7.00	16.00	23.90	38.000	●
38.10	1 1/2	7.00	16.00	23.90	38.100	●
38.50	1 33/64	7.10	16.00	23.90	38.500	●
39.00		7.10	16.00	23.90	39.000	●
39.50		7.20	16.00	23.90	39.500	●
40.00		7.30	16.00	23.90	40.000	●

Solid carbide micro-precision drills without coolant ducts

N | WN | 140° | ≥1,0 h7

Tool material	**Solid carbide**
Surface	A
Shank form	cyl.

SL

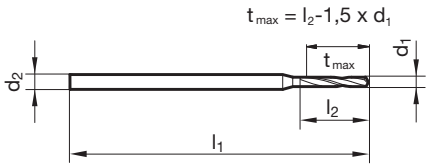
P	•
M	○
K	•
N	○
S	○
H	○

web thinning ≥ Ø 0.800 • facet point grind

structural and case hardened steels • free-cutting steels, heat-treatable steels • alloyed steels up to 1200 N/mm² • cast materials

GÜHRINGNAVIGATOR

Cutting data page 146



Article no.	**5652**
Discount group	**155**
Cutting direction	R

d1	d2 h6	l1	l2	Availability
mm	mm	mm	mm	
0.100	3.000	38.000	1.200	•
0.200	3.000	38.000	2.500	•
0.300	3.000	38.000	5.000	•
0.400	3.000	38.000	7.000	•
0.500	3.000	38.000	7.000	•
0.600	3.000	38.000	7.000	•
0.700	3.000	38.000	8.000	•
0.800	3.000	38.000	10.000	•
0.900	3.000	38.000	10.000	•
1.000	3.000	38.000	10.000	•
1.100	3.000	38.000	10.000	•
1.200	3.000	38.000	10.000	•
1.300	3.000	38.000	10.000	•
1.400	3.000	38.000	10.000	•
1.500	3.000	38.000	10.000	•
1.600	3.000	38.000	12.000	•
1.700	3.000	38.000	12.000	•
1.800	3.000	38.000	12.000	•
1.900	3.000	38.000	12.000	•
2.000	3.000	38.000	12.000	•
2.100	3.000	38.000	12.000	•
2.200	3.000	38.000	12.000	•
2.400	3.000	38.000	12.000	•
2.500	3.000	38.000	12.000	•
2.600	3.000	38.000	12.000	•
2.800	3.000	38.000	12.000	•
3.000	3.000	38.000	12.000	•

ExclusiveLine micro-precision drills without coolant ducts

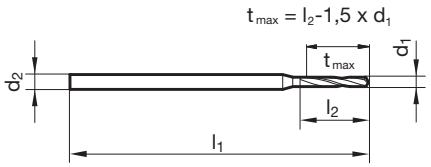
4xD | N | WN | 140° | m7

Tool material	Solid carbide
Surface	A
Shank form	cyl.

P	•	web thinning ≥ Ø 0.500 • facet point grind • main cutting edge form straight • edge preparation
M	•	
K	•	
N	○	structural and case hardened steels • free-cutting steels, heat-treatable steels • alloyed steels up to 1200 N/mm² • stainless steels • cast materials
S	○	
H		

GÜHRINGNAVIGATOR

Cutting data page 146



Article no.	6400
Discount group	164
Cutting direction	R

d1	d2	l1	l2	Availability
mm	mm	mm	mm	
0.500	3.000	47.000	3.000	●
0.550	3.000	47.000	3.300	●
0.600	3.000	47.000	3.600	●
0.650	3.000	47.000	3.900	●
0.700	3.000	47.000	4.200	●
0.750	3.000	47.000	4.500	●
0.800	3.000	47.000	4.800	●
0.850	3.000	47.000	5.100	●
0.900	3.000	47.000	5.400	●
0.950	3.000	47.000	5.700	●
1.000	3.000	47.000	6.000	●
1.050	3.000	47.000	6.300	●
1.100	3.000	47.000	6.600	●
1.150	3.000	47.000	6.900	●
1.200	3.000	47.000	7.200	●
1.250	3.000	47.000	7.500	●
1.300	3.000	47.000	7.800	●
1.350	3.000	47.000	8.100	●
1.400	3.000	47.000	8.400	●
1.450	3.000	47.000	8.700	●
1.500	3.000	47.000	9.000	●
1.550	3.000	47.000	9.300	●
1.590	3.000	47.000	9.600	●
1.600	3.000	47.000	9.600	●
1.650	3.000	47.000	9.900	●
1.700	3.000	47.000	10.200	●
1.750	3.000	47.000	10.500	●
1.800	3.000	52.000	10.800	●
1.850	3.000	52.000	11.100	●
1.900	3.000	52.000	11.400	●
1.950	3.000	52.000	11.700	●
1.980	4.000	59.000	12.000	●
2.000	4.000	59.000	12.000	●
2.050	4.000	59.000	12.300	●
2.100	4.000	59.000	12.600	●
2.150	4.000	59.000	12.900	●

				Article no.	6400
				Discount group	164
				Cutting direction	®
d1	d2	l1	l2	Availability	
mm	mm	mm	mm		
2.200	4.000	59.000	13.200	●	
2.250	4.000	59.000	13.500	●	
2.300	4.000	59.000	13.800	●	
2.350	4.000	59.000	14.100	●	
2.380	4.000	59.000	14.400	●	
2.400	4.000	59.000	14.400	●	
2.450	4.000	59.000	14.700	●	
2.500	4.000	59.000	15.000	●	
2.550	4.000	59.000	15.300	●	
2.600	4.000	59.000	15.600	●	
2.650	4.000	59.000	15.900	●	
2.700	4.000	59.000	16.200	●	
2.750	4.000	59.000	16.500	●	
2.780	4.000	59.000	16.800	●	
2.800	4.000	59.000	16.800	●	
2.850	4.000	59.000	17.100	●	
2.900	4.000	59.000	17.400	●	
2.950	4.000	59.000	17.700	●	
3.000	4.000	59.000	18.000	●	

ExclusiveLine micro-precision drills without coolant ducts

7xD | N | WN | 140° | m7

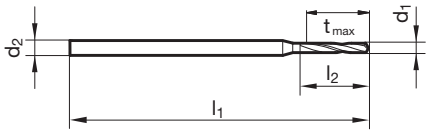
Tool material	Solid carbide
Surface	A
Shank form	cyl.

P	•	web thinning ≥ Ø 0.500 • facet point grind • main cutting edge form straight • edge preparation
M	•	
K	•	
N	○	structural and case hardened steels • free-cutting steels, heat-treatable steels • alloyed steels up to 1200 N/mm² • stainless steels • cast materials
S	○	
H		

GÜHRINGNAVIGATOR

Cutting data page 146

$t_{max} = l_2 - 1{,}5 \times d_1$



Article no.	6401
Discount group	164
Cutting direction	R

d1	d2	l1	l2	Availability
mm	mm	mm	mm	
0.500	3.000	47.000	4.000	●
0.550	3.000	47.000	4.400	●
0.600	3.000	47.000	4.800	●
0.650	3.000	47.000	5.200	●
0.700	3.000	47.000	5.600	●
0.750	3.000	47.000	6.000	●
0.800	3.000	47.000	6.400	●
0.850	3.000	47.000	6.800	●
0.900	3.000	47.000	7.200	●
0.950	3.000	47.000	7.600	●
1.000	3.000	47.000	8.000	●
1.050	3.000	47.000	8.400	●
1.100	3.000	47.000	8.800	●
1.150	3.000	47.000	9.200	●
1.200	3.000	52.000	10.800	●
1.250	3.000	52.000	11.300	●
1.300	3.000	52.000	11.700	●
1.350	3.000	52.000	12.200	●
1.400	3.000	52.000	12.600	●
1.450	3.000	52.000	13.100	●
1.500	3.000	52.000	13.500	●
1.550	3.000	52.000	14.000	●
1.590	3.000	52.000	14.400	●
1.600	3.000	52.000	14.400	●
1.650	3.000	52.000	14.900	●
1.700	3.000	52.000	15.300	●
1.750	3.000	52.000	15.800	●
1.800	3.000	52.000	16.200	●
1.850	3.000	52.000	16.700	●
1.900	3.000	52.000	17.100	●
1.950	3.000	52.000	17.600	●
1.980	4.000	63.000	18.000	●
2.000	4.000	63.000	18.000	●
2.050	4.000	63.000	18.500	●
2.100	4.000	63.000	18.900	●
2.150	4.000	63.000	19.400	●

			Article no.	6401
			Discount group	164
			Cutting direction	®

d1	d2	l1	l2	Availability
mm	mm	mm	mm	
2.200	4.000	63.000	19.800	●
2.250	4.000	63.000	20.300	●
2.300	4.000	63.000	20.700	●
2.350	4.000	63.000	21.200	●
2.380	4.000	63.000	21.600	●
2.400	4.000	63.000	21.600	●
2.450	4.000	63.000	22.100	●
2.500	4.000	63.000	22.500	●
2.550	4.000	63.000	23.000	●
2.600	4.000	67.000	23.400	●
2.650	4.000	67.000	23.900	●
2.700	4.000	67.000	24.300	●
2.750	4.000	67.000	24.800	●
2.780	4.000	67.000	25.200	●
2.800	4.000	67.000	25.200	●
2.850	4.000	67.000	25.700	●
2.900	4.000	67.000	26.100	●
2.950	4.000	67.000	26.600	●
3.000	4.000	67.000	27.000	●

ExclusiveLine micro-precision drills with coolant ducts

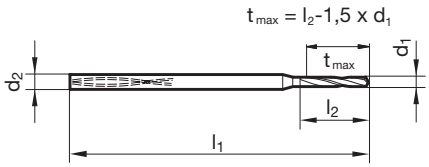
5xD | N | WN | 140° | m7

Tool material	**Solid carbide**
Surface	A
Shank form	cyl.

P	●	web thinning ≥ Ø 1.400 • facet point grind • main cutting edge form straight • edge preparation
M	●	
K	●	
N	○	structural and case hardened steels • free-cutting steels, heat-treatable steels • alloyed steels up to 1200 N/mm² • stainless steels • cast materials
S	○	
H		

GÜHRINGNAVIGATOR

Cutting data page 146



Article no.	**6405**
Discount group	**164**
Cutting direction	R

d1	d2	l1	l2	Availability
mm	mm	mm	mm	
1.400	4.000	52.000	11.000	●
1.450	4.000	52.000	12.000	●
1.500	4.000	52.000	12.000	●
1.550	4.000	52.000	12.000	●
1.590	4.000	52.000	13.000	●
1.600	4.000	52.000	13.000	●
1.650	4.000	52.000	13.000	●
1.700	4.000	56.000	14.000	●
1.750	4.000	56.000	14.000	●
1.800	4.000	56.000	14.000	●
1.850	4.000	56.000	15.000	●
1.900	4.000	56.000	15.000	●
1.950	4.000	56.000	16.000	●
1.980	4.000	56.000	16.000	●
2.000	4.000	56.000	16.000	●
2.050	4.000	56.000	16.000	●
2.100	4.000	62.000	17.000	●
2.150	4.000	62.000	17.000	●
2.200	4.000	62.000	18.000	●
2.250	4.000	62.000	18.000	●
2.300	4.000	62.000	18.000	●
2.350	4.000	62.000	19.000	●
2.380	4.000	62.000	19.000	●
2.400	4.000	62.000	19.000	●
2.450	4.000	62.000	20.000	●
2.500	4.000	62.000	20.000	●
2.550	4.000	62.000	20.000	●
2.600	4.000	66.000	21.000	●
2.650	4.000	66.000	21.000	●
2.700	4.000	66.000	22.000	●
2.750	4.000	66.000	22.000	●
2.780	4.000	66.000	22.000	●
2.800	4.000	66.000	22.000	●
2.850	4.000	66.000	23.000	●
2.900	4.000	66.000	23.000	●
2.950	4.000	66.000	24.000	●

Article no.	**6405**
Discount group	**164**
Cutting direction	®

d1	d2	l1	l2	Availability
mm	mm	mm	mm	
3.000	4.000	66.000	24.000	●

ExclusiveLine micro-precision drills with coolant ducts

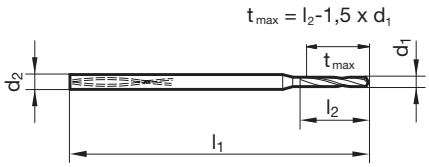
8xD | N | WN | 135° | h7

Tool material	Solid carbide
Surface	A
Shank form	cyl.

P	•	web thinning ≥ Ø 1.400 • facet point grind • main cutting edge form straight • edge preparation
M	•	
K	•	
N	○	structural and case hardened steels • free-cutting steels, heat-treatable steels • alloyed steels up to 1200 N/mm² • stainless steels • cast materials
S	○	
H		

GÜHRINGNAVIGATOR

Cutting data page 146



Article no.	6408
Discount group	164
Cutting direction	R

d1	d2	l1	l2	Availability
mm	mm	mm	mm	
1.400	4.000	52.000	15.000	●
1.450	4.000	52.000	16.000	●
1.500	4.000	52.000	17.000	●
1.550	4.000	52.000	17.000	●
1.590	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	●
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	●

				Article no.	6408
				Discount group	164
				Cutting direction	R
d1	d2	l1	l2	Availability	
mm	mm	mm	mm		
2.950	4.000	66.000	32.000	●	
3.000	4.000	66.000	33.000	●	

ExclusiveLine micro-precision drills with coolant ducts

15xD | N | WN | 135° | h7

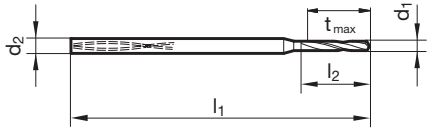
P	•	web thinning ≥ Ø 1.400 • facet point grind • main cutting edge form straight • edge preparation
M	•	
K	•	
N	○	structural and case hardened steels • free-cutting steels, heat-treatable steels • alloyed steels up to 1200 N/mm² • stainless steels • cast materials
S	○	
H		

GÜHRINGNAVIGATOR

Cutting data page 146

Tool material	Solid carbide
Surface	A
Shank form	cyl.

$t_{max} = l_2 - 1{,}5 \times d_1$



Article no.	6412
Discount group	164
Cutting direction	R

d1	d2	l1	l2	Availability
mm	mm	mm	mm	
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	●
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	●

3-flute Ratio drills

5xD | FT 200 | DIN 6537 L | 130° | m7

Tool material	Solid carbide
Surface	◯
Shank form	HA

SL

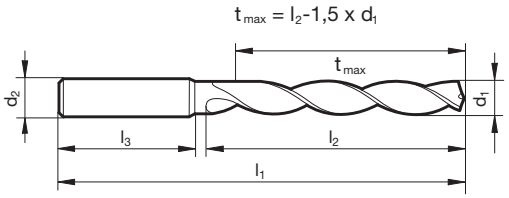
P	
M	
K	•
N	•
S	
H	

web thinning ≥ Ø 3.000 • spiro-point • wide flutes • optimal centering • suitable for interrupted cutting

cast iron • long chipping Al alloys • brass, bronzes

GÜHRINGNAVIGATOR

Cutting data page 140



Article no.	5518
Discount group	155
Cutting direction	R

d1		d2 h6	l1	l2	l3	Availability
mm	inch	mm	mm	mm	mm	
3.000		6.00	66.00	28.00	36.00	•
3.100		6.00	66.00	28.00	36.00	•
3.200		6.00	66.00	28.00	36.00	•
3.300		6.00	66.00	28.00	36.00	•
3.500		6.00	66.00	28.00	36.00	•
3.700		6.00	66.00	28.00	36.00	•
3.800		6.00	74.00	36.00	36.00	•
4.000		6.00	74.00	36.00	36.00	•
4.100		6.00	74.00	36.00	36.00	•
4.200		6.00	74.00	36.00	36.00	•
4.500		6.00	74.00	36.00	36.00	•
4.800		6.00	82.00	44.00	36.00	•
5.000		6.00	82.00	44.00	36.00	•
5.100		6.00	82.00	44.00	36.00	•
5.200		6.00	82.00	44.00	36.00	•
5.300		6.00	82.00	44.00	36.00	•
5.500		6.00	82.00	44.00	36.00	•
5.800		6.00	82.00	44.00	36.00	•
6.000		6.00	82.00	44.00	36.00	•
6.100		8.00	91.00	53.00	36.00	•
6.200		8.00	91.00	53.00	36.00	•
6.400		8.00	91.00	53.00	36.00	•
6.500		8.00	91.00	53.00	36.00	•
6.700		8.00	91.00	53.00	36.00	•
6.800		8.00	91.00	53.00	36.00	•
6.900		8.00	91.00	53.00	36.00	•
7.000		8.00	91.00	53.00	36.00	•
7.100		8.00	91.00	53.00	36.00	•
7.400		8.00	91.00	53.00	36.00	•
7.500		8.00	91.00	53.00	36.00	•
7.800		8.00	91.00	53.00	36.00	•
8.000		8.00	91.00	53.00	36.00	•
8.100		10.00	103.00	61.00	40.00	•
8.200		10.00	103.00	61.00	40.00	•
8.400		10.00	103.00	61.00	40.00	•
8.500		10.00	103.00	61.00	40.00	•

					Article no.	5518
					Discount group	155
					Cutting direction	R

d1		d2 h6	l1	l2	l3	Availability
mm	inch	mm	mm	mm	mm	
8.600		10.00	103.00	61.00	40.00	●
8.700		10.00	103.00	61.00	40.00	●
8.800		10.00	103.00	61.00	40.00	●
9.000		10.00	103.00	61.00	40.00	●
9.100		10.00	103.00	61.00	40.00	●
9.500		10.00	103.00	61.00	40.00	●
9.800		10.00	103.00	61.00	40.00	●
10.000		10.00	103.00	61.00	40.00	●
10.100		12.00	118.00	71.00	45.00	●
10.200		12.00	118.00	71.00	45.00	●
10.300		12.00	118.00	71.00	45.00	●
10.500		12.00	118.00	71.00	45.00	●
11.000		12.00	118.00	71.00	45.00	●
11.200		12.00	118.00	71.00	45.00	●
11.500		12.00	118.00	71.00	45.00	●
11.800		12.00	118.00	71.00	45.00	●
12.000		12.00	118.00	71.00	45.00	●
12.100		14.00	124.00	77.00	45.00	●
12.500		14.00	124.00	77.00	45.00	●
13.000		14.00	124.00	77.00	45.00	●
13.500		14.00	124.00	77.00	45.00	●
14.000		14.00	124.00	77.00	45.00	●
14.100		16.00	133.00	83.00	48.00	●
14.500		16.00	133.00	83.00	48.00	●
15.000		16.00	133.00	83.00	48.00	●
15.500		16.00	133.00	83.00	48.00	●
16.000		16.00	133.00	83.00	48.00	●
16.500		18.00	143.00	93.00	48.00	●
17.000		18.00	143.00	93.00	48.00	●
17.500		18.00	143.00	93.00	48.00	●
18.000		18.00	143.00	93.00	48.00	●
18.500		20.00	153.00	101.00	50.00	●
19.000		20.00	153.00	101.00	50.00	●
19.500		20.00	153.00	101.00	50.00	●
20.000		20.00	153.00	101.00	50.00	●

Twist drills with reinforced straight shank

~3xD | GU 500 PM | WN | 118° | h8

Tool material	HSS-E-PM
Surface	F
Shank form	HA

SL

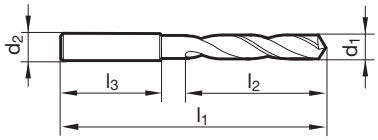
P	•
M	•
K	•
N	•
S	○
H	

web thinning ≥ Ø 1.000 • high-performance twist drills • powder metallurgic steel • 4-facet point grind • low feed force • low torque moment

for universal application

GÜHRINGNAVIGATOR

Cutting data page 150



Article no.	6005
Discount group	159
Cutting direction	R

d1	d2 h6	l1	l2	l3	Availability
mm	mm	mm	mm	mm	
1.000	3.00	38.00	6.00	28.00	●
1.100	3.00	39.00	7.00	28.00	●
1.200	3.00	40.00	8.00	28.00	●
1.300	3.00	40.00	8.00	28.00	●
1.400	3.00	41.00	9.00	28.00	●
1.500	3.00	41.00	9.00	28.00	●
1.600	3.00	42.00	10.00	28.00	●
1.700	3.00	42.00	10.00	28.00	●
1.800	3.00	43.00	11.00	28.00	●
1.900	3.00	43.00	11.00	28.00	●
2.000	3.00	44.00	12.00	28.00	●
2.100	3.00	44.00	12.00	28.00	●
2.200	3.00	45.00	13.00	28.00	●
2.300	3.00	45.00	13.00	28.00	●
2.380	3.00	46.00	14.00	28.00	●
2.400	3.00	46.00	14.00	28.00	●
2.500	3.00	46.00	14.00	28.00	●
2.600	3.00	46.00	14.00	28.00	●
2.700	3.00	48.00	16.00	28.00	●
2.780	3.00	48.00	16.00	28.00	●
2.800	3.00	48.00	16.00	28.00	●
2.900	3.00	48.00	16.00	28.00	●
3.000	3.00	48.00	16.00	28.00	●
3.100	4.00	50.00	18.00	28.00	●
3.170	4.00	50.00	18.00	28.00	●
3.200	4.00	50.00	18.00	28.00	●
3.300	4.00	50.00	18.00	28.00	●
3.400	4.00	52.00	20.00	28.00	●
3.500	4.00	52.00	20.00	28.00	●
3.570	4.00	52.00	20.00	28.00	●
3.600	4.00	52.00	20.00	28.00	●
3.700	4.00	52.00	20.00	28.00	●
3.800	4.00	54.00	22.00	28.00	●
3.900	4.00	54.00	22.00	28.00	●
3.970	4.00	54.00	22.00	28.00	●
4.000	4.00	54.00	22.00	28.00	●

				Article no.	6005
				Discount group	159
				Cutting direction	®
d1	d2 h6	l1	l2	l3	Availability
mm	mm	mm	mm	mm	
4.100	6.00	66.00	22.00	36.00	●
4.200	6.00	66.00	22.00	36.00	●
4.300	6.00	68.00	24.00	36.00	●
4.370	6.00	68.00	24.00	36.00	●
4.400	6.00	68.00	24.00	36.00	●
4.500	6.00	68.00	24.00	36.00	●
4.600	6.00	68.00	24.00	36.00	●
4.650	6.00	68.00	24.00	36.00	●
4.700	6.00	68.00	24.00	36.00	●
4.760	6.00	70.00	26.00	36.00	●
4.800	6.00	70.00	26.00	36.00	●
4.900	6.00	70.00	26.00	36.00	●
5.000	6.00	70.00	26.00	36.00	●
5.100	6.00	70.00	26.00	36.00	●
5.160	6.00	70.00	26.00	36.00	●
5.200	6.00	70.00	26.00	36.00	●
5.300	6.00	70.00	26.00	36.00	●
5.400	6.00	72.00	28.00	36.00	●
5.500	6.00	72.00	28.00	36.00	●
5.550	6.00	72.00	28.00	36.00	●
5.560	6.00	72.00	28.00	36.00	●
5.600	6.00	72.00	28.00	36.00	●
5.700	6.00	72.00	28.00	36.00	●
5.800	6.00	72.00	28.00	36.00	●
5.900	6.00	72.00	28.00	36.00	●
5.950	6.00	72.00	28.00	36.00	●
6.000	6.00	72.00	28.00	36.00	●
6.100	8.00	75.00	31.00	36.00	●
6.200	8.00	75.00	31.00	36.00	●
6.300	8.00	75.00	31.00	36.00	●
6.350	8.00	75.00	31.00	36.00	●
6.400	8.00	75.00	31.00	36.00	●
6.500	8.00	75.00	31.00	36.00	●
6.600	8.00	75.00	31.00	36.00	●
6.700	8.00	75.00	31.00	36.00	●
6.750	8.00	78.00	34.00	36.00	●
6.800	8.00	78.00	34.00	36.00	●
6.900	8.00	78.00	34.00	36.00	●
7.000	8.00	78.00	34.00	36.00	●
7.100	8.00	78.00	34.00	36.00	●
7.140	8.00	78.00	34.00	36.00	●
7.200	8.00	78.00	34.00	36.00	●
7.300	8.00	78.00	34.00	36.00	●
7.400	8.00	78.00	34.00	36.00	●
7.500	8.00	78.00	34.00	36.00	●
7.540	8.00	81.00	37.00	36.00	●
7.550	8.00	81.00	37.00	36.00	●
7.600	8.00	81.00	37.00	36.00	●
7.700	8.00	81.00	37.00	36.00	●
7.800	8.00	81.00	37.00	36.00	●
7.900	8.00	81.00	37.00	36.00	●
7.940	8.00	81.00	37.00	36.00	●
8.000	8.00	81.00	37.00	36.00	●
8.100	10.00	87.00	37.00	40.00	●
8.200	10.00	87.00	37.00	40.00	●
8.300	10.00	87.00	37.00	40.00	●
8.330	10.00	87.00	37.00	40.00	●
8.400	10.00	87.00	37.00	40.00	●
8.500	10.00	87.00	37.00	40.00	●
8.600	10.00	91.00	40.00	40.00	●

				Article no.	6005
				Discount group	159
				Cutting direction	®

d1	d2 h6	l1	l2	l3	Availability
mm	mm	mm	mm	mm	
8.700	10.00	91.00	40.00	40.00	●
8.730	10.00	91.00	40.00	40.00	●
8.800	10.00	91.00	40.00	40.00	●
8.900	10.00	91.00	40.00	40.00	●
9.000	10.00	91.00	40.00	40.00	●
9.100	10.00	91.00	40.00	40.00	●
9.130	10.00	91.00	40.00	40.00	●
9.200	10.00	91.00	40.00	40.00	●
9.300	10.00	91.00	40.00	40.00	●
9.400	10.00	91.00	40.00	40.00	●
9.500	10.00	91.00	40.00	40.00	●
9.520	10.00	93.00	43.00	40.00	●
9.550	10.00	93.00	43.00	40.00	●
9.600	10.00	93.00	43.00	40.00	●
9.700	10.00	93.00	43.00	40.00	●
9.800	10.00	93.00	43.00	40.00	●
9.900	10.00	93.00	43.00	40.00	●
9.920	10.00	93.00	43.00	40.00	●
10.000	10.00	93.00	43.00	40.00	●
10.100	12.00	100.00	43.00	45.00	●
10.200	12.00	100.00	43.00	45.00	●
10.300	12.00	100.00	43.00	45.00	●
10.320	12.00	100.00	43.00	45.00	●
10.400	12.00	100.00	43.00	45.00	●
10.500	12.00	100.00	43.00	45.00	●
10.600	12.00	100.00	43.00	45.00	●
10.700	12.00	104.00	47.00	45.00	●
10.720	12.00	104.00	47.00	45.00	●
10.800	12.00	104.00	47.00	45.00	●
10.900	12.00	104.00	47.00	45.00	●
11.000	12.00	104.00	47.00	45.00	●
11.100	12.00	104.00	47.00	45.00	●
11.110	12.00	104.00	47.00	45.00	●
11.200	12.00	104.00	47.00	45.00	●
11.300	12.00	104.00	47.00	45.00	●
11.400	12.00	104.00	47.00	45.00	●
11.500	12.00	104.00	47.00	45.00	●
11.510	12.00	104.00	47.00	45.00	●
11.600	12.00	104.00	47.00	45.00	●
11.700	12.00	104.00	47.00	45.00	●
11.800	12.00	104.00	47.00	45.00	●
11.900	12.00	108.00	51.00	45.00	●
11.910	12.00	108.00	51.00	45.00	●
12.000	12.00	108.00	51.00	45.00	●
12.100	16.00	111.00	51.00	48.00	●
12.200	16.00	111.00	51.00	48.00	●
12.300	16.00	111.00	51.00	48.00	●
12.400	16.00	111.00	51.00	48.00	●
12.500	16.00	111.00	51.00	48.00	●
12.600	16.00	111.00	51.00	48.00	●
12.700	16.00	111.00	51.00	48.00	●
12.800	16.00	111.00	51.00	48.00	●
12.900	16.00	111.00	51.00	48.00	●
13.000	16.00	111.00	51.00	48.00	●
13.100	16.00	111.00	51.00	48.00	●
13.490	16.00	114.00	54.00	48.00	●
13.500	16.00	114.00	54.00	48.00	●
13.890	16.00	114.00	54.00	48.00	●
14.000	16.00	114.00	54.00	48.00	●
14.290	16.00	116.00	56.00	48.00	●

				Article no.	**6005**
				Discount group	**159**
				Cutting direction	®

d1	d2 h6	l1	l2	l3	Availability
mm	mm	mm	mm	mm	
14.500	16.00	116.00	56.00	48.00	●
15.000	16.00	116.00	56.00	48.00	●
15.500	16.00	118.00	58.00	48.00	●
15.870	16.00	118.00	58.00	48.00	●
16.000	16.00	118.00	58.00	48.00	●
16.500	20.00	126.00	60.00	50.00	●
16.670	20.00	126.00	60.00	50.00	●
17.000	20.00	126.00	60.00	50.00	●
17.500	20.00	128.00	62.00	50.00	●
18.000	20.00	128.00	62.00	50.00	●
18.500	20.00	130.00	64.00	50.00	●
19.000	20.00	130.00	64.00	50.00	●
19.500	20.00	132.00	66.00	50.00	●
20.000	20.00	132.00	66.00	50.00	●

Twist drills with reinforced straight shank

~5xD | GU 500 PM | WN | 118° | h8

Tool material	HSS-E-PM
Surface	F
Shank form	HA

SL

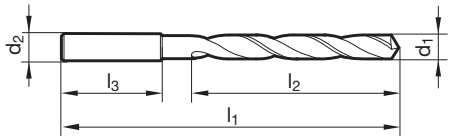
P	•
M	•
K	•
N	•
S	○
H	

web thinning ≥ Ø 1.000 • high-performance twist drills • powder metallurgic steel • 4-facet point grind • low feed force • low torque moment

for universal application

GÜHRINGNAVIGATOR

Cutting data page 150



Article no.	6006
Discount group	159
Cutting direction	R

d1	d2 h6	l1	l2	l3	Availability
mm	mm	mm	mm	mm	
2.000	3.00	56.00	24.00	28.00	●
2.100	3.00	56.00	24.00	28.00	●
2.200	3.00	59.00	27.00	28.00	●
2.300	3.00	59.00	27.00	28.00	●
2.380	3.00	62.00	30.00	28.00	●
2.400	3.00	62.00	30.00	28.00	●
2.500	3.00	62.00	30.00	28.00	●
2.600	3.00	62.00	30.00	28.00	●
2.700	3.00	65.00	33.00	28.00	●
2.780	3.00	65.00	33.00	28.00	●
2.800	3.00	65.00	33.00	28.00	●
2.900	3.00	65.00	33.00	28.00	●
3.000	3.00	65.00	33.00	28.00	●
3.100	4.00	68.00	36.00	28.00	●
3.170	4.00	68.00	36.00	28.00	●
3.200	4.00	68.00	36.00	28.00	●
3.300	4.00	68.00	36.00	28.00	●
3.400	4.00	71.00	39.00	28.00	●
3.500	4.00	71.00	39.00	28.00	●
3.570	4.00	71.00	39.00	28.00	●
3.600	4.00	71.00	39.00	28.00	●
3.700	4.00	71.00	39.00	28.00	●
3.800	4.00	75.00	43.00	28.00	●
3.900	4.00	75.00	43.00	28.00	●
3.970	4.00	75.00	43.00	28.00	●
4.000	4.00	75.00	43.00	28.00	●
4.100	6.00	87.00	43.00	36.00	●
4.200	6.00	87.00	43.00	36.00	●
4.300	6.00	91.00	47.00	36.00	●
4.370	6.00	91.00	47.00	36.00	●
4.400	6.00	91.00	47.00	36.00	●
4.500	6.00	91.00	47.00	36.00	●
4.600	6.00	91.00	47.00	36.00	●
4.650	6.00	91.00	47.00	36.00	●
4.700	6.00	91.00	47.00	36.00	●
4.760	6.00	96.00	52.00	36.00	●

				Article no.	6006
				Discount group	159
				Cutting direction	®
d1	d2 h6	l1	l2	l3	Availability
mm	mm	mm	mm	mm	
4.800	6.00	96.00	52.00	36.00	●
4.900	6.00	96.00	52.00	36.00	●
5.000	6.00	96.00	52.00	36.00	●
5.100	6.00	96.00	52.00	36.00	●
5.160	6.00	96.00	52.00	36.00	●
5.200	6.00	96.00	52.00	36.00	●
5.300	6.00	96.00	52.00	36.00	●
5.400	6.00	101.00	57.00	36.00	●
5.500	6.00	101.00	57.00	36.00	●
5.550	6.00	101.00	57.00	36.00	●
5.560	6.00	101.00	57.00	36.00	●
5.600	6.00	101.00	57.00	36.00	●
5.700	6.00	101.00	57.00	36.00	●
5.800	6.00	101.00	57.00	36.00	●
5.900	6.00	101.00	57.00	36.00	●
5.950	6.00	101.00	57.00	36.00	●
6.000	6.00	101.00	57.00	36.00	●
6.100	8.00	107.00	63.00	36.00	●
6.200	8.00	107.00	63.00	36.00	●
6.300	8.00	107.00	63.00	36.00	●
6.350	8.00	107.00	63.00	36.00	●
6.400	8.00	107.00	63.00	36.00	●
6.500	8.00	107.00	63.00	36.00	●
6.600	8.00	107.00	63.00	36.00	●
6.700	8.00	107.00	63.00	36.00	●
6.750	8.00	113.00	69.00	36.00	●
6.800	8.00	113.00	69.00	36.00	●
6.900	8.00	113.00	69.00	36.00	●
7.000	8.00	113.00	69.00	36.00	●
7.100	8.00	113.00	69.00	36.00	●
7.140	8.00	113.00	69.00	36.00	●
7.200	8.00	113.00	69.00	36.00	●
7.300	8.00	113.00	69.00	36.00	●
7.400	8.00	113.00	69.00	36.00	●
7.500	8.00	113.00	69.00	36.00	●
7.540	8.00	119.00	75.00	36.00	●
7.550	8.00	119.00	75.00	36.00	●
7.600	8.00	119.00	75.00	36.00	●
7.700	8.00	119.00	75.00	36.00	●
7.800	8.00	119.00	75.00	36.00	●
7.900	8.00	119.00	75.00	36.00	●
7.940	8.00	119.00	75.00	36.00	●
8.000	8.00	119.00	75.00	36.00	●
8.100	10.00	125.00	75.00	40.00	●
8.200	10.00	125.00	75.00	40.00	●
8.300	10.00	125.00	75.00	40.00	●
8.330	10.00	125.00	75.00	40.00	●
8.400	10.00	125.00	75.00	40.00	●
8.500	10.00	125.00	75.00	40.00	●
8.600	10.00	131.00	81.00	40.00	●
8.700	10.00	131.00	81.00	40.00	●
8.730	10.00	131.00	81.00	40.00	●
8.800	10.00	131.00	81.00	40.00	●
8.900	10.00	131.00	81.00	40.00	●
9.000	10.00	131.00	81.00	40.00	●
9.100	10.00	131.00	81.00	40.00	●
9.130	10.00	131.00	81.00	40.00	●
9.200	10.00	131.00	81.00	40.00	●
9.300	10.00	131.00	81.00	40.00	●
9.400	10.00	131.00	81.00	40.00	●

				Article no.	6006
				Discount group	159
				Cutting direction	®

d1	d2 h6	l1	l2	l3	Availability
mm	mm	mm	mm	mm	
9.500	10.00	131.00	81.00	40.00	●
9.520	10.00	137.00	87.00	40.00	●
9.550	10.00	137.00	87.00	40.00	●
9.600	10.00	137.00	87.00	40.00	●
9.700	10.00	137.00	87.00	40.00	●
9.800	10.00	137.00	87.00	40.00	●
9.900	10.00	137.00	87.00	40.00	●
9.920	10.00	137.00	87.00	40.00	●
10.000	10.00	137.00	87.00	40.00	●
10.100	12.00	144.00	87.00	45.00	●
10.200	12.00	144.00	87.00	45.00	●
10.300	12.00	144.00	87.00	45.00	●
10.320	12.00	144.00	87.00	45.00	●
10.400	12.00	144.00	87.00	45.00	●
10.500	12.00	144.00	87.00	45.00	●
10.600	12.00	144.00	87.00	45.00	●
10.700	12.00	151.00	94.00	45.00	●
10.720	12.00	151.00	94.00	45.00	●
10.800	12.00	151.00	94.00	45.00	●
10.900	12.00	151.00	94.00	45.00	●
11.000	12.00	151.00	94.00	45.00	●
11.100	12.00	151.00	94.00	45.00	●
11.110	12.00	151.00	94.00	45.00	●
11.200	12.00	151.00	94.00	45.00	●
11.300	12.00	151.00	94.00	45.00	●
11.400	12.00	151.00	94.00	45.00	●
11.500	12.00	151.00	94.00	45.00	●
11.510	12.00	151.00	94.00	45.00	●
11.600	12.00	151.00	94.00	45.00	●
11.700	12.00	151.00	94.00	45.00	●
11.800	12.00	151.00	94.00	45.00	●
11.900	12.00	158.00	101.00	45.00	●
11.910	12.00	158.00	101.00	45.00	●
12.000	12.00	158.00	101.00	45.00	●
12.100	16.00	161.00	101.00	48.00	●
12.200	16.00	161.00	101.00	48.00	●
12.300	16.00	161.00	101.00	48.00	●
12.400	16.00	161.00	101.00	48.00	●
12.500	16.00	161.00	101.00	48.00	●
12.600	16.00	161.00	101.00	48.00	●
12.700	16.00	161.00	101.00	48.00	●
12.800	16.00	161.00	101.00	48.00	●
12.900	16.00	161.00	101.00	48.00	●
13.000	16.00	161.00	101.00	48.00	●
13.100	16.00	161.00	101.00	48.00	●
13.490	16.00	166.00	106.00	48.00	●
13.500	16.00	166.00	106.00	48.00	●
13.890	16.00	166.00	106.00	48.00	●
14.000	16.00	166.00	106.00	48.00	●
14.290	16.00	169.00	109.00	48.00	●
14.500	16.00	169.00	109.00	48.00	●
15.000	16.00	169.00	109.00	48.00	●
15.500	16.00	172.00	112.00	48.00	●
15.870	16.00	172.00	112.00	48.00	●
16.000	16.00	172.00	112.00	48.00	●
16.500	20.00	181.00	115.00	50.00	●
16.670	20.00	181.00	115.00	50.00	●
17.000	20.00	181.00	115.00	50.00	●
17.460	20.00	184.00	118.00	50.00	●
17.500	20.00	184.00	118.00	50.00	●

				Article no.	**6006**
				Discount group	**159**
				Cutting direction	®

d1	d2 h6	l1	l2	l3	Availability
mm	mm	mm	mm	mm	
18.000	20.00	184.00	118.00	50.00	●
18.500	20.00	188.00	122.00	50.00	●
19.000	20.00	188.00	122.00	50.00	●
19.500	20.00	191.00	125.00	50.00	●
20.000	20.00	191.00	125.00	50.00	●

Stub drills

~3xD | N | DIN 6539 | 118° | h7

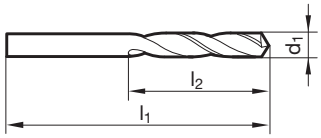
P	○	web thinning ≥ Ø 3.000 • facet point grind • main cutting edge form straight
M	○	
K	○	
N	●	structural and case hardened steels • free-cutting steels, heat-treatable steels • grey cast iron • bronze, brass • aluminium and Al alloys • magnesium and magnesium alloys • plastics and fiber reinforced plastics
S	○	
H		

Tool material	**Solid carbide**
Surface	◯
Shank form	cyl.

SL

GÜHRINGNAVIGATOR

Cutting data page 150



Article no.	**5516**
Discount group	**155**
Cutting direction	R

d1		l1	l2	Availability
mm	inch	mm	mm	
1.500		32.000	9.000	●
1.600		34.000	10.000	●
2.000		38.000	12.000	●
2.100		38.000	12.000	●
2.200		40.000	13.000	●
2.300		40.000	13.000	●
2.380	3/32	43.000	14.000	●
2.400		43.000	14.000	●
2.500		43.000	14.000	●
2.600		43.000	14.000	●
2.700		46.000	16.000	●
2.780	7/64	46.000	16.000	●
2.800		46.000	16.000	●
2.900		46.000	16.000	●
3.000		46.000	16.000	●
3.100		49.000	18.000	●
3.170	1/8	49.000	18.000	●
3.200		49.000	18.000	●
3.300		49.000	18.000	●
3.400		52.000	20.000	●
3.500		52.000	20.000	●
3.570	9/64	52.000	20.000	●
3.600		52.000	20.000	●
3.700		52.000	20.000	●
3.800		55.000	22.000	●
3.900		55.000	22.000	●
3.970	5/32	55.000	22.000	●
4.000		55.000	22.000	●
4.100		55.000	22.000	●
4.200		55.000	22.000	●
4.300		58.000	24.000	●
4.370	11/64	58.000	24.000	●
4.400		58.000	24.000	●
4.500		58.000	24.000	●
4.600		58.000	24.000	●
4.700		58.000	24.000	●

			Article no.	5516
			Discount group	155
			Cutting direction	®

d1		l1	l2	Availability
mm	inch	mm	mm	
4.760	3/16	62.000	26.000	●
4.800		62.000	26.000	●
4.900		62.000	26.000	●
5.000		62.000	26.000	●
5.100		62.000	26.000	●
5.200		62.000	26.000	●
5.500		66.000	28.000	●
5.800		66.000	28.000	●
6.000		66.000	28.000	●
6.350	1/4	70.000	31.000	●
6.400		70.000	31.000	●
6.500		70.000	31.000	●
6.800		74.000	34.000	●
6.900		74.000	34.000	●
7.000		74.000	34.000	●
7.140	9/32	74.000	34.000	●
7.500		74.000	34.000	●
7.940	5/16	79.000	37.000	●
8.000		79.000	37.000	●
8.500		79.000	37.000	●
8.600		84.000	40.000	●
8.730	11/32	84.000	40.000	●
8.800		84.000	40.000	●
9.000		84.000	40.000	●
9.500		84.000	40.000	●
10.000		89.000	43.000	●
10.200		89.000	43.000	●
10.300		89.000	43.000	●
10.500		89.000	43.000	●
11.000		95.000	47.000	●
11.110	7/16	95.000	47.000	●
11.500		95.000	47.000	●
11.910	15/32	102.000	51.000	●
12.000		102.000	51.000	●

Stub drills

~3xD | GU 500 DZ | DIN 1897 | 118° | h8

P	•
M	•
K	•
N	•
S	
H	

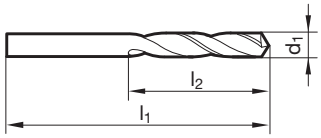
web thinning ≥ Ø 1.000 • facet point grind • Co-alloyed high speed steel • low feed force required • low torque required • for universal application

alloyed/unalloyed steels up to 800 N/mm² • cold/hot work steels • antifriction bearing steels • non-ferrous metals • cast materials • stainless steels • plastics

GÜHRINGNAVIGATOR

Cutting data page 150

Tool material	HSCO	
Surface	○	Ⓢ
Shank form	cyl.	cyl.
	SL	SL



	Article no.	5524	5520
	Discount group	159	159
	Cutting direction	R	R

d1 mm	d1 inch	l1 mm	l2 mm	Availability	
1.000		26.000	6.000	●	●
1.100		28.000	7.000	●	●
1.200		30.000	8.000	●	●
1.300		30.000	8.000	●	●
1.400		32.000	9.000	●	●
1.500		32.000	9.000	●	●
1.600		34.000	10.000	●	●
1.700		34.000	10.000	●	●
1.800		36.000	11.000	●	●
1.900		36.000	11.000	●	●
2.000		38.000	12.000	●	●
2.100		38.000	12.000	●	●
2.200		40.000	13.000	●	●
2.300		40.000	13.000	●	●
2.380	3/32	43.000	14.000	●	●
2.400		43.000	14.000	●	●
2.500		43.000	14.000	●	●
2.600		43.000	14.000	●	●
2.700		46.000	16.000	●	●
2.780	7/64	46.000	16.000	●	●
2.800		46.000	16.000	●	●
2.900		46.000	16.000	●	●
3.000		46.000	16.000	●	●
3.100		49.000	18.000	●	●
3.170	1/8	49.000	18.000	●	●
3.200		49.000	18.000	●	●
3.300		49.000	18.000	●	●
3.400		52.000	20.000	●	●
3.500		52.000	20.000	●	●
3.570	9/64	52.000	20.000	●	●
3.600		52.000	20.000	●	●
3.700		52.000	20.000	●	●
3.800		55.000	22.000	●	●
3.900		55.000	22.000	●	●
3.970	5/32	55.000	22.000	●	●
4.000		55.000	22.000	●	●

			Article no.	5524	5520
			Discount group	159	159
			Cutting direction	®	®
d1		l1	l2	Availability	
mm	inch	mm	mm		
4.100		55.000	22.000	●	●
4.200		55.000	22.000	●	●
4.300		58.000	24.000	●	●
4.370	11/64	58.000	24.000	●	●
4.400		58.000	24.000	●	●
4.500		58.000	24.000	●	●
4.600		58.000	24.000	●	●
4.700		58.000	24.000	●	●
4.760	3/16	62.000	26.000	●	●
4.800		62.000	26.000	●	●
4.900		62.000	26.000	●	●
5.000		62.000	26.000	●	●
5.100		62.000	26.000	●	●
5.160	13/64	62.000	26.000	●	●
5.200		62.000	26.000	●	●
5.300		62.000	26.000	●	●
5.400		66.000	28.000	●	●
5.500		66.000	28.000	●	●
5.560	7/32	66.000	28.000	●	●
5.600		66.000	28.000	●	●
5.700		66.000	28.000	●	●
5.800		66.000	28.000	●	●
5.900		66.000	28.000	●	●
5.950	15/64	66.000	28.000	●	●
6.000		66.000	28.000	●	●
6.100		70.000	31.000	●	●
6.200		70.000	31.000	●	●
6.300		70.000	31.000	●	●
6.350	1/4	70.000	31.000	●	●
6.400		70.000	31.000	●	●
6.500		70.000	31.000	●	●
6.600		70.000	31.000	●	●
6.700		70.000	31.000	●	●
6.800		74.000	34.000	●	●
6.900		74.000	34.000	●	●
7.000		74.000	34.000	●	●
7.100		74.000	34.000	●	●
7.140	9/32	74.000	34.000	●	●
7.200		74.000	34.000	●	●
7.300		74.000	34.000	●	●
7.400		74.000	34.000	●	●
7.500		74.000	34.000	●	●
7.600		79.000	37.000	●	●
7.700		79.000	37.000	●	●
7.800		79.000	37.000	●	●
7.900		79.000	37.000	●	●
7.940	5/16	79.000	37.000	●	●
8.000		79.000	37.000	●	●
8.100		79.000	37.000	●	●
8.200		79.000	37.000	●	●
8.300		79.000	37.000	●	●
8.400		79.000	37.000	●	●
8.500		79.000	37.000	●	●
8.600		84.000	40.000	●	●
8.700		84.000	40.000	●	●
8.730	11/32	84.000	40.000	●	●
8.800		84.000	40.000	●	●
8.900		84.000	40.000	●	●
9.000		84.000	40.000	●	●
9.100		84.000	40.000	●	●

			Article no.	5524	5520
			Discount group	159	159
			Cutting direction	®	®
d1		l1	l2	Availability	
mm	inch	mm	mm		
9.200		84.000	40.000	●	●
9.300		84.000	40.000	●	●
9.400		84.000	40.000	●	●
9.500		84.000	40.000	●	●
9.600		89.000	43.000	●	●
9.700		89.000	43.000	●	●
9.800		89.000	43.000	●	●
9.900		89.000	43.000	●	●
10.000		89.000	43.000	●	●
10.100		89.000	43.000	●	●
10.200		89.000	43.000	●	●
10.300		89.000	43.000	●	●
10.400		89.000	43.000	●	●
10.500		89.000	43.000	●	●
11.000		95.000	47.000	●	●
11.110	7/16	95.000	47.000	●	●
11.500		95.000	47.000	●	●
12.000		102.000	51.000	●	●
12.500		102.000	51.000	●	●
13.000		102.000	51.000	●	●
13.500		107.000	54.000	●	●
14.000		107.000	54.000	●	●

Stub drills

~3xD | GT 500 DZ | DIN 1897 | 130° | h8

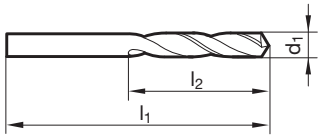
Tool material	HSS-E-PM
Surface	(S)
Shank form	cyl.

SL

P	●	web thinning ≥ Ø 1.000 • relieved cone • PM-Co-alloyed high speed steel • especially high rigidity • especially high wear resistance
M	○	
K	●	high-alloyed steels • heat treatable and case hardened steels • cast iron, brass, bronze
N	○	
S	○	
H	○	

GÜHRINGNAVIGATOR

Cutting data page 150



Article no.	5521
Discount group	159
Cutting direction	(R)

d1 mm	d1 inch	l1 mm	l2 mm	Availability
1.000		26.000	6.000	●
1.100		28.000	7.000	●
1.200		30.000	8.000	●
1.300		30.000	8.000	●
1.400		32.000	9.000	●
1.500		32.000	9.000	●
1.600		34.000	10.000	●
1.700		34.000	10.000	●
1.800		36.000	11.000	●
1.900		36.000	11.000	●
2.000		38.000	12.000	●
2.100		38.000	12.000	●
2.200		40.000	13.000	●
2.300		40.000	13.000	●
2.380	3/32	43.000	14.000	●
2.400		43.000	14.000	●
2.500		43.000	14.000	●
2.600		43.000	14.000	●
2.700		46.000	16.000	●
2.780	7/64	46.000	16.000	●
2.800		46.000	16.000	●
2.900		46.000	16.000	●
3.000		46.000	16.000	●
3.100		49.000	18.000	●
3.170	1/8	49.000	18.000	●
3.200		49.000	18.000	●
3.300		49.000	18.000	●
3.400		52.000	20.000	●
3.500		52.000	20.000	●
3.570	9/64	52.000	20.000	●
3.600		52.000	20.000	●
3.700		52.000	20.000	●
3.800		55.000	22.000	●
3.900		55.000	22.000	●
3.970	5/32	55.000	22.000	●
4.000		55.000	22.000	●

			Article no.	5521
			Discount group	159
			Cutting direction	®

d1		l1	l2	Availability
mm	inch	mm	mm	
4.100		55.000	22.000	●
4.200		55.000	22.000	●
4.300		58.000	24.000	●
4.370	11/64	58.000	24.000	●
4.400		58.000	24.000	●
4.500		58.000	24.000	●
4.600		58.000	24.000	●
4.700		58.000	24.000	●
4.760	3/16	62.000	26.000	●
4.800		62.000	26.000	●
4.900		62.000	26.000	●
5.000		62.000	26.000	●
5.100		62.000	26.000	●
5.160	13/64	62.000	26.000	●
5.200		62.000	26.000	●
5.300		62.000	26.000	●
5.400		66.000	28.000	●
5.500		66.000	28.000	●
5.560	7/32	66.000	28.000	●
5.600		66.000	28.000	●
5.700		66.000	28.000	●
5.800		66.000	28.000	●
5.900		66.000	28.000	●
5.950	15/64	66.000	28.000	●
6.000		66.000	28.000	●
6.100		70.000	31.000	●
6.200		70.000	31.000	●
6.300		70.000	31.000	●
6.350	1/4	70.000	31.000	●
6.400		70.000	31.000	●
6.500		70.000	31.000	●
6.600		70.000	31.000	●
6.700		70.000	31.000	●
6.800		74.000	34.000	●
6.900		74.000	34.000	●
7.000		74.000	34.000	●
7.100		74.000	34.000	●
7.140	9/32	74.000	34.000	●
7.200		74.000	34.000	●
7.300		74.000	34.000	●
7.400		74.000	34.000	●
7.500		74.000	34.000	●
7.600		79.000	37.000	●
7.700		79.000	37.000	●
7.800		79.000	37.000	●
7.900		79.000	37.000	●
7.940	5/16	79.000	37.000	●
8.000		79.000	37.000	●
8.100		79.000	37.000	●
8.200		79.000	37.000	●
8.300		79.000	37.000	●
8.400		79.000	37.000	●
8.500		79.000	37.000	●
8.730	11/32	84.000	40.000	●
8.800		84.000	40.000	●
9.000		84.000	40.000	●
9.300		84.000	40.000	●
9.500		84.000	40.000	●
9.800		89.000	43.000	●
10.000		89.000	43.000	●

			Article no.	5521
			Discount group	159
			Cutting direction	®

d1		l1	l2	Availability
mm	inch	mm	mm	
10.200		89.000	43.000	●
10.500		89.000	43.000	●
11.000		95.000	47.000	●
11.110	7/16	95.000	47.000	●
11.500		95.000	47.000	●
12.000		102.000	51.000	●
12.500		102.000	51.000	●
13.000		102.000	51.000	●
13.500		107.000	54.000	●
14.000		107.000	54.000	●

Jobber drills

~5xD | N | WN | 118° | h7

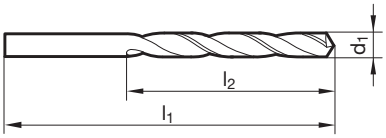
P	○	web thinning ≥ Ø 3.000 • facet point grind • main cutting edge form straight
M	○	
K	○	
N	●	structural and case hardened steels • free-cutting steels, heat-treatable steels • grey cast iron • bronze, brass • aluminium and Al alloys • magnesium and magnesium alloys • plastics and fiber reinforced plastics
S	○	
H		

GÜHRINGNAVIGATOR

Cutting data page 152

Tool material	**Solid carbide**
Surface	◯
Shank form	cyl.

SL



Article no.	**5517**
Discount group	**155**
Cutting direction	®

d1		l1	l2	Availability
mm	inch	mm	mm	
2.000		49.000	24.000	●
2.100		49.000	24.000	●
2.200		53.000	27.000	●
2.300		53.000	27.000	●
2.380	3/32	57.000	30.000	●
2.400		57.000	30.000	●
2.500		57.000	30.000	●
2.600		57.000	30.000	●
2.700		61.000	33.000	●
2.780	7/64	61.000	33.000	●
2.800		61.000	33.000	●
2.900		61.000	33.000	●
3.000		61.000	33.000	●
3.100		65.000	36.000	●
3.170	1/8	65.000	36.000	●
3.200		65.000	36.000	●
3.300		65.000	36.000	●
3.400		70.000	39.000	●
3.500		70.000	39.000	●
3.570	9/64	70.000	39.000	●
3.600		70.000	39.000	●
3.700		70.000	39.000	●
3.800		75.000	43.000	●
3.900		75.000	43.000	●
3.970	5/32	75.000	43.000	●
4.000		75.000	43.000	●
4.100		75.000	43.000	●
4.200		75.000	43.000	●
4.300		80.000	47.000	●
4.370	11/64	80.000	47.000	●
4.400		80.000	47.000	●
4.500		80.000	47.000	●
4.600		80.000	47.000	●
4.700		80.000	47.000	●
4.760	3/16	86.000	52.000	●
4.800		86.000	52.000	●

			Article no.	5517
			Discount group	155
			Cutting direction	®

d1		l1	l2	Availability
mm	inch	mm	mm	
4.900		86.000	52.000	●
5.000		86.000	52.000	●
5.100		86.000	52.000	●
5.160	13/64	86.000	52.000	●
5.500		93.000	57.000	●
5.560	7/32	93.000	57.000	●
5.950	15/64	93.000	57.000	●
6.000		93.000	57.000	●
6.350	1/4	101.000	63.000	●
6.500		101.000	63.000	●
6.800		109.000	69.000	●
6.900		109.000	69.000	●
7.000		109.000	69.000	●
7.140	9/32	109.000	69.000	●
7.500		109.000	69.000	●
7.940	5/16	117.000	75.000	●
8.000		117.000	75.000	●
8.500		117.000	75.000	●
8.600		125.000	81.000	●
8.730	11/32	125.000	81.000	●
9.000		125.000	81.000	●
9.500		125.000	81.000	●
10.000		133.000	87.000	●
10.200		133.000	87.000	●
10.300		133.000	87.000	●
10.500		133.000	87.000	●
11.000		142.000	94.000	●
11.110	7/16	142.000	94.000	●
11.500		142.000	94.000	●
11.910	15/32	151.000	101.000	●
12.000		151.000	101.000	●

Jobber drills

~5xD | GU 500 DZ | DIN 338 | 118° | h8

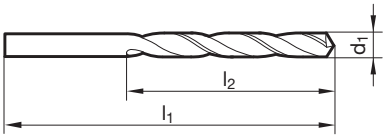
P	•
M	•
K	•
N	•
S	
H	

web thinning ≥ Ø 1.000 • facet point grind • Co-alloyed high speed steel • low feed force required • low torque required • for universal application

alloyed/unalloyed steels up to 800 N/mm² • cold/hot work steels • antifriction bearing steels • non-ferrous metals • cast materials • stainless steels • plastics

GÜHRINGNAVIGATOR

Cutting data page 150



Tool material	HSCO	
Surface	◯	Ⓢ
Shank form	cyl.	cyl.
	SL	SL

Article no.	5523	5519
Discount group	159	159
Cutting direction	Ⓡ	Ⓡ

d1		l1	l2	Availability	
mm	inch	mm	mm		
1.000		34.000	12.000	●	●
1.100		36.000	14.000	●	●
1.200		38.000	16.000	●	●
1.300		38.000	16.000	●	●
1.400		40.000	18.000	●	●
1.500		40.000	18.000	●	●
1.600		43.000	20.000	●	●
1.700		43.000	20.000	●	●
1.800		46.000	22.000	●	●
1.900		46.000	22.000	●	●
2.000		49.000	24.000	●	●
2.100		49.000	24.000	●	●
2.200		53.000	27.000	●	●
2.300		53.000	27.000	●	●
2.380	3/32	57.000	30.000	●	●
2.400		57.000	30.000	●	●
2.500		57.000	30.000	●	●
2.600		57.000	30.000	●	●
2.700		61.000	33.000	●	●
2.780	7/64	61.000	33.000	●	●
2.800		61.000	33.000	●	●
2.900		61.000	33.000	●	●
3.000		61.000	33.000	●	●
3.100		65.000	36.000	●	●
3.170	1/8	65.000	36.000	●	●
3.200		65.000	36.000	●	●
3.300		65.000	36.000	●	●
3.400		70.000	39.000	●	●
3.500		70.000	39.000	●	●
3.570	9/64	70.000	39.000	●	●
3.600		70.000	39.000	●	●
3.700		70.000	39.000	●	●
3.800		75.000	43.000	●	●
3.900		75.000	43.000	●	●
3.970	5/32	75.000	43.000	●	●
4.000		75.000	43.000	●	●

				Article no.	5523	5519
				Discount group	159	159
				Cutting direction	®	®
d1		l1	l2	Availability		
mm	inch	mm	mm			
4.100		75.000	43.000	●	●	
4.200		75.000	43.000	●	●	
4.300		80.000	47.000	●	●	
4.370	11/64	80.000	47.000	●	●	
4.400		80.000	47.000	●	●	
4.500		80.000	47.000	●	●	
4.600		80.000	47.000	●	●	
4.700		80.000	47.000	●	●	
4.760	3/16	86.000	52.000	●	●	
4.800		86.000	52.000	●	●	
4.900		86.000	52.000	●	●	
5.000		86.000	52.000	●	●	
5.100		86.000	52.000	●	●	
5.160	13/64	86.000	52.000	●	●	
5.200		86.000	52.000	●	●	
5.300		86.000	52.000	●	●	
5.400		93.000	57.000	●	●	
5.500		93.000	57.000	●	●	
5.560	7/32	93.000	57.000	●	●	
5.600		93.000	57.000	●	●	
5.700		93.000	57.000	●	●	
5.800		93.000	57.000	●	●	
5.900		93.000	57.000	●	●	
5.950	15/64	93.000	57.000	●	●	
6.000		93.000	57.000	●	●	
6.100		101.000	63.000	●	●	
6.200		101.000	63.000	●	●	
6.300		101.000	63.000	●	●	
6.350	1/4	101.000	63.000	●	●	
6.400		101.000	63.000	●	●	
6.500		101.000	63.000	●	●	
6.600		101.000	63.000	●	●	
6.700		101.000	63.000	●	●	
6.800		109.000	69.000	●	●	
6.900		109.000	69.000	●	●	
7.000		109.000	69.000	●	●	
7.100		109.000	69.000	●	●	
7.140	9/32	109.000	69.000	●	●	
7.200		109.000	69.000	●	●	
7.300		109.000	69.000	●	●	
7.400		109.000	69.000	●	●	
7.500		109.000	69.000	●	●	
7.600		117.000	75.000	●	●	
7.700		117.000	75.000	●	●	
7.800		117.000	75.000	●	●	
7.900		117.000	75.000	●	●	
7.940	5/16	117.000	75.000	●	●	
8.000		117.000	75.000	●	●	
8.100		117.000	75.000	●	●	
8.200		117.000	75.000	●	●	
8.300		117.000	75.000	●	●	
8.400		117.000	75.000	●	●	
8.500		117.000	75.000	●	●	
8.600		125.000	81.000	●	●	
8.700		125.000	81.000	●	●	
8.730	11/32	125.000	81.000	●	●	
8.800		125.000	81.000	●	●	
8.900		125.000	81.000	●		
9.000		125.000	81.000	●	●	
9.100		125.000	81.000	●	●	

			Article no.	5523	5519
			Discount group	159	159
			Cutting direction	®	®
d1		l1	l2	Availability	
mm	inch	mm	mm		
9.200		125.000	81.000	●	●
9.300		125.000	81.000	●	●
9.400		125.000	81.000	●	●
9.500		125.000	81.000	●	●
9.600		133.000	87.000	●	●
9.700		133.000	87.000	●	●
9.800		133.000	87.000	●	●
9.900		133.000	87.000	●	●
10.000		133.000	87.000	●	●
10.100		133.000	87.000	●	●
10.200		133.000	87.000	●	●
10.300		133.000	87.000	●	●
10.400		133.000	87.000	●	●
10.500		133.000	87.000	●	●
11.000		142.000	94.000	●	●
11.110	7/16	142.000	94.000	●	●
11.500		142.000	94.000	●	●
12.000		151.000	101.000	●	●
12.500		151.000	101.000	●	●
13.000		151.000	101.000	●	●
13.500		160.000	108.000	●	●
14.000		160.000	108.000	●	●

Jobber drills

~5xD | GT 500 DZ | DIN 338 | 130° | h8

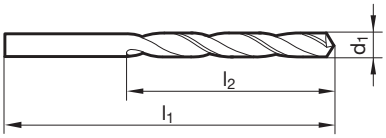
Tool material	HSS-E-PM
Surface	S
Shank form	cyl.

SL

P	●	web thinning ≥ Ø 1.000 • relieved cone • PM-Co-alloyed high speed steel • especially high rigidity • especially high wear resistance
M	○	
K	●	high-alloyed steels • heat treatable and case hardened steels • cast iron, brass, bronze
N	○	
S	○	
H	○	

GÜHRINGNAVIGATOR

Cutting data page 152



Article no.	5522
Discount group	159
Cutting direction	R

d1		l1	l2	Availability
mm	inch	mm	mm	
1.000		34.000	12.000	●
1.100		36.000	14.000	●
1.200		38.000	16.000	●
1.300		38.000	16.000	●
1.400		40.000	18.000	●
1.500		40.000	18.000	●
1.600		43.000	20.000	●
1.700		43.000	20.000	●
1.800		46.000	22.000	●
1.900		46.000	22.000	●
2.000		49.000	24.000	●
2.100		49.000	24.000	●
2.200		53.000	27.000	●
2.300		53.000	27.000	●
2.380	3/32	57.000	30.000	●
2.400		57.000	30.000	●
2.500		57.000	30.000	●
2.600		57.000	30.000	●
2.700		61.000	33.000	●
2.780	7/64	61.000	33.000	●
2.800		61.000	33.000	●
2.900		61.000	33.000	●
3.000		61.000	33.000	●
3.100		65.000	36.000	●
3.170	1/8	65.000	36.000	●
3.200		65.000	36.000	●
3.300		65.000	36.000	●
3.400		70.000	39.000	●
3.500		70.000	39.000	●
3.570	9/64	70.000	39.000	●
3.600		70.000	39.000	●
3.700		70.000	39.000	●
3.800		75.000	43.000	●
3.900		75.000	43.000	●
3.970	5/32	75.000	43.000	●
4.000		75.000	43.000	●

			Article no.	5522
			Discount group	159
			Cutting direction	®

d1		l1	l2	Availability
mm	inch	mm	mm	
4.100		75.000	43.000	●
4.200		75.000	43.000	●
4.300		80.000	47.000	●
4.370	11/64	80.000	47.000	●
4.400		80.000	47.000	●
4.500		80.000	47.000	●
4.600		80.000	47.000	●
4.700		80.000	47.000	●
4.760	3/16	86.000	52.000	●
4.800		86.000	52.000	●
4.900		86.000	52.000	●
5.000		86.000	52.000	●
5.100		86.000	52.000	●
5.160	13/64	86.000	52.000	●
5.200		86.000	52.000	●
5.300		86.000	52.000	●
5.400		93.000	57.000	●
5.500		93.000	57.000	●
5.560	7/32	93.000	57.000	●
5.600		93.000	57.000	●
5.700		93.000	57.000	●
5.800		93.000	57.000	●
5.900		93.000	57.000	●
5.950	15/64	93.000	57.000	●
6.000		93.000	57.000	●
6.100		101.000	63.000	●
6.200		101.000	63.000	●
6.300		101.000	63.000	●
6.350	1/4	101.000	63.000	●
6.400		101.000	63.000	●
6.500		101.000	63.000	●
6.600		101.000	63.000	●
6.700		101.000	63.000	●
6.800		109.000	69.000	●
6.900		109.000	69.000	●
7.000		109.000	69.000	●
7.100		109.000	69.000	●
7.140	9/32	109.000	69.000	●
7.200		109.000	69.000	●
7.300		109.000	69.000	●
7.400		109.000	69.000	●
7.500		109.000	69.000	●
7.600		117.000	75.000	●
7.700		117.000	75.000	●
7.800		117.000	75.000	●
7.900		117.000	75.000	●
7.940	5/16	117.000	75.000	●
8.000		117.000	75.000	●
8.100		117.000	75.000	●
8.200		117.000	75.000	●
8.300		117.000	75.000	●
8.400		117.000	75.000	●
8.500		117.000	75.000	●
8.730	11/32	125.000	81.000	●
8.800		125.000	81.000	●
9.000		125.000	81.000	●
9.300		125.000	81.000	●
9.500		125.000	81.000	●
9.800		133.000	87.000	●
10.000		133.000	87.000	●

			Article no.	5522
			Discount group	159
			Cutting direction	®
d1		l1	l2	Availability
mm	inch	mm	mm	
10.200		133.000	87.000	●
10.500		133.000	87.000	●
11.000		142.000	94.000	●
11.110	7/16	142.000	94.000	●
11.500		142.000	94.000	●
12.000		151.000	101.000	●
12.500		151.000	101.000	●
13.000		151.000	101.000	●
13.500		160.000	108.000	●
14.000		160.000	108.000	●

Jobber drills

~5xD | N | DIN 338 | 118° | h8

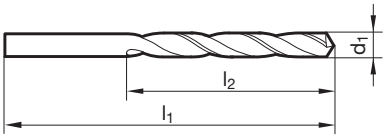
Tool material	HSS
Surface	(S)
Shank form	cyl.

SL

P	•	web thinning ≥ Ø 1.000 • relieved cone • tip coating
M		
K	•	
N	•	alloyed/unalloyed steel and cast steel • grey cast iron, malleable and spheroidal iron • sintered powder metal and graphite
S		
H		

GÜHRINGNAVIGATOR

Cutting data page 152



Article no.	9651
Discount group	159
Cutting direction	(R)

d1		l1	l2	Availability
mm	inch	mm	mm	
1.000		34.000	12.000	●
1.100		36.000	14.000	●
1.190	3/64	38.000	16.000	●
1.200		38.000	16.000	●
1.300		38.000	16.000	●
1.400		40.000	18.000	●
1.500		40.000	18.000	●
1.590	1/16	43.000	20.000	●
1.600		43.000	20.000	●
1.700		43.000	20.000	●
1.800		46.000	22.000	●
1.900		46.000	22.000	●
1.980	5/64	49.000	24.000	●
2.000		49.000	24.000	●
2.100		49.000	24.000	●
2.200		53.000	27.000	●
2.300		53.000	27.000	●
2.380	3/32	57.000	30.000	●
2.400		57.000	30.000	●
2.500		57.000	30.000	●
2.600		57.000	30.000	●
2.700		61.000	33.000	●
2.780	7/64	61.000	33.000	●
2.800		61.000	33.000	●
2.900		61.000	33.000	●
3.000		61.000	33.000	●
3.100		65.000	36.000	●
3.170	1/8	65.000	36.000	●
3.200		65.000	36.000	●
3.300		65.000	36.000	●
3.400		70.000	39.000	●
3.500		70.000	39.000	●
3.570	9/64	70.000	39.000	●
3.600		70.000	39.000	●
3.700		70.000	39.000	●
3.800		75.000	43.000	●

			Article no.	9651
			Discount group	159
			Cutting direction	®

d1		l1	l2	Availability
mm	inch	mm	mm	
3.900		75.000	43.000	●
3.970	5/32	75.000	43.000	●
4.000		75.000	43.000	●
4.100		75.000	43.000	●
4.200		75.000	43.000	●
4.300		80.000	47.000	●
4.370	11/64	80.000	47.000	●
4.400		80.000	47.000	●
4.500		80.000	47.000	●
4.600		80.000	47.000	●
4.700		80.000	47.000	●
4.760	3/16	86.000	52.000	●
4.800		86.000	52.000	●
4.900		86.000	52.000	●
5.000		86.000	52.000	●
5.100		86.000	52.000	●
5.160	13/64	86.000	52.000	●
5.200		86.000	52.000	●
5.300		86.000	52.000	●
5.400		93.000	57.000	●
5.500		93.000	57.000	●
5.560	7/32	93.000	57.000	●
5.600		93.000	57.000	●
5.700		93.000	57.000	●
5.800		93.000	57.000	●
5.900		93.000	57.000	●
5.950	15/64	93.000	57.000	●
6.000		93.000	57.000	●
6.100		101.000	63.000	●
6.200		101.000	63.000	●
6.300		101.000	63.000	●
6.350	1/4	101.000	63.000	●
6.400		101.000	63.000	●
6.500		101.000	63.000	●
6.600		101.000	63.000	●
6.700		101.000	63.000	●
6.750	17/64	109.000	69.000	●
6.800		109.000	69.000	●
6.900		109.000	69.000	●
7.000		109.000	69.000	●
7.100		109.000	69.000	●
7.200		109.000	69.000	●
7.300		109.000	69.000	●
7.400		109.000	69.000	●
7.500		109.000	69.000	●
7.540	19/64	117.000	75.000	●
7.600		117.000	75.000	●
7.700		117.000	75.000	●
7.800		117.000	75.000	●
7.900		117.000	75.000	●
7.940	5/16	117.000	75.000	●
8.000		117.000	75.000	●
8.100		117.000	75.000	●
8.200		117.000	75.000	●
8.300		117.000	75.000	●
8.330	21/64	117.000	75.000	●
8.400		117.000	75.000	●
8.500		117.000	75.000	●
8.600		125.000	81.000	●
8.700		125.000	81.000	●

			Article no.	9651
			Discount group	159
			Cutting direction	®

d1		l1	l2	Availability
mm	inch	mm	mm	
8.730	11/32	125.000	81.000	●
8.800		125.000	81.000	●
8.900		125.000	81.000	●
9.000		125.000	81.000	●
9.100		125.000	81.000	●
9.130	23/64	125.000	81.000	●
9.200		125.000	81.000	●
9.300		125.000	81.000	●
9.400		125.000	81.000	●
9.500		125.000	81.000	●
9.520	3/8	133.000	87.000	●
9.600		133.000	87.000	●
9.700		133.000	87.000	●
9.800		133.000	87.000	●
9.900		133.000	87.000	●
9.920	25/64	133.000	87.000	●
10.000		133.000	87.000	●
10.100		133.000	87.000	●
10.200		133.000	87.000	●
10.300		133.000	87.000	●
10.320	13/32	133.000	87.000	●
10.400		133.000	87.000	●
10.500		133.000	87.000	●
10.600		133.000	87.000	●
10.700		142.000	94.000	●
10.720	27/64	142.000	94.000	●
10.800		142.000	94.000	●
10.900		142.000	94.000	●
11.000		142.000	94.000	●
11.100		142.000	94.000	●
11.110	7/16	142.000	94.000	●
11.200		142.000	94.000	●
11.300		142.000	94.000	●
11.400		142.000	94.000	●
11.500		142.000	94.000	●
11.510	29/64	142.000	94.000	●
11.600		142.000	94.000	●
11.700		142.000	94.000	●
11.800		142.000	94.000	●
11.900		151.000	101.000	●
11.910	15/32	151.000	101.000	●
12.000		151.000	101.000	●
12.100		151.000	101.000	●
12.200		151.000	101.000	●
12.300	31/64	151.000	101.000	●
12.400		151.000	101.000	●
12.500		151.000	101.000	●
12.600		151.000	101.000	●
12.700	1/2	151.000	101.000	●
12.800		151.000	101.000	●
12.900		151.000	101.000	●
13.000		151.000	101.000	●
13.100	33/64	151.000	101.000	●
13.200		151.000	101.000	●
13.250		160.000	108.000	●
13.300		160.000	108.000	●
13.400		160.000	108.000	●
13.490	17/32	160.000	108.000	●
13.500		160.000	108.000	●
13.600		160.000	108.000	●

			Article no.	9651
			Discount group	159
			Cutting direction	®

d1		l1	l2	Availability
mm	inch	mm	mm	
13.700		160.000	108.000	●
13.750		160.000	108.000	●
13.800		160.000	108.000	●
13.890	35/64	160.000	108.000	●
13.900		160.000	108.000	●
14.000		160.000	108.000	●
14.250		169.000	114.000	●
14.290	9/16	169.000	114.000	●
14.500		169.000	114.000	●
14.680	37/64	169.000	114.000	●
14.750		169.000	114.000	●
15.000		169.000	114.000	●
15.080	19/32	178.000	120.000	●
15.250		178.000	120.000	●
15.480	39/64	178.000	120.000	●
15.500		178.000	120.000	●
15.750		178.000	120.000	●
16.000		178.000	120.000	●

Long series twist drills

~10xD | GU 500 DZ | DIN 340 | 118° | h8

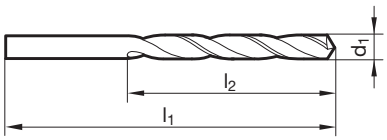
P	•
M	•
K	•
N	•
S	
H	

web thinning ≥ Ø 1.000 • facet point grind • Co-alloyed high speed steel • low feed force required • low torque required • increased wear resistance • for universal application • only suitable for short drilling depths when used at full length for reach purposes or interferences

alloyed/unalloyed steels up to 800 N/mm² • cold/hot work steels • antifriction bearing steels • non-ferrous metals • cast materials • stainless steels • plastics

GÜHRINGNAVIGATOR

Cutting data page 152



Tool material	HSCO	
Surface	○	Ⓢ
Shank form	cyl.	cyl.
	SL	SL

Article no.	5536	5537
Discount group	159	159
Cutting direction	Ⓡ	Ⓡ

d1	l1	l2	Availability	
mm	mm	mm		
1.000	56.000	33.000	•	•
1.100	60.000	37.000	•	•
1.200	65.000	41.000	•	•
1.300	65.000	41.000	•	•
1.400	70.000	45.000	•	•
1.500	70.000	45.000	•	•
1.600	76.000	50.000	•	•
1.700	76.000	50.000	•	•
1.800	80.000	53.000	•	•
1.900	80.000	53.000	•	•
2.000	85.000	56.000	•	•
2.100	85.000	56.000	•	•
2.200	90.000	59.000	•	•
2.300	90.000	59.000	•	•
2.400	95.000	62.000	•	•
2.500	95.000	62.000	•	•
2.600	95.000	62.000	•	•
2.700	100.000	66.000	•	•
2.800	100.000	66.000	•	•
2.900	100.000	66.000	•	•
3.000	100.000	66.000	•	•
3.100	106.000	69.000	•	•
3.200	106.000	69.000	•	•
3.300	106.000	69.000	•	•
3.400	112.000	73.000	•	•
3.500	112.000	73.000	•	•
3.600	112.000	73.000	•	•
3.700	112.000	73.000	•	•
3.800	119.000	78.000	•	•
3.900	119.000	78.000	•	•
4.000	119.000	78.000	•	•
4.100	119.000	78.000	•	•
4.200	119.000	78.000	•	•
4.300	126.000	82.000	•	•
4.400	126.000	82.000	•	•
4.500	126.000	82.000	•	•

			Article no.	5536	5537
			Discount group	159	159
			Cutting direction	R	R
d1	l1	l2	Availability		
mm	mm	mm			
4.600	126.000	82.000		●	●
4.700	126.000	82.000		●	●
4.800	132.000	87.000		●	●
4.900	132.000	87.000		●	●
5.000	132.000	87.000		●	●
5.100	132.000	87.000		●	●
5.200	132.000	87.000		●	●
5.300	132.000	87.000		●	●
5.400	139.000	91.000		●	●
5.500	139.000	91.000		●	●
5.600	139.000	91.000		●	●
5.700	139.000	91.000		●	●
5.800	139.000	91.000		●	●
5.900	139.000	91.000		●	●
6.000	139.000	91.000		●	●
6.100	148.000	97.000		●	●
6.200	148.000	97.000		●	●
6.300	148.000	97.000		●	●
6.400	148.000	97.000		●	●
6.500	148.000	97.000		●	●
6.600	148.000	97.000		●	●
6.700	148.000	97.000		●	●
6.800	156.000	102.000		●	●
6.900	156.000	102.000		●	●
7.000	156.000	102.000		●	●
7.100	156.000	102.000		●	●
7.200	156.000	102.000		●	●
7.300	156.000	102.000		●	●
7.400	156.000	102.000		●	●
7.500	156.000	102.000		●	●
7.600	165.000	109.000		●	●
7.700	165.000	109.000		●	●
7.800	165.000	109.000		●	●
7.900	165.000	109.000		●	●
8.000	165.000	109.000		●	●
8.100	165.000	109.000		●	●
8.200	165.000	109.000		●	●
8.300	165.000	109.000		●	●
8.400	165.000	109.000		●	●
8.500	165.000	109.000		●	●
8.600	175.000	115.000		●	●
8.700	175.000	115.000		●	●
8.800	175.000	115.000		●	●
8.900	175.000	115.000		●	●
9.000	175.000	115.000		●	●
9.100	175.000	115.000		●	●
9.200	175.000	115.000		●	●
9.300	175.000	115.000		●	●
9.400	175.000	115.000		●	●
9.500	175.000	115.000		●	●
9.600	184.000	121.000		●	●
9.700	184.000	121.000		●	●
9.800	184.000	121.000		●	●
9.900	184.000	121.000		●	●
10.000	184.000	121.000		●	●
10.100	184.000	121.000		●	●
10.200	184.000	121.000		●	●
10.300	184.000	121.000		●	●
10.400	184.000	121.000		●	●
10.500	184.000	121.000		●	●

	Article no.	5536	5537
	Discount group	159	159
	Cutting direction	R	R

d1	l1	l2	Availability	
mm	mm	mm		
11.000	195.000	128.000	●	●
11.500	195.000	128.000	●	●
12.000	205.000	134.000	●	●
12.500	205.000	134.000	●	●
13.000	205.000	134.000	●	●
13.500	214.000	140.000	●	●
14.000	214.000	140.000	●	●

90° NC spotting drills

N | WN | 90° | h6

P	•
M	•
K	•
N	•
S	○
H	

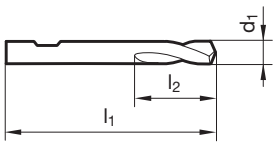
relieved cone • only suitable for spotting • ≥ Ø 6.0 mm with driving face to DIN 1835-B • inch dimensions are without clamping surface • Co-alloyed high speed steel • increased wear resistance

Tool material	HSCO
Surface	F
Shank form	B

SL

GÜHRINGNAVIGATOR

Cutting data page 148



Article no.	5678
Discount group	159
Cutting direction	R

d1		l1	l2	Availability
mm	inch	mm	mm	
3.000		46.000	12.000	●
4.000		55.000	12.000	●
5.000		62.000	14.000	●
6.000		66.000	16.000	●
6.350	1/4	70.000	17.000	●
8.000		79.000	21.000	●
9.520	3/8	89.000	25.000	●
10.000		89.000	25.000	●
12.000		102.000	30.000	●
12.700	1/2	102.000	30.000	●
14.000		107.000	33.500	●
15.870	5/8	115.000	37.500	●
16.000		115.000	37.500	●
19.050	3/4	131.000	45.000	●
20.000		131.000	45.000	●
25.000	63/64	151.000	53.000	●
25.400	1	156.000	53.000	●

90° NC spotting drills

N | WN | 90° | h6

P	○
M	○
K	○
N	○
S	○
H	○

facet point grind • only suitable for spotting • ≥ Ø 6.0 mm with clamping surface shank form HB • inch dimensions are without clamping surface

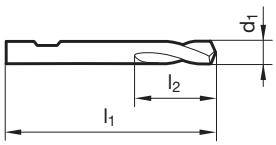
universal material suitability

Tool material	**Solid carbide**
Surface	F
Shank form	HB

SL

GÜHRINGNAVIGATOR

Cutting data page 148



Article no.	**6027**
Discount group	**155**
Cutting direction	R

d1		l1	l2	Availability
mm	inch	mm	mm	
4.000		55.000	12.000	●
5.000		62.000	14.000	●
6.000		66.000	16.000	●
6.350	1/4	70.000	17.000	●
8.000		79.000	21.000	●
9.520	3/8	89.000	25.000	●
10.000		89.000	25.000	●
12.000		102.000	30.000	●
12.700	1/2	102.000	30.000	●
15.870	5/8	115.000	37.500	●
16.000		115.000	37.500	●
19.050	3/4	131.000	45.000	●
20.000		131.000	45.000	●

120° NC spotting drills

N | WN | 120° | h6

P	•
M	•
K	•
N	•
S	○
H	

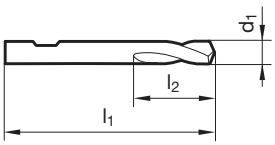
relieved cone • only suitable for spotting • ≥ Ø 6.0 mm with driving face to DIN 1835-B • inch dimensions are without clamping surface • Co-alloyed high speed steel • increased wear resistance

Tool material	HSCO
Surface	F
Shank form	B

SL

GÜHRINGNAVIGATOR

Cutting data page 148



Article no.	5679
Discount group	159
Cutting direction	R

d1		l1	l2	Availability
mm	inch	mm	mm	
3.000		46.000	12.000	●
4.000		55.000	12.000	●
5.000		62.000	14.000	●
6.000		66.000	16.000	●
6.350	1/4	70.000	17.000	●
8.000		79.000	21.000	●
9.520	3/8	89.000	25.000	●
10.000		89.000	25.000	●
12.000		102.000	30.000	●
12.700	1/2	102.000	30.000	●
15.870	5/8	115.000	37.500	●
16.000		115.000	37.500	●
19.050	3/4	131.000	45.000	●
20.000		131.000	45.000	●
25.000	63/64	151.000	53.000	●
25.400	1	156.000	53.000	●

120° NC spotting drills

N | WN | 120° | h6

Tool material	**Solid carbide**
Surface	F
Shank form	HB

SL

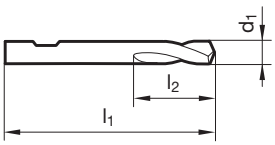
P	○
M	○
K	○
N	○
S	○
H	○

facet point grind • only suitable for spotting • ≥ Ø 6.0 mm with clamping surface shank form HB • inch dimensions are without clamping surface

universal material suitability

GÜHRINGNAVIGATOR

Cutting data page 148



Article no.	**6028**
Discount group	**155**
Cutting direction	R

d1		l1	l2	Availability
mm	inch	mm	mm	
3.000		46.000	12.000	●
5.000		62.000	14.000	●
6.000		66.000	16.000	●
6.350	1/4	70.000	17.000	●
8.000		79.000	21.000	●
9.520	3/8	89.000	25.000	●
10.000		89.000	25.000	●
12.000		102.000	30.000	●
12.700	1/2	102.000	30.000	●
15.870	5/8	115.000	37.500	●
16.000		115.000	37.500	●
19.050	3/4	131.000	45.000	●
20.000		131.000	45.000	●

142° NC spotting drills

N | WN | 142° | h6

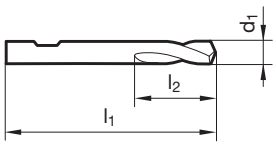
Tool material	Solid carbide
Surface	F
Shank form	HB

SL

P	○	facet point grind • only suitable for spotting • ≥ Ø 6.0 mm with clamping surface shank form HB • inch dimensions are without clamping surface
M	○	
K	○	
N	○	universal material suitability
S	○	
H	○	

GÜHRINGNAVIGATOR

Cutting data page 148



Article no.	6029
Discount group	155
Cutting direction	R

d1		l1	l2	Availability
mm	inch	mm	mm	
4.000		55.000	12.000	●
5.000		62.000	14.000	●
6.000		66.000	16.000	●
8.000		79.000	21.000	●
10.000		89.000	25.000	●
12.000		102.000	30.000	●
16.000		115.000	37.500	●
20.000		131.000	45.000	●

Centre drills without flat

N | A | DIN 333 | 118°

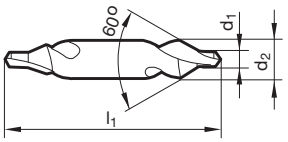
P	•
M	•
K	•
N	○
S	•
H	

relieved cone • without protective countersink • for centre holes to DIN 332, part 1, form A • d1 ≤ 0.8 mm: not double ended

Tool material	**HSCO**
Surface	F
Shank form	cyl.
	SL

GÜHRINGNAVIGATOR

Cutting data page 148



Article no.	**5680**
Discount group	**159**
Cutting direction	R

d1	d2	l1	Availability
mm	mm	mm	
0.500	3.150	25.000	●
1.000	3.150	31.500	●
1.250	3.150	31.500	●
1.600	4.000	35.500	●
2.000	5.000	40.000	●
2.500	6.300	45.000	●
3.150	8.000	50.000	●
4.000	10.000	56.000	●

Twist drill sets

~5xD | GU 500 DZ | DIN 338 | 118° | h8

P	•
M	•
K	•
N	•
S	
H	

web thinning ≥ Ø 1.000 • facet point grind • Sets with the most common drill dimensions are available for fitters and craftsmen, which can be supplied with bakelite stands and cassettes. Other set combinations are possible on request.

Tool material	HSCO
Surface	◯
Shank form	cyl.

SL

Article no.	12
Discount group	159
Cutting direction	®

d1	increasing by	supplement. sizes	Pieces/set	Code no.	Availability
mm	mm				
1.0-13.0	0,5		25	7.014	●
1.0-10.5	0,5	3.3/4.2/6.8/10.2	24	7.018	●

Twist drill sets

~5xD | N | DIN 338 | h8

Tool material	HSS
Surface	S
Shank form	cyl.

SL

P	•
M	
K	•
N	•
S	
H	

relieved cone • tip coating • Sets with the most common drill dimensions are available for fitters and craftsmen, which can be supplied with bakelite stands and cassettes. Other set combinations are possible on request.

Article no.	234
Discount group	159
Cutting direction	R

d1	increasing by	supplement. sizes	Pieces/set	Code no.	Availability
mm	mm				
1.0-13.0	0,5		25	6.014	●
1.0-10.0	0,5		19	6.013	●
1.0-5.9	0,1		50	6.015	●
6.0-10.0	0,1		41	6.016	●
1.0-10.5	0,5	3.3/4.2/6.8/10.2	24	6.018	●

GUHRINGNAVIGATOR Ratio drills

Generally recommendations:
For safety reasons it is very important, that a drill does not exceed a speed of n = 6,000 rev./min when unsupported. The centrifugal forces can break these long tools before reaching the workpiece surface!

Application recommendations for 7xD, 10xD and 12xD drills: Pilot holes are necessary for extra length SL drills 7xD: 1.) The pilot hole can be produced with a short, rigid drill. The diameter should be 0.01-0.02 mm larger than the diameter of the SL drill, the drilling depth > 1xD.

2.) Alternatively SL drills can produce their own pilot hole. Cutting speed and feed rate should be reduced by 30-40 %.

The recommended **minimum coolant pressure** is 40 bar.

Article no. HA	
Article no. HE	
Article no. HB	
Standard/DIN	
Tool material	
Carbide grade	
Type	
Surface finish	
Cooling	
Std. range page	

Tools with bold feed column no. are preferred choice.

Drill Ø mm	Feed column no. 1	2	3	4	5	6	7	8	9
	f (mm/rev.)								
2.00	0.020	0.025	0.032	0.040	0.050	0.063	0.080	0.100	0.125
2.50	0.025	0.032	0.040	0.050	0.063	0.080	0.100	0.125	0.160
3.15	0.032	0.040	0.050	0.063	0.080	0.100	0.125	0.160	0.160
4.00	0.040	0.050	0.063	0.080	0.100	0.125	0.160	0.200	0.200
5.00	0.040	0.050	0.063	0.080	0.100	0.125	0.160	0.200	0.250
6.30	0.050	0.063	0.080	0.100	0.125	0.160	0.200	0.250	0.315
8.00	0.063	0.080	0.100	0.125	0.160	0.200	0.250	0.315	0.315
10.00	0.080	0.100	0.125	0.160	0.200	0.250	0.315	0.400	0.400
12.50	0.080	0.100	0.125	0.160	0.200	0.250	0.315	0.400	0.500
16.00	0.100	0.125	0.160	0.200	0.250	0.315	0.400	0.500	0.630
20.00	0.125	0.160	0.200	0.250	0.315	0.400	0.500	0.630	0.630

Cooling:
- without coolant ducts
- with coolant ducts

Coolant:
- Air
- Neat oil
- Soluble oil

Material group	Material examples Figures in bold = material no. to DIN EN 10 027	Tensile strength MPa (N/mm²)	Hardness	Coolant
Common structural steels	**1.0035** S185(St33), **1.0486** P275N(StE285), **1.0345** P235GH(H1), **1.0425** P265GH(H2)	≤500		●
	1.0050 E295 (St50-2), **1.0070** E360 (St70-2), **1.8937** P500NH (WStE500)	≤1000		●
Free-cutting steels	**1.0718** 11SMnPb30 (9SMnPb28), **1.0736** 11SMn37 (9SMn36)	≤850		●
	1.0727 46S20 (45S20), **1.0728** (60S20), **1.0757** 46SPb20 (45SPb20)	≤1000		●
Unalloyed heat-treatable steels	**1.0402** C22, **1.1178** C30E (Ck30)	≤700		●
	1.0503 C45, **1.1191** C45E (Ck45)	≤850		●
	1.0601 C60, **1.1221** C60E (Ck60)	≤1000		●
Alloyed heat-treatable steels	**1.5131** 50MnSi4, **1.7003** 38Cr2, **1.7030** 28Cr4	≤1000		●
	1.5710 36NiCr6, **1.7035** 41Cr4, **1.7225** 42CrMo4	≤1400		●
Unalloyed case hardened steels	**1.0301** (C10), **1.1121** C10E (Ck10)	≤850		●
Alloyed case hardened steels	**1.7276** 10CrMo11, **1.5125** 11MnSi6	≤1000		●
	1.5752 15NiCr13, **1.7131** 16MnCr5, **1.7264** 20CrMo5	≤1400		●
Nitriding steels	**1.8504** 34CrAl6	≤1000		●
	1.8519 31CrMoV9, **1.8550** 34CrAlNi7	≤1400		●
Tool steels	**1.1750** C75W, **1.2067** 102Cr6, **1.2307** 29CrMoV9	≤850		●
	1.2080 X210Cr12, **1.2083** X42Cr13, **1.2419** 105WCr6, **1.2767** X45NiCrMo4	≤1400		●
High speed steels	**1.3243** S 6-5-2-5, **1.3343** S 6-5-2, **1.3344** S 6-5-3	≤1400		●
Spring steels	**1.5026** 55Si7, **1.7176** 55Cr3, **1.8159** 51CrV4 (51CrV4)		≤350 HB	●
Hardened steels	–		≤48 HRC	●
			≤66 HRC	●
Stainless steels, sulphured	**1.4005** X12CrS13, **1.4104** X14CrMoS17, **1.4105** X6CrMoS17, **1.4305** X8CrNiS18-9	≤900		●
austenitic	**1.4301** X5CrNi18-10 (V2A), **1.4541** X6CrNiTi18-10, **1.4571** X6CrNiMoTi 17-12-2 (V4A)	≤1100		●
martensitic	**1.4057** X20CrNi172 (X17CrNi16-2), **1.4122** X39CrMo17-1, **1.4521** X2CrMoTi18-2	≤1500		●
Cast iron	**0.6010** EN-GJL-100 (GG10), **0.6020** EN-GJL-200 (GG20)		≤240 HB	○ ○
	0.6025 EN-GJL-250 (GG25), **0.6035** EN-GJL-350 (GG35)		≤350 HB	○ ○
Spheroidal graphite iron and malleable cast iron	**0.7050** EN-GJS-500-7 (GGG50), **0.8035** EN-GJMW-350-4 (GTW35)		≤240 HB	○
	0.7070 EN-GJS-700-2 (GGG70), **0.8170** EN-GJMB-700-2 (GTS70)		≤350 HB	○
Chilled cast iron	–		≤350 HB	○
New cast materials GGV	**EN-GJV250** (GGV25), **EN-GJV350** (GGV35)		≤220 HB	○ ○
	EN-GJV400 (GGV40), **EN-GJV500** (GGV50), SiMo 6		≤300 HB	○ ○
New cast materials ADI	**EN-GJS-800-8** (ADI800), **EN-GJS-1000-5** (ADI1000)	≤1000		○ ○
	EN-GJS-1200-2 (ADI1200), **EN-GJS-1400-1** (ADI1400)	≤1400		○ ○
Special alloys	Nimonic, Inconel, Monel, Hastelloy	≤2000		●
Ti and Ti alloys	**3.7024** Ti99,5, **3.7114** TiAl5Sn2,5, **3.7124** TiCu2	≤850		●
	3.7154 TiAl6Zr5, **3.7165** TiAl6V4, **3.7184** TiAl4Mo4Sn2,5, - TiAl8Mo1V1	≤1400		●
Aluminium and Al alloys	**3.0255** Al99,5, **3.2315** AlMgSi1, **3.3515** AlMg1	≤400		○
Al wrought alloys	**3.0615** AlMgSiPb, **3.1325** AlCuMg1, **3.3245** AlMg3Si, **3.4365** AlZnMgCu1,5	≤650		○
Al cast alloys ≤ 10 % Si	**3.2131** G-AlSi5Cu1, **3.2153** G-AlSi7Cu3, **3.2573** G-AlSi9	≤600		○
≤ 24 % Si	**3.2581** G-AlSi12, **3.2583** G-AlSi12Cu, - G-AlSi12CuNiMg	≤600		○
Magnesium alloys	**3.5200** MgMn2, **3.5812.05** G-MgAl8Zn1, **3.5612.05** G-MgAl6Zn1	≤400		○
Copper, low-alloyed	**2.0070** SE-Cu, **2.1020** CuSn6, **2.1096** G-CuSn5ZnPb	≤500		○
Brass, short-chipping	**2.0380** CuZn39Pb2, **2.0401** CuZn39Pb3, **2.0410** CuZn43Pb2	≤600		○
long-chipping	**2.0250** CuZn20, **2.0280** CuZn33, **2.0332** CuZn37Pb0,5	≤600		○
Bronze, short-chipping	**2.1090** CuSn7ZnPb, **2.1170** CuPb5Sn5, **2.1176** CuPb10Sn	≤600		○ ●
	2.0790 CuNi18Zn19Pb	≤850		●
Bronze, long-chipping	**2.0916** CuAl5, **2.0960** CuAl9Mn, **2.1050** CuSn10	≤850		●
	2.0980 CuAl11Ni, **2.1247** CuBe2	≤1000		●
Duroplastics	Bakelit, Resopal, Pertinax, Moltopren	≤150		○
Thermoplastics	Plexiglass, Hostalen, Novodur, Makralon	≤100		○ ○
Kevlar	Kevlar	≤1000		○
Glass, carbon concentr. plastics	GFK/CFK	≤1000		○

≤3xD	≤5xD	≤3xD	≤5xD	≤3xD	≤5xD	≤5xD	≤5xD	≤5xD	≤7xD	≤7xD
5510	5511	5514	5515	5526	5580	5768	5498	5518	5512	5499
5610	5611	5614	5615	5528	5581				5612	
6023	5650	6026	5651	6024	6025					
6537K	6537L	6537K	6537L	6537K	6537L	6537L	6537L	6537L	Co. std.	Co. std.
Solid carbide		Solid carbide		Solid carbide		Sol. carb.	Sol. carb.	Sol. carb.	Sol. carb.	Sol. carb.
K/P		K/P		K/P		K/P	K/P	K	K/P	K/P
RT 100 U		RT 100 U		RT 100 VA		RT 100 Al	RT 100 XF	FT 200	RT 100 U	RT 100 XF
F		F		a		○	F	○	F	F
22	32	66	69	25	36	28	40	99	44	47

v_c m/min	Feed col. no.		v_c m/min	Feed col. no.		v_c m/min	Feed col. no.		v_c m/min	Feed col. no.	v_c m/min	Feed col. no.	v_c m/min	Feed col. no.	v_c m/min	Feed col. no.
145	7	**7**	130	7	**7**						200	**8**			145	**6**	180	**8**
120	6	**6**	110	**6**	**6**						200	**7**			120	**5**	180	**7**
170	8	**8**	145	**8**	**8**						200	**8**			170	**7**	180	**8**
145	8	**8**	110	**7**	**7**						200	**8**			145	**7**	180	**8**
130	8	**8**	120	**7**	**7**						180	**8**			130	**7**	160	**8**
125	7	**7**	110	**7**	**7**						160	**8**			125	**6**	140	**8**
120	7	**7**	105	**7**	**7**						130	**8**			120	**6**	120	**8**
120	7	**7**	105	**7**	**7**						120	**8**			120	**6**	110	**8**
105	7	**7**	100	**6**	**6**						120	**7**			105	**6**	110	**7**
145	8	**8**	130	**8**	**8**						180	**8**			145	**7**	160	**8**
120	7	**7**	120	**7**	**7**						120	**8**			120	**6**	110	**8**
85	5	**5**	85	**5**	**5**						110	**7**			85	**4**	100	**7**
110	**7**	7	100	6	6						110	**7**			110	6	100	**7**
105	**5**	5	90	5	5						100	**5**			105	4	90	**5**
80	**6**	6	65	6	6						90	**7**			80	5	80	**7**
65	**5**	5	55	5	5						65	**6**			65	4	60	**6**
60	**4**	5									60	**5**			60	4	55	**5**
60	**3**	3	45	3	3						60	**5**			60	2	55	**5**
55	**3**	2	40	1	1						55	3			55	2	45	3
35	**2**	2	20	1	1										35	1		
60	**5**	5	40	2	2	80	**5**	5			80	5			60	4	70	5
55	**2**	2	15	1	1	60	**2-3**	2-3							55	2		
45	**5**	5	35	2	2	80	**5**	5			60	5			45	4	50	5
210	9	**9**	210	**8**	**8**						180	9	100	6	195	**8**	165	9
160	9	**9**	155	**8**	**8**						160	9	80	6	160	**8**	145	9
140	9	**9**	155	**7**	**7**						140	9	80	6	140	**8**	130	9
130	8	**8**	125	**7**	**7**						140	8	70	6	130	**7**	130	8
40	3	3	35	**3**	**3**										40	2		
											140	8					130	8
											140	8					130	8
											80	7					70	7
											80	7					70	7
35	**4**	4	25	4	4	30	4	4			30	4			35	3	25	4
45	**4**	4	15	1	1	45	**4**	**4**			40	4			40	3	35	4
40	**3**	3	15	1	1	40	**3**	**3**			35	3			40	2	30	3
310	9	**9**	260	**9**	**9**				350	**9**			180	7	310	**8**		
310	9	**9**	260	**9**	**9**				350	**9**			160	7	310	**8**		
260	9	**9**	220	**9**	**9**				320	**8**			150	7	260	**8**		
220	9	**9**	180	**8**	**8**				280	**7**			120	6	220	**8**		
280	8	**8**	260	**8**	**8**				320	**7**			180	6	280	**7**		
125	**7**	7	105	7	7				190	**7**					125	6		
325	**8**	8	270	8	**8**				160	**6**			180	6	325	7		
220	7	**7**	180	**7**	**7**				160	**6**					220	6		
125	7	**7**	105	**6**	**6**				160	**6**					125	**6**		
105	6	**6**	85	**6**	**6**				160	**6**					105	**5**		
90	6	**6**	80	**5**	**5**				150	**6**					90	**5**		
80	6	**6**	60	**5**	**5**				150	**6**					80	**5**		
									100	**3**								
									100	**3**								
									100	**2**								

GUHRINGNAVIGATOR Ratio drills

Generally recommendations:
For safety reasons it is very important, that a drill does not exceed a speed of n = 6,000 rev./min when unsupported. The centrifugal forces can break these long tools before reaching the workpiece surface!

Application recommendations for 7xD, 10xD and 12xD drills: Pilot holes are necessary for extra length SL drills 7xD: 1.) The pilot hole can be produced with a short, rigid drill. The diameter should be 0.01-0.02 mm larger than the diameter of the SL drill, the drilling depth > 1xD.

2.) Alternatively SL drills can produce their own pilot hole. Cutting speed and feed rate should be reduced by 30-40 %.

The recommended **minimum coolant pressure** is 40 bar.

Article no. HA
Article no. HE
Article no. HB
Standard/DIN
Tool material
Carbide grade
Type
Surface finish
Cooling
Std. range page

Tools with bold feed column no. are preferred choice.

Drill Ø mm	Feed column no. 1	2	3	4	5	6	7	8	9
	f (mm/rev.)								
3.15	0.032	0.040	0.050	0.063	0.080	0.100	0.125	0.160	0.160
4.00	0.040	0.050	0.063	0.080	0.100	0.125	0.160	0.200	0.200
5.00	0.040	0.050	0.063	0.080	0.100	0.125	0.160	0.200	0.250
6.30	0.050	0.063	0.080	0.100	0.125	0.160	0.200	0.250	0.315
8.00	0.063	0.080	0.100	0.125	0.160	0.200	0.250	0.315	0.315
10.00	0.080	0.100	0.125	0.160	0.200	0.250	0.315	0.400	0.400
12.50	0.080	0.100	0.125	0.160	0.200	0.250	0.315	0.400	0.500
16.00	0.100	0.125	0.160	0.200	0.250	0.315	0.400	0.500	0.630
20.00	0.125	0.160	0.200	0.250	0.315	0.400	0.500	0.630	0.630

Cooling:
- without coolant ducts
- with coolant ducts

Coolant:
- Air
- Neat oil
- Soluble oil

Material group	Material examples Figures in bold = material no. to DIN EN 10 027	Tensile strength MPa (N/mm²)	Hardness	Coolant
Common structural steels	**1.0035** S185(St33), **1.0486** P275N(StE285), **1.0345** P235GH(H1), **1.0425** P265GH(H2)	≤500		●
	1.0050 E295 (St50-2), **1.0070** E360 (St70-2), **1.8937** P500NH (WStE500)	≤1000		●
Free-cutting steels	**1.0718** 11SMnPb30 (9SMnPb28), **1.0736** 11SMn37 (9SMn36)	≤850		●
	1.0727 46S20 (45S20), **1.0728** (60S20), **1.0757** 46SPb20 (45SPb20)	≤1000		●
Unalloyed heat-treatable steels	**1.0402** C22, **1.1178** C30E (Ck30)	≤700		●
	1.0503 C45, **1.1191** C45E (Ck45)	≤850		●
	1.0601 C60, **1.1221** C60E (Ck60)	≤1000		●
Alloyed heat-treatable steels	**1.5131** 50MnSi4, **1.7003** 38Cr2, **1.7030** 28Cr4	≤1000		●
	1.5710 36NiCr6, **1.7035** 41Cr4, **1.7225** 42CrMo4	≤1400		●
Unalloyed case hardened steels	**1.0301** (C10), **1.1121** C10E (Ck10)	≤850		●
Alloyed case hardened steels	**1.7276** 10CrMo11, **1.5125** 11MnSi6	≤1000		●
	1.5752 15NiCr13, **1.7131** 16MnCr5, **1.7264** 20CrMo5	≤1400		●
Nitriding steels	**1.8504** 34CrAl6	≤1000		●
	1.8519 31CrMoV9, **1.8550** 34CrAlNi7	≤1400		●
Tool steels	**1.1750** C75W, **1.2067** 102Cr6, **1.2307** 29CrMoV9	≤850		●
	1.2080 X210Cr12, **1.2083** X42Cr13, **1.2419** 105WCr6, **1.2767** X45NiCrMo4	≤1400		●
High speed steels	**1.3243** S 6-5-2-5, **1.3343** S 6-5-2, **1.3344** S 6-5-3	≤1400		●
Spring steels	**1.5026** 55Si7, **1.7176** 55Cr3, **1.8159** 51CrV4 (51CrV4)		≤350 HB	●
Hardened steels	–		≤48 HRC	●
			≤66 HRC	●
Stainless steels, sulphured	**1.4005** X12CrS13, **1.4104** X14CrMoS17, **1.4105** X6CrMoS17, **1.4305** X8CrNiS18-9	≤900		●
austenitic	**1.4301** X5CrNi18-10 (V2A), **1.4541** X6CrNiTi18-10, **1.4571** X6CrNiMoTi 17-12-2 (V4A)	≤1100		●
martensitic	**1.4057** X20CrNi172 (X17CrNi16-2), **1.4122** X39CrMo17-1, **1.4521** X2CrMoTi18-2	≤1500		●
Cast iron	**0.6010** EN-GJL-100 (GG10), **0.6020** EN-GJL-200 (GG20)		≤240 HB	● ○
	0.6025 EN-GJL-250 (GG25), **0.6035** EN-GJL-350 (GG35)		≤350 HB	● ○
Spheroidal graphite iron and	**0.7050** EN-GJS-500-7 (GGG50), **0.8035** EN-GJMW-350-4 (GTW35)		≤240 HB	●
malleable cast iron	**0.7070** EN-GJS-700-2 (GGG70), **0.8170** EN-GJMB-700-2 (GTS70)		≤350 HB	●
Chilled cast iron	–		≤350 HB	●
New cast materials GGV	**EN-GJV250** (GGV25), **EN-GJV350** (GGV35)		≤220 HB	● ○
	EN-GJV400 (GGV40), **EN-GJV500** (GGV50), SiMo 6		≤300 HB	● ○
New cast materials ADI	**EN-GJS-800-8** (ADI800), **EN-GJS-1000-5** (ADI1000)	≤1000		● ○
	EN-GJS-1200-2 (ADI1200), **EN-GJS-1400-1** (ADI1400)	≤1400		● ○
Special alloys	Nimonic, Inconel, Monel, Hastelloy	≤2000		●
Ti and Ti alloys	**3.7024** Ti99,5, **3.7114** TiAl5Sn2,5, **3.7124** TiCu2	≤850		●
	3.7154 TiAl6Zr5, **3.7165** TiAl6V4, **3.7184** TiAl4Mo4Sn2,5, - TiAl8Mo1V1	≤1400		●
Aluminium and Al alloys	**3.0255** Al99,5, **3.2315** AlMgSi1, **3.3515** AlMg1	≤400		●
Al wrought alloys	**3.0615** AlMgSiPb, **3.1325** AlCuMg1, **3.3245** AlMg3Si, **3.4365** AlZnMgCu1,5	≤650		●
Al cast alloys ≤ 10 % Si	**3.2131** G-AlSi5Cu1, **3.2153** G-AlSi7Cu3, **3.2573** G-AlSi9	≤600		●
≤ 24 % Si	**3.2581** G-AlSi12, **3.2583** G-AlSi12Cu, - G-AlSi12CuNiMg	≤600		●
Magnesium alloys	**3.5200** MgMn2, **3.5812.05** G-MgAl8Zn1, **3.5612.05** G-MgAl6Zn1	≤400		○
Copper, low-alloyed	**2.0070** SE-Cu, **2.1020** CuSn6, **2.1096** G-CuSn5ZnPb	≤500		●
Brass, short-chipping	**2.0380** CuZn39Pb2, **2.0401** CuZn39Pb3, **2.0410** CuZn43Pb2	≤600		●
long-chipping	**2.0250** CuZn20, **2.0280** CuZn33, **2.0332** CuZn37Pb0,5	≤600		●
Bronze, short-chipping	**2.1090** CuSn7ZnPb, **2.1170** CuPb5Sn5, **2.1176** CuPb10Sn	≤600		● ●
	2.0790 CuNi18Zn19Pb	≤850		●
Bronze, long-chipping	**2.0916** CuAl5, **2.0960** CuAl9Mn, **2.1050** CuSn10	≤850		●
	2.0980 CuAl11Ni, **2.1247** CuBe2	≤1000		●
Duroplastics	Bakelit, Resopal, Pertinax, Moltopren	≤150		○
Thermoplastics	Plexiglass, Hostalen, Novodur, Makralon	≤100		● ○
Kevlar	Kevlar	≤1000		○
Glass, carbon concentr. plastics	GFK/CFK	≤1000		○

≤ 10xD	≤ 12xD	≤ 15xD	≤ 20xD	≤ 25xD	≤ 30xD
5513	5525	6509	6511	6512	6513
Comp. std.	Comp. std.	Company std.	Company std.	Company std.	Company std.
Solid carb.	Solid carb.	Solid carbide	Solid carbide	Solid carbide	Solid carbide
K	K/P	K/P	K/P	K/P	K/P
RT 100 GG	RT 100 U	RT 100 T	RT 100 T	RT 100 T	RT 100 T
○	F	A	A	A	A
		40 bar MQL	40 bar MQL	40 bar MQL	40 bar MQL
51	53	56	58	60	62






v_c m/min	Feed col. no.	v_c m/min	Feed col. no.	v_c m/min	Feed col. no.	v_c m/min	Feed col. no.	v_c m/min	Feed col. no.	v_c m/min	Feed col. no.	v_c m/min	Feed col. no.	v_c m/min	Feed col. no.
		110	6	110	8			110	8			100	8			80	7		
		110	5	110	8			110	8			100	8			80	7		
		110	7	120	8			120	8			120	8			100	8		
		100	7	120	8			120	8			100	8			100	8		
		110	7	110	6			110	6			110	6			110	6		
		110	6	110	8			110	8			100	8			80	7		
		100	6	100	7			100	7			100	7			80	7		
		110	6	110	7	80	7	110	7	80	7	100	7	70	7	80	7	60	7
		105	6	110	6	80	7	110	6	80	7	100	6	70	7	80	6	60	7
		110	7	110	8			110	8			100	8			80	7		
		110	6	110	7	80	6-7	110	7	80	6-7	100	7	70	6-7	80	6	60	6-7
		85	4	110	6	80	6-7	110	6	80	6-7	100	6	70	6-7	80	6	60	6-7
		100	6	100	5			100	5			80	5			80	5		
		80	4	80	5			80	5			60	5			60	5		
		80	5	100	6-7			100	6			90	6			80	6		
		65	4	80	5			80	5			70	4			70	4		
		50	4	50	5			50	5			50	4			50	4		
		50	2	50	5			50	5			50	4			50	4		
				40-50	2-4			40-50	2-4			40-50	2-4			40-50	2-4		
		60	4	100	5			100	5			100	5			80	5		
		55	2	60	2-3			60	2-3			60	2-3			60	2-3		
		45	4	100	5			100	5			100	5			80	5		
120	6	120	8	140	8			140	8			130	8			120	8		
100	6	120	8	100	8			100	8			90	8			80	8		
90	6	100	8	140	8			140	8			130	8			120	8		
80	6	90	7	100	8			100	8			90	8			80	8	65	8
40	2																		
				100	6			100	6			90	6			80	6		
				100	6			100	6			90	6			80	6		
				90	8	60	8-9	90	8	60	8-9	80	8	60	8-9	70	8	60	8-9
				30	2			30	2			30	2			30	2		
410	8	150	8																
410	8	150	8																
380	8	150	8																
330	8	120	8																
		150	7																
		80	6	120	1			120	1			120	1			120	1		
280	7	120	7	120	8			120	8			110	8			100	8		
		120	6																
110	6	40	6																
80	5																		
		40	5																

GUHRINGNAVIGATOR HT 800 WP

All data are approximate values. The actually achievable cutting speeds and feed rates depend on the respective machining conditions. We recommend suitable drilling trials.

To select the optimal tool and the recommended machining parameters for your application, please also use the electronic version of the GühringNavigator on the internet: www.guehring.com.

Article no.
Standard/DIN
Tool material
Carbide grade
Surface finish
Application
Std. range page

Drill Ø mm	Feed column no. 1	2	3	4	5	6	7	8	9
	f (mm/rev.)								
10.00	0.080	0.100	0.125	0.160	0.200	0.250	0.315	0.400	0.400
12.50	0.080	0.100	0.125	0.160	0.200	0.250	0.315	0.400	0.500
16.00	0.100	0.125	0.160	0.200	0.250	0.315	0.400	0.500	0.630
20.00	0.125	0.160	0.200	0.250	0.315	0.400	0.500	0.630	0.630
25.00	0.160	0.200	0.250	0.315	0.400	0.500	0.630	0.800	0.800
31.50	0.160	0.200	0.250	0.315	0.400	0.500	0.630	0.800	1.000
40.00	0.200	0.250	0.315	0.400	0.500	0.630	0.800	1.000	1.250

Coolant:
○ Air
● Neat oil
● Soluble oil

Material group	Material examples Figures in bold = material no. to DIN EN 10 027	Tensile strength MPa (N/mm²)	Hardness	Coolant
Common structural steels	**1.0035** S185(St33), **1.0486** P275N(StE285), **1.0345** P235GH(H1), **1.0425** P265GH(H2)	≤500		●
	1.0050 E295 (St50-2), **1.0070** E360 (St70-2), **1.8937** P500NH (WStE500)	≤1000		●
Free-cutting steels	**1.0718** 11SMnPb30 (9SMnPb28), **1.0736** 11SMn37 (9SMn36)	≤850		●
	1.0727 46S20 (45S20), **1.0728** (60S20), **1.0757** 46SPb20 (45SPb20)	≤1000		●
Unalloyed heat-treatable steels	**1.0402** C22, **1.1178** C30E (Ck30)	≤700		●
	1.0503 C45, **1.1191** C45E (Ck45)	≤850		●
	1.0601 C60, **1.1221** C60E (Ck60)	≤1000		●
Alloyed heat-treatable steels	**1.5131** 50MnSi4, **1.7003** 38Cr2, **1.7030** 28Cr4	≤1000		●
	1.5710 36NiCr6, **1.7035** 41Cr4, **1.7225** 42CrMo4	≤1400		●
Unalloyed case hardened steels	**1.0301** (C10), **1.1121** C10E (Ck10)	≤850		●
Alloyed case hardened steels	**1.7276** 10CrMo11, **1.5125** 11MnSi6	≤1000		●
	1.5752 15NiCr13, **1.7131** 16MnCr5, **1.7264** 20CrMo5	≤1400		●
Nitriding steels	**1.8504** 34CrAl6	≤1000		●
	1.8519 31CrMoV9, **1.8550** 34CrAlNi7	≤1400		●
Tool steels	**1.1750** C75W, **1.2067** 102Cr6, **1.2307** 29CrMoV9	≤850		●
	1.2080 X210Cr12, **1.2083** X42Cr13, **1.2419** 105WCr6, **1.2767** X45NiCrMo4	≤1400		●
High speed steels	**1.3243** S 6-5-2-5, **1.3343** S 6-5-2, **1.3344** S 6-5-3	≤1400		●
Spring steels	**1.5026** 55Si7, **1.7176** 55Cr3, **1.8159** 51CrV4 (51CrV4)		≤350 HB	●
Hardened steels	–		≤48 HRC	●
			≤66 HRC	●
Stainless steels, sulphured	**1.4005** X12CrS13, **1.4104** X14CrMoS17, **1.4105** X6CrMoS17, **1.4305** X8CrNiS18-9	≤900		●
austenitic	**1.4301** X5CrNi18-10 (V2A), **1.4541** X6CrNiTi18-10, **1.4571** X6CrNiMoTi 17-12-2 (V4A)	≤1100		●
martensitic	**1.4057** X20CrNi172 (X17CrNi16-2), **1.4122** X39CrMo17-1, **1.4521** X2CrMoTi18-2	≤1500		●
Cast iron	**0.6010** EN-GJL-100 (GG10), **0.6020** EN-GJL-200 (GG20)		≤240 HB	○ ○
	0.6025 EN-GJL-250 (GG25), **0.6035** EN-GJL-350 (GG35)		≤350 HB	○ ○
Spheroidal graphite iron and malleable cast iron	**0.7050** EN-GJS-500-7 (GGG50), **0.8035** EN-GJMW-350-4 (GTW35)		≤240 HB	●
	0.7070 EN-GJS-700-2 (GGG70), **0.8170** EN-GJMB-700-2 (GTS70)		≤350 HB	●
Chilled cast iron	–		≤350 HB	●
New cast materials GGV	**EN-GJV250** (GGV25), **EN-GJV350** (GGV35)		≤220 HB	● ○
	EN-GJV400 (GGV40), **EN-GJV500** (GGV50), SiMo 6		≤300 HB	● ○
New cast materials ADI	**EN-GJS-800-8** (ADI800), **EN-GJS-1000-5** (ADI1000)	≤1000		● ○
	EN-GJS-1200-2 (ADI1200), **EN-GJS-1400-1** (ADI1400)	≤1400		● ○
Special alloys	Nimonic, Inconel, Monel, Hastelloy	≤2000		●
Ti and Ti alloys	**3.7024** Ti99,5, **3.7114** TiAl5Sn2,5, **3.7124** TiCu2	≤850		●
	3.7154 TiAl6Zr5, **3.7165** TiAl6V4, **3.7184** TiAl4Mo4Sn2,5, - TiAl8Mo1V1	≤1400		●
Aluminium and Al alloys	**3.0255** Al99,5, **3.2315** AlMgSi1, **3.3515** AlMg1	≤400		●
Al wrought alloys	**3.0615** AlMgSiPb, **3.1325** AlCuMg1, **3.3245** AlMg3Si, **3.4365** AlZnMgCu1,5	≤650		●
Al cast alloys ≤ 10 % Si	**3.2131** G-AlSi5Cu1, **3.2153** G-AlSi7Cu3, **3.2573** G-AlSi9	≤600		●
≤ 24 % Si	**3.2581** G-AlSi12, **3.2583** G-AlSi12Cu, - G-AlSi12CuNiMg	≤600		●
Magnesium alloys	**3.5200** MgMn2, **3.5812.05** G-MgAl8Zn1, **3.5612.05** G-MgAl6Zn1	≤400		○
Copper, low-alloyed	**2.0070** SE-Cu, **2.1020** CuSn6, **2.1096** G-CuSn5ZnPb	≤500		●
Brass, short-chipping	**2.0380** CuZn39Pb2, **2.0401** CuZn39Pb3, **2.0410** CuZn43Pb2	≤600		●
long-chipping	**2.0250** CuZn20, **2.0280** CuZn33, **2.0332** CuZn37Pb0,5	≤600		●
Bronze, short-chipping	**2.1090** CuSn7ZnPb, **2.1170** CuPb5Sn5, **2.1176** CuPb10Sn	≤600		● ●
	2.0790 CuNi18Zn19Pb	≤850		●
Bronze, long-chipping	**2.0916** CuAl5, **2.0960** CuAl9Mn, **2.1050** CuSn10	≤850		●
	2.0980 CuAl11Ni, **2.1247** CuBe2	≤1000		●
Duroplastics	Bakelit, Resopal, Pertinax, Moltopren	≤150		○
Thermoplastics	Plexiglass, Hostalen, Novodur, Makralon	≤100		● ○
Kevlar	Kevlar	≤1000		○
Glass, carbon concentr. plastics	GFK/CFK	≤1000		○

≤3xD	≤3xD	≤3xD	≤5xD	≤5xD	≤5xD	≤7xD	≤7xD	≤7xD
4112	4115	4113	4112	4115	4113	4112	4115	4113
Co. std.	Co. std.	Co. std.	Co. std.	Co. std.	Co. std.	Co. std.	Co. std.	Co. std.
Sol. carb.	Sol. carb.	Sol. carb.	Sol. carb.	Sol. carb.	Sol. carb.	Sol. carb.	Sol. carb.	Sol. carb.
K/P	K/P	K/P	K/P	K/P	K/P	K/P	K/P	K/P
F	a	Y	F	a	Y	F	a	Y
Steel	stainl. st.	Cast iron	Steel	stainl. st.	Cast iron	Steel	stainl. st.	Cast iron
80	86	83	80	86	83	80	86	83









v_c m/min	Feed col. no.	v_c m/min	Feed col. no.	v_c m/min	Feed col. no.	v_c m/min	Feed col. no.	v_c m/min	Feed col. no.	v_c m/min	Feed col. no.	v_c m/min	Feed col. no.	v_c m/min	Feed col. no.	v_c m/min	Feed col. no.
130	6					125	6					120	5				
110	5					105	5					105	4				
130	7					125	7					120	6				
110	6					105	6					105	5				
130	6					125	6					120	5				
125	6					120	6					110	5				
110	5					105	5					100	4				
110	6					105	6					100	5				
90	5					85	5					85	4				
130	7					125	7					120	6				
110	6					105	6					100	5				
70	4					70	4					70	4				
105	5					105	5					105	4				
70	4					70	4					70	3				
60	5					55	5					55	4				
55	4					50	4					50	3				
55	3					55	3					55	2				
50	2					50	2					50	2				
		25	2					25	2					25	1		
		55	3					55	3					55	2		
		40	3					40	3					40	2		
		35	3					35	3					35	2		
				100	6					100	6					80	6
				90	6					90	6					70	6
				120	7					120	7					100	7
				100	6					100	6					80	6
		90	6					90	6					70	6		
				80	5					80	5					60	5
				80	5					80	5					60	5
				80	5					80	5					60	5
				80	5					80	5					60	5
		25	2					25	2					25	1		
		40	3					40	3					40	2		
		35	2					35	2					35	1		

GUHRINGNAVIGATOR Micro-precision drills

Tools with bold feed column no. are preferred choice.
To select the optimal tool and the recommended machining parameters for your application, please also use the electronic version of the GühringNavigator on the internet: www.guehring.com.

Article no.
Standard/DIN
Tool material
Carbide grade
Type
Surface finish
Cooling
Std. range page

Drill Ø mm	Feed column no. 56	57	58	59	60	61	62	63	64	65	66	67	68
	f (mm/rev.)												
0.50	0.006	0.012	0.018	0.022	0.030	0.035	0.040	0.045	0.050	0.050	0.055	0.060	0.060
0.80	0.008	0.016	0.024	0.032	0.040	0.050	0.060	0.070	0.080	0.080	0.080	0.090	0.090
1.00	0.012	0.022	0.032	0.042	0.060	0.070	0.080	0.090	0.100	0.100	0.110	0.110	0.120
1.50	0.021	0.036	0.051	0.066	0.090	0.100	0.120	0.130	0.150	0.150	0.160	0.170	0.180
2.00	0.032	0.052	0.072	0.092	0.120	0.140	0.160	0.180	0.200	0.210	0.220	0.230	0.240
2.50	0.045	0.070	0.095	0.120	0.150	0.170	0.200	0.220	0.250	0.260	0.270	0.280	0.300
3.00	0.060	0.090	0.120	0.150	0.180	0.210	0.240	0.270	0.300	0.310	0.330	0.340	0.360

Coolant:
○ Air
● Neat oil
● Soluble oil

Cutting direction:
Ⓡ right-hand cutting

Material group	Material examples Figures in bold = material no. to DIN EN 10 027	Tensile strength MPa (N/mm²)	Hardness	Coolant
Common structural steels	**1.0035** S185(St33), **1.0486** P275N(StE285), **1.0345** P235GH(H1), **1.0425** P265GH(H2)	≤500		●
	1.0050 E295 (St50-2), **1.0070** E360 (St70-2), **1.8937** P500NH (WStE500)	≤1000		●
Free-cutting steels	**1.0718** 11SMnPb30 (9SMnPb28), **1.0736** 11SMn37 (9SMn36)	≤850		●
	1.0727 46S20 (45S20), **1.0728** (60S20), **1.0757** 46SPb20 (45SPb20)	≤1000		●
Unalloyed heat-treatable steels	**1.0402** C22, **1.1178** C30E (Ck30)	≤700		●
	1.0503 C45, **1.1191** C45E (Ck45)	≤850		●
	1.0601 C60, **1.1221** C60E (Ck60)	≤1000		●
Alloyed heat-treatable steels	**1.5131** 50MnSi4, **1.7003** 38Cr2, **1.7030** 28Cr4	≤1000		●
	1.5710 36NiCr6, **1.7035** 41Cr4, **1.7225** 42CrMo4	≤1400		●
Unalloyed case hardened steels	**1.0301** (C10), **1.1121** C10E (Ck10)	≤850		●
Alloyed case hardened steels	**1.7276** 10CrMo11, **1.5125** 11MnSi6	≤1000		●
	1.5752 15NiCr13, **1.7131** 16MnCr5, **1.7264** 20CrMo5	≤1400		●
Nitriding steels	**1.8504** 34CrAl6	≤1000		●
	1.8519 31CrMoV9, **1.8550** 34CrAlNi7	≤1400		●
Tool steels	**1.1750** C75W, **1.2067** 102Cr6, **1.2307** 29CrMoV9	≤850		●
	1.2080 X210Cr12, **1.2083** X42Cr13, **1.2419** 105WCr6, **1.2767** X45NiCrMo4	≤1400		●
High speed steels	**1.3243** S 6-5-2-5, **1.3343** S 6-5-2, **1.3344** S 6-5-3	≤1400		●
Spring steels	**1.5026** 55Si7, **1.7176** 55Cr3, **1.8159** 51CrV4 (51CrV4)		≤350 HB	●
Hardened steels	–		≤48 HRC	●
			≤66 HRC	●
Stainless steels, sulphured	**1.4005** X12CrS13, **1.4104** X14CrMoS17, **1.4105** X6CrMoS17, **1.4305** X8CrNiS18-9	≤900		●
austenitic	**1.4301** X5CrNi18-10 (V2A), **1.4541** X6CrNiTi18-10, **1.4571** X6CrNiMoTi 17-12-2 (V4A)	≤1100		●
martensitic	**1.4057** X20CrNi172 (X17CrNi16-2), **1.4122** X39CrMo17-1, **1.4521** X2CrMoTi18-2	≤1500		●
Cast iron	**0.6010** EN-GJL-100 (GG10), **0.6020** EN-GJL-200 (GG20)		≤240 HB	○ ○
	0.6025 EN-GJL-250 (GG25), **0.6035** EN-GJL-350 (GG35)		≤350 HB	○ ○
Spheroidal graphite iron and malleable cast iron	**0.7050** EN-GJS-500-7 (GGG50), **0.8035** EN-GJMW-350-4 (GTW35)		≤240 HB	○
	0.7070 EN-GJS-700-2 (GGG70), **0.8170** EN-GJMB-700-2 (GTS70)		≤350 HB	○
Chilled cast iron	–		≤350 HB	○
New cast materials GGV	**EN-GJV250** (GGV25), **EN-GJV350** (GGV35)		≤220 HB	○ ○
	EN-GJV400 (GGV40), **EN-GJV500** (GGV50), SiMo 6		≤300 HB	○ ○
New cast materials ADI	**EN-GJS-800-8** (ADI800), **EN-GJS-1000-5** (ADI1000)	≤1000		○ ○
	EN-GJS-1200-2 (ADI1200), **EN-GJS-1400-1** (ADI1400)	≤1400		○ ○
Special alloys	Nimonic, Inconel, Monel, Hastelloy	≤2000		●
Ti and Ti alloys	**3.7024** Ti99,5, **3.7114** TiAl5Sn2,5, **3.7124** TiCu2	≤850		●
	3.7154 TiAl6Zr5, **3.7165** TiAl6V4, **3.7184** TiAl4Mo4Sn2,5, - TiAl8Mo1V1	≤1400		●
Aluminium and Al alloys	**3.0255** Al99,5, **3.2315** AlMgSi1, **3.3515** AlMg1	≤400		●
Al wrought alloys	**3.0615** AlMgSiPb, **3.1325** AlCuMg1, **3.3245** AlMg3Si, **3.4365** AlZnMgCu1,5	≤650		●
Al cast alloys ≤ 10 % Si	**3.2131** G-AlSi5Cu1, **3.2153** G-AlSi7Cu3, **3.2573** G-AlSi9	≤600		●
≤ 24 % Si	**3.2581** G-AlSi12, **3.2583** G-AlSi12Cu, - G-AlSi12CuNiMg	≤600		●
Magnesium alloys	**3.5200** MgMn2, **3.5812.05** G-MgAl8Zn1, **3.5612.05** G-MgAl6Zn1	≤400		○
Copper, low-alloyed	**2.0070** SE-Cu, **2.1020** CuSn6, **2.1096** G-CuSn5ZnPb	≤500		●
Brass, short-chipping	**2.0380** CuZn39Pb2, **2.0401** CuZn39Pb3, **2.0410** CuZn43Pb2	≤600		●
long-chipping	**2.0250** CuZn20, **2.0280** CuZn33, **2.0332** CuZn37Pb0,5	≤600		●
Bronze, short-chipping	**2.1090** CuSn7ZnPb, **2.1170** CuPb5Sn5, **2.1176** CuPb10Sn	≤600		● ●
	2.0790 CuNi18Zn19Pb	≤850		●
Bronze, long-chipping	**2.0916** CuAl5, **2.0960** CuAl9Mn, **2.1050** CuSn10	≤850		●
	2.0980 CuAl11Ni, **2.1247** CuBe2	≤1000		●
Duroplastics	Bakelit, Resopal, Pertinax, Moltopren	≤150		○
Thermoplastics	Plexiglass, Hostalen, Novodur, Makralon	≤100		○ ○
Kevlar	Kevlar	≤1000		○
Glass, carbon concentr. plastics	GFK/CFK	≤1000		○

	≤4xD	≤7xD	≤5xD	≤8xD	≤15xD
5652	6400	6401	6405	6408	6412
Company standard	Company standard	Company standard	Company standard	Company standard	Company standard
Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide
K/P	K/P	K/P	K/P	K/P	K/P
N	N	N	N	N	N
A	A	A	A	A	A
⊠	⊠	⊠	▱	▱	▱
89	90	92	94	96	98






v_c m/min	Feed col. no.	v_c m/min	Feed col. no.		v_c m/min	Feed col. no.		
100	62	100	64	62	105	62	58	58
100	62	100	64	62	100	62	58	58
100	62	100	64	62	105	62	59	59
90	61	90	63	61	90	61	59	59
90	62	90	64	62	95	62	58	58
90	62	90	64	62	95	62	58	58
90	61	90	63	61	90	61	58	58
90	61	90	63	61	90	61	58	58
70	60	70	62	60	70	60	58	58
100	61	100	63	61	100	61	57	57
85	61	85	63	61	85	61	58	58
70	60	70	62	60	70	60	58	58
70	60	70	62	60	70	60	57	57
60	60	60	62	60	60	60	57	57
50	60	50	62	60	60	60	58	58
60	60	60	62	60	60	60	58	58
		60	57	57	60	57	57	57
		60	57	57	60	57	57	57
		30	57	57	70	57	57	57
		15	56	56	60	56	56	56
		30	57	57	70	57	57	57
130	66	130	68	66	150	60	60	60
130	66	130	68	66	140	60	60	60
130	66	130	68	66	140	60	60	60
120	65	120	67	65	130	60	60	60
		10	56	56	25	56	56	56
		15	56	56	35	56	56	56
		15	56	56	35	56	56	56
		70	68	68	100	68	68	68
		70	68	68	100	68	68	68
		135	59	59	135	59	59	59
		135	59	59	135	59	59	59

GUHRINGNAVIGATOR

Tools with bold feed column no. are preferred choice.
To select the optimal tool and the recommended machining parameters for your application, please also use the electronic version of the GühringNavigator on the internet: www.guehring.com.

Article no.
Standard/DIN
Tool material
Carbide grade
Surface finish
Type
Point angle
Std. range page

Drill Ø mm	Feed column no. 1	2	3	4	5	6	7	8	9
	f (mm/rev.)								
0.50	0.004	0.006	0.007	0.008	0.010	0.012	0.014	0.016	0.019
1.00	0.006	0.008	0.012	0.014	0.016	0.018	0.020	0.023	0.025
2.00	0.020	0.025	0.032	0.040	0.050	0.063	0.080	0.100	0.125
2.50	0.025	0.032	0.040	0.050	0.063	0.080	0.100	0.125	0.160
3.15	0.032	0.040	0.050	0.063	0.080	0.100	0.125	0.160	0.160
4.00	0.040	0.050	0.063	0.080	0.100	0.125	0.160	0.200	0.200
5.00	0.040	0.050	0.063	0.080	0.100	0.125	0.160	0.200	0.250
6.30	0.050	0.063	0.080	0.100	0.125	0.160	0.200	0.250	0.315
8.00	0.063	0.080	0.100	0.125	0.160	0.200	0.250	0.315	0.315
10.00	0.080	0.100	0.125	0.160	0.200	0.250	0.315	0.400	0.400
12.50	0.080	0.100	0.125	0.160	0.200	0.250	0.315	0.400	0.500
16.00	0.100	0.125	0.160	0.200	0.250	0.315	0.400	0.500	0.630
20.00	0.125	0.160	0.200	0.250	0.315	0.400	0.500	0.630	0.630
25.00	0.160	0.200	0.250	0.315	0.400	0.500	0.630	0.800	0.800
31.50	0.160	0.200	0.250	0.315	0.400	0.500	0.630	0.800	1.000
40.00	0.200	0.250	0.315	0.400	0.500	0.630	0.800	1.000	1.250

Coolant:
○ Air
● Neat oil
● Soluble oil

Material group	Material examples Figures in bold = material no. to DIN EN 10 027	Tensile strength MPa (N/mm²)	Hardness	Coolant
Common structural steels	**1.0035** S185(St33), **1.0486** P275N(StE285), **1.0345** P235GH(H1), **1.0425** P265GH(H2)	≤500		●
	1.0050 E295 (St50-2), **1.0070** E360 (St70-2), **1.8937** P500NH (WStE500)	≤1000		●
Free-cutting steels	**1.0718** 11SMnPb30 (9SMnPb28), **1.0736** 11SMn37 (9SMn36)	≤850		●
	1.0727 46S20 (45S20), **1.0728** (60S20), **1.0757** 46SPb20 (45SPb20)	≤1000		●
Unalloyed heat-treatable steels	**1.0402** C22, **1.1178** C30E (Ck30)	≤700		●
	1.0503 C45, **1.1191** C45E (Ck45)	≤850		●
	1.0601 C60, **1.1221** C60E (Ck60)	≤1000		●
Alloyed heat-treatable steels	**1.5131** 50MnSi4, **1.7003** 38Cr2, **1.7030** 28Cr4	≤1000		●
	1.5710 36NiCr6, **1.7035** 41Cr4, **1.7225** 42CrMo4	≤1400		●
Unalloyed case hardened steels	**1.0301** (C10), **1.1121** C10E (Ck10)	≤850		●
Alloyed case hardened steels	**1.7276** 10CrMo11, **1.5125** 11MnSi6	≤1000		●
	1.5752 15NiCr13, **1.7131** 16MnCr5, **1.7264** 20CrMo5	≤1400		●
Nitriding steels	**1.8504** 34CrAl6	≤1000		●
	1.8519 31CrMoV9, **1.8550** 34CrAlNi7	≤1400		●
Tool steels	**1.1750** C75W, **1.2067** 102Cr6, **1.2307** 29CrMoV9	≤850		●
	1.2080 X210Cr12, **1.2083** X42Cr13, **1.2419** 105WCr6, **1.2767** X45NiCrMo4	≤1400		●
High speed steels	**1.3243** S 6-5-2-5, **1.3343** S 6-5-2, **1.3344** S 6-5-3	≤1400		●
Spring steels	**1.5026** 55Si7, **1.7176** 55Cr3, **1.8159** 51CrV4 (51CrV4)		≤350 HB	●
Hardened steels	–		≤48 HRC	●
			≤66 HRC	●
Stainless steels, sulphured	**1.4005** X12CrS13, **1.4104** X14CrMoS17, **1.4105** X6CrMoS17, **1.4305** X8CrNiS18-9	≤900		●
austenitic	**1.4301** X5CrNi18-10 (V2A), **1.4541** X6CrNiTi18-10, **1.4571** X6CrNiMoTi 17-12-2 (V4A)	≤1100		●
martensitic	**1.4057** X20CrNi172 (X17CrNi16-2), **1.4122** X39CrMo17-1, **1.4521** X2CrMoTi18-2	≤1500		●
Cast iron	**0.6010** EN-GJL-100 (GG10), **0.6020** EN-GJL-200 (GG20)		≤240 HB	○ ○
	0.6025 EN-GJL-250 (GG25), **0.6035** EN-GJL-350 (GG35)		≤350 HB	○ ○
Spheroidal graphite iron and malleable cast iron	**0.7050** EN-GJS-500-7 (GGG50), **0.8035** EN-GJMW-350-4 (GTW35)		≤240 HB	●
	0.7070 EN-GJS-700-2 (GGG70), **0.8170** EN-GJMB-700-2 (GTS70)		≤350 HB	●
Chilled cast iron	–		≤350 HB	●
New cast materials GGV	**EN-GJV250** (GGV25), **EN-GJV350** (GGV35)		≤220 HB	● ○
	EN-GJV400 (GGV40), **EN-GJV500** (GGV50), SiMo 6		≤300 HB	● ○
New cast materials ADI	**EN-GJS-800-8** (ADI800), **EN-GJS-1000-5** (ADI1000)	≤1000		● ○
	EN-GJS-1200-2 (ADI1200), **EN-GJS-1400-1** (ADI1400)	≤1400		● ○
Special alloys	Nimonic, Inconel, Monel, Hastelloy	≤2000		●
Ti and Ti alloys	**3.7024** Ti99,5, **3.7114** TiAl5Sn2,5, **3.7124** TiCu2	≤850		●
	3.7154 TiAl6Zr5, **3.7165** TiAl6V4, **3.7184** TiAl4Mo4Sn2,5, - TiAl8Mo1V1	≤1400		●
Aluminium and Al alloys	**3.0255** Al99,5, **3.2315** AlMgSi1, **3.3515** AlMg1	≤400		●
Al wrought alloys	**3.0615** AlMgSiPb, **3.1325** AlCuMg1, **3.3245** AlMg3Si, **3.4365** AlZnMgCu1,5	≤650		●
Al cast alloys ≤ 10 % Si	**3.2131** G-AlSi5Cu1, **3.2153** G-AlSi7Cu3, **3.2573** G-AlSi9	≤600		●
≤ 24 % Si	**3.2581** G-AlSi12, **3.2583** G-AlSi12Cu, - G-AlSi12CuNiMg	≤600		●
Magnesium alloys	**3.5200** MgMn2, **3.5812.05** G-MgAl8Zn1, **3.5612.05** G-MgAl6Zn1	≤400		○
Copper, low-alloyed	**2.0070** SE-Cu, **2.1020** CuSn6, **2.1096** G-CuSn5ZnPb	≤500		●
Brass, short-chipping	**2.0380** CuZn39Pb2, **2.0401** CuZn39Pb3, **2.0410** CuZn43Pb2	≤600		●
long-chipping	**2.0250** CuZn20, **2.0280** CuZn33, **2.0332** CuZn37Pb0,5	≤600		●
Bronze, short-chipping	**2.1090** CuSn7ZnPb, **2.1170** CuPb5Sn5, **2.1176** CuPb10Sn	≤600		● ●
	2.0790 CuNi18Zn19Pb	≤850		●
Bronze, long-chipping	**2.0916** CuAl5, **2.0960** CuAl9Mn, **2.1050** CuSn10	≤850		●
	2.0980 CuAl11Ni, **2.1247** CuBe2	≤1000		●
Duroplastics	Bakelit, Resopal, Pertinax, Moltopren	≤150		○
Thermoplastics	Plexiglass, Hostalen, Novodur, Makralon	≤100		● ○
Kevlar	Kevlar	≤1000		○
Glass, carbon concentr. plastics	GFK/CFK	≤1000		○

NC spotting drills

Centre drills

5678	6027	5679	6028	6029	5680
Comp. std.	Comp. std.	Comp. std.	Comp. std.	Comp. std.	333
HSCO	Solid carb.	HSCO	Solid carb.	Solid carb.	HSCO
	K10/K20		K10/K20	K10/K20	
F	F	F	F	F	F
N	N	N	N	N	N
90°	90°	120°	120°	142°	
132	133	134	135	136	137






v_c m/min	Feed col. no.	v_c m/min	Feed col. no.	v_c m/min	Feed col. no.	v_c m/min	Feed col. no.	v_c m/min	Feed col. no.	v_c m/min	Feed col. no.
42	6	100	6	42	6	100	6	100	6	37	4
36	5	85	5	36	5	85	5	85	5	32	4
48	6	105	6	48	6	105	6	105	6	37	4
42	**6**	100	5	42	**6**	100	5	100	5	37	**4**
44	6	85	5	44	6	85	5	85	5	32	4
44	6	85	5	44	6	85	5	85	5	27	4
40	**5**	70	4	40	**5**	70	4	70	4	24	**3**
27	**4**	55	4	27	**4**	55	4	55	4	18	**4**
22	**3**	45	3	22	**3**	45	3	45	3	11	**3**
37	6	100	6	37	6	100	6	100	6	32	5
22	**4**	55	4	22	**4**	55	4	55	4	19	**4**
18	**3**	30	3	18	**3**	30	3	30	3	11	**3**
19	**4**			19	**4**					14	4
15	**3**			15	**3**					11	3
21	**4**	55	4	21	**4**	55	4	55	4	14	**3**
16	**3**			16	**3**					9	3
12	3			12	3					9	3
10	2			10	2					9	2
		30	2			30	2	30	2		
18	**3**	35	3	18	**3**	35	3	35	3	16	**3**
15	**3**	25	3	15	**3**	25	3	25	3	11	**3**
12	**3**	30	3	12	**3**	30	3	30	3	9	**3**
38	**6**	100	6	38	**6**	100	6	100	6	27	**6**
35	**6**	100	6	35	**6**	100	6	100	6	27	**5**
33	**6**	85	6	33	**6**	85	6	85	6	32	6
28	**6**	70	6	28	**6**	70	6	70	6	27	**5**
7	1	25	2	7	1	25	2	25	2	6	1
10	2	25	1	10	2	25	1	25	1	6	2
8	2	25	1	8	2	25	1	25	1	5	2
		230	7			230	7	230	7	86	**7**
85	7	230	7	85	7	230	7	230	7	86	**7**
65	7	165	7	65	7	165	7	165	7	54	6
65	6	165	6	65	6	165	6	165	6	54	6
80	6	230	6	80	6	230	6	230	6	75	6
70	5	200	5	70	5	200	5	200	5	64	5
75	**5**	200	5	75	**5**	200	5	200	5	75	5
50	**5**	135	5	50	**5**	135	5	135	5	48	5
45	**5**	100	4	45	**5**	100	4	100	4	37	**4**
40	**4**	85	4	40	**4**	85	4	85	4	32	4
25	**4**	55	4	25	**4**	55	4	55	4	21	**4**
20	**4**	45	4	20	**4**	45	4	45	4	19	4
25	**4**	65	4	25	**4**	65	4	65	4	21	4
40	**4**	95	5	40	**4**	95	5	95	5	32	5

GUHRINGNAVIGATOR Twist drills

Tools with bold feed column no. are preferred choice.
To select the optimal tool and the recommended machining parameters for your application, please also use the electronic version of the GühringNavigator on the internet: www.guehring.com.

Article no.
Standard/DIN
Tool material
Carbide grade
Surface finish
Type
Std. range page

Drill Ø mm	Feed column no. 1	2	3	4	5	6	7	8	9
	f (mm/rev.)								
0.50	0.004	0.006	0.007	0.008	0.010	0.012	0.014	0.016	0.019
1.00	0.006	0.008	0.012	0.014	0.016	0.018	0.020	0.023	0.025
2.00	0.020	0.025	0.032	0.040	0.050	0.063	0.080	0.100	0.125
2.50	0.025	0.032	0.040	0.050	0.063	0.080	0.100	0.125	0.160
3.15	0.032	0.040	0.050	0.063	0.080	0.100	0.125	0.160	0.160
4.00	0.040	0.050	0.063	0.080	0.100	0.125	0.160	0.200	0.200
5.00	0.040	0.050	0.063	0.080	0.100	0.125	0.160	0.200	0.250
6.30	0.050	0.063	0.080	0.100	0.125	0.160	0.200	0.250	0.315
8.00	0.063	0.080	0.100	0.125	0.160	0.200	0.250	0.315	0.315
10.00	0.080	0.100	0.125	0.160	0.200	0.250	0.315	0.400	0.400
12.50	0.080	0.100	0.125	0.160	0.200	0.250	0.315	0.400	0.500
16.00	0.100	0.125	0.160	0.200	0.250	0.315	0.400	0.500	0.630
20.00	0.125	0.160	0.200	0.250	0.315	0.400	0.500	0.630	0.630
25.00	0.160	0.200	0.250	0.315	0.400	0.500	0.630	0.800	0.800
31.50	0.160	0.200	0.250	0.315	0.400	0.500	0.630	0.800	1.000
40.00	0.200	0.250	0.315	0.400	0.500	0.630	0.800	1.000	1.250
50.00	0.250	0.310	0.400	0.500	0.630	0.800	1.000	1.250	1.250
63.00	0.315	0.400	0.500	0.630	0.800	1.000	1.250	1.600	1.600
80.00	0.400	0.500	0.630	0.800	1.000	1.250	1.600	1.600	2.000

Coolant:
○ Air
● Neat oil
● Soluble oil

Material group	Material examples Figures in bold = material no. to DIN EN 10 027	Tensile strength MPa (N/mm²)	Hardness	Coolant
Common structural steels	**1.0035** S185(St33), **1.0486** P275N(StE285), **1.0345** P235GH(H1), **1.0425** P265GH(H2)	≤500		●
	1.0050 E295 (St50-2), **1.0070** E360 (St70-2), **1.8937** P500NH (WStE500)	≤1000		●
Free-cutting steels	**1.0718** 11SMnPb30 (9SMnPb28), **1.0736** 11SMn37 (9SMn36)	≤850		●
	1.0727 46S20 (45S20), **1.0728** (60S20), **1.0757** 46SPb20 (45SPb20)	≤1000		●
Unalloyed heat-treatable steels	**1.0402** C22, **1.1178** C30E (Ck30)	≤700		●
	1.0503 C45, **1.1191** C45E (Ck45)	≤850		●
	1.0601 C60, **1.1221** C60E (Ck60)	≤1000		●
Alloyed heat-treatable steels	**1.5131** 50MnSi4, **1.7003** 38Cr2, **1.7030** 28Cr4	≤1000		●
	1.5710 36NiCr6, **1.7035** 41Cr4, **1.7225** 42CrMo4	≤1400		●
Unalloyed case hardened steels	**1.0301** (C10), **1.1121** C10E (Ck10)	≤850		●
Alloyed case hardened steels	**1.7276** 10CrMo11, **1.5125** 11MnSi6	≤1000		●
	1.5752 15NiCr13, **1.7131** 16MnCr5, **1.7264** 20CrMo5	≤1400		●
Nitriding steels	**1.8504** 34CrAl6	≤1000		●
	1.8519 31CrMoV9, **1.8550** 34CrAlNi7	≤1400		●
Tool steels	**1.1750** C75W, **1.2067** 102Cr6, **1.2307** 29CrMoV9	≤850		●
	1.2080 X210Cr12, **1.2083** X42Cr13, **1.2419** 105WCr6, **1.2767** X45NiCrMo4	≤1400		●
High speed steels	**1.3243** S 6-5-2-5, **1.3343** S 6-5-2, **1.3344** S 6-5-3	≤1400		●
Spring steels	**1.5026** 55Si7, **1.7176** 55Cr3, **1.8159** 51CrV4 (51CrV4)		≤350 HB	●
Hardened steels	–		≤48 HRC	●
			≤66 HRC	●
Stainless steels, sulphured	**1.4005** X12CrS13, **1.4104** X14CrMoS17, **1.4105** X6CrMoS17, **1.4305** X8CrNiS18-9	≤900		●
austenitic	**1.4301** X5CrNi18-10 (V2A), **1.4541** X6CrNiTi18-10, **1.4571** X6CrNiMoTi 17-12-2 (V4A)	≤1100		●
martensitic	**1.4057** X20CrNi172 (X17CrNi16-2), **1.4122** X39CrMo17-1, **1.4521** X2CrMoTi18-2	≤1500		●
Cast iron	**0.6010** EN-GJL-100 (GG10), **0.6020** EN-GJL-200 (GG20)		≤240 HB	● ●
	0.6025 EN-GJL-250 (GG25), **0.6035** EN-GJL-350 (GG35)		≤350 HB	● ●
Spheroidal graphite iron and	**0.7050** EN-GJS-500-7 (GGG50), **0.8035** EN-GJMW-350-4 (GTW35)		≤240 HB	●
malleable cast iron	**0.7070** EN-GJS-700-2 (GGG70), **0.8170** EN-GJMB-700-2 (GTS70)		≤350 HB	●
Chilled cast iron	–		≤350 HB	●
New cast materials GGV	**EN-GJV250** (GGV25), **EN-GJV350** (GGV35)		≤220 HB	● ●
	EN-GJV400 (GGV40), **EN-GJV500** (GGV50), SiMo 6		≤300 HB	● ●
New cast materials ADI	**EN-GJS-800-8** (ADI800), **EN-GJS-1000-5** (ADI1000)	≤1000		● ●
	EN-GJS-1200-2 (ADI1200), **EN-GJS-1400-1** (ADI1400)	≤1400		● ●
Special alloys	Nimonic, Inconel, Monel, Hastelloy	≤2000		●
Ti and Ti alloys	**3.7024** Ti99,5, **3.7114** TiAl5Sn2,5, **3.7124** TiCu2	≤850		●
	3.7154 TiAl6Zr5, **3.7165** TiAl6V4, **3.7184** TiAl4Mo4Sn2,5, - TiAl8Mo1V1	≤1400		●
Aluminium and Al alloys	**3.0255** Al99,5, **3.2315** AlMgSi1, **3.3515** AlMg1	≤400		●
Al wrought alloys	**3.0615** AlMgSiPb, **3.1325** AlCuMg1, **3.3245** AlMg3Si, **3.4365** AlZnMgCu1,5	≤650		●
Al cast alloys ≤ 10 % Si	**3.2131** G-AlSi5Cu1, **3.2153** G-AlSi7Cu3, **3.2573** G-AlSi9	≤600		●
≤ 24 % Si	**3.2581** G-AlSi12, **3.2583** G-AlSi12Cu, - G-AlSi12CuNiMg	≤600		●
Magnesium alloys	**3.5200** MgMn2, **3.5812.05** G-MgAl8Zn1, **3.5612.05** G-MgAl6Zn1	≤400		○
Copper, low-alloyed	**2.0070** SE-Cu, **2.1020** CuSn6, **2.1096** G-CuSn5ZnPb	≤500		●
Brass, short-chipping	**2.0380** CuZn39Pb2, **2.0401** CuZn39Pb3, **2.0410** CuZn43Pb2	≤600		●
long-chipping	**2.0250** CuZn20, **2.0280** CuZn33, **2.0332** CuZn37Pb0,5	≤600		●
Bronze, short-chipping	**2.1090** CuSn7ZnPb, **2.1170** CuPb5Sn5, **2.1176** CuPb10Sn	≤600		● ●
	2.0790 CuNi18Zn19Pb	≤850		●
Bronze, long-chipping	**2.0916** CuAl5, **2.0960** CuAl9Mn, **2.1050** CuSn10	≤850		●
	2.0980 CuAl11Ni, **2.1247** CuBe2	≤1000		●
Duroplastics	Bakelit, Resopal, Pertinax, Moltopren	≤150		○
Thermoplastics	Plexiglass, Hostalen, Novodur, Makralon	≤100		● ○
Kevlar	Kevlar	≤1000		○
Glass, carbon concentr. plastics	GFK/CFK	≤1000		○

≤3xD	≤3xD	≤3xD	≤3xD	≤3xD	≤5xD	≤5xD	≤5xD
5524	5520	5521	6005	5516	5523	5519	6006
1897	1897	1897	Co. std.	6539	338	338	Co. std.
HSCO	HSCO	HSS-E-PM	HSS-E-PM	Sol. carb.	HSCO	HSCO	HSS-E-PM
				K10/K20			
○	S	S	F	○	○	S	F
GU 500 DZ	GU 500 DZ	GT 500 DZ	GU 500 PM	N	GU 500 DZ	GU 500 DZ	GU 500 PM
111	111	114	101	109	119	119	105








v_c m/min	Feed col. no.	v_c m/min	Feed col. no.	v_c m/min	Feed col. no.	v_c m/min	Feed col. no.	v_c m/min	Feed col. no.	v_c m/min	Feed col. no.	v_c m/min	Feed col. no.	v_c m/min	Feed col. no.
35	6	45	6	40	6	47	6	80	4	35	6	45	6	47	6
30	5	35	5	32	5	37	5	70	4	30	5	35	5	37	5
40	6	50	6	45	6	53	6	80	5	40	6	50	6	53	6
30	6	40	6	40	5	42	6	70	4	30	6	40	6	42	6
32	6	44	6	42	6	46	6	80	4	32	6	44	6	46	6
28	6	44	6	40	5	46	6	70	4	28	6	44	6	46	6
20	5	40	5	28	4	42	5	60	4	20	5	40	5	42	5
15	4	27	4	25	4	28	4	60	4	15	4	27	4	28	4
13	3	22	3	20	3	23	3			13	3	22	3	23	3
30	6	44	6	40	4	46	6	80	5	30	6	44	6	46	6
16	4	22	4	22	4	23	4	60	4	16	4	22	4	23	4
12	3	18	3	18	3	19	3			12	3	18	3	19	3
15	4	22	4	20	4	23	4	50	4	15	4	22	4	23	4
10	3	16	3	15	3	17	3			10	3	16	3	17	3
15	4	20	4	21	4	21	4	50	3	15	4	20	4	21	4
10	3	15	3	16	3	16	3			10	3	15	3	16	3
10	3	13	2	15	3	14	2			10	3	13	3	14	2
		9	2	12	2	9	2	25	2			9	2	9	2
								20	2						
14	4	20	4	15	4	21	4	25	2	14	4	20	4	21	4
10	4	16	4	10	3	17	4	15	1	10	4	16	4	17	4
12	4	18	4	12	3	19	4	25	2	12	4	18	4	19	4
36	6	45	6	50	6	47	6	90	4	36	6	45	6	47	6
30	6	40	6	40	6	42	6	80	4	30	6	40	6	42	6
30	6	40	6	44	6	42	6	80	4	30	6	40	6	42	6
22	6	30	6	32	6	32	6	70	4	22	6	30	6	32	6
				8	3										
				5	2			15	2						
						5	2	15	1					5	2
								15	1						
50	7	70	7			74	7	200	7	50	7	70	7	74	7
50	7	70	7			74	7	200	7	50	7	70	7	74	7
65	7	85	7			89	7	150	6	65	7	85	7	89	7
60	6	70	6			74	6	120	6	60	6	70	6	74	6
60	6	80	6			84	6	180	6	60	6	80	6	84	6
70	5	80	5	80	5	84	5	80	5	70	5	80	5	84	5
45	5	77	5			81	5	180	5	45	5	77	5	81	5
30	5	44	5	60	5	46	5	180	5	30	5	44	5	46	5
36	4	50	4	50	5	53	4	120	5	36	4	50	4	53	4
30	4	40	4	45	4	42	4	120	5	30	4	40	4	42	4
30	4	32	4	40	4	34	4	70	4	30	4	32	4	34	4
25	4	28	4	32	4	29	4	50	3	25	4	28	4	29	4
20	4	25	4	25	4	26	4	50	4	20	4	25	4	26	4
15	4	27	4			28	4	40	3	15	4	27	4	28	4
								80	3						

GUHRINGNAVIGATOR Twist drills

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Article no.
Standard/DIN
Tool material
Carbide grade
Surface finish
Type
Std. range page

Drill Ø mm	Feed column no. 1	2	3	4	5	6	7	8	9
	f (mm/rev.)								
0.50	0.004	0.006	0.007	0.008	0.010	0.012	0.014	0.016	0.019
1.00	0.006	0.008	0.012	0.014	0.016	0.018	0.020	0.023	0.025
2.00	0.020	0.025	0.032	0.040	0.050	0.063	0.080	0.100	0.125
2.50	0.025	0.032	0.040	0.050	0.063	0.080	0.100	0.125	0.160
3.15	0.032	0.040	0.050	0.063	0.080	0.100	0.125	0.160	0.160
4.00	0.040	0.050	0.063	0.080	0.100	0.125	0.160	0.200	0.200
5.00	0.040	0.050	0.063	0.080	0.100	0.125	0.160	0.200	0.250
6.30	0.050	0.063	0.080	0.100	0.125	0.160	0.200	0.250	0.315
8.00	0.063	0.080	0.100	0.125	0.160	0.200	0.250	0.315	0.315
10.00	0.080	0.100	0.125	0.160	0.200	0.250	0.315	0.400	0.400
12.50	0.080	0.100	0.125	0.160	0.200	0.250	0.315	0.400	0.500
16.00	0.100	0.125	0.160	0.200	0.250	0.315	0.400	0.500	0.630
20.00	0.125	0.160	0.200	0.250	0.315	0.400	0.500	0.630	0.630
25.00	0.160	0.200	0.250	0.315	0.400	0.500	0.630	0.800	0.800
31.50	0.160	0.200	0.250	0.315	0.400	0.50	0.630	0.800	1.000
40.00	0.200	0.250	0.315	0.400	0.500	0.630	0.800	1.000	1.250
50.00	0.250	0.310	0.400	0.500	0.630	0.800	1.000	1.250	1.250
63.00	0.315	0.400	0.500	0.630	0.800	1.000	1.250	1.600	1.600
80.00	0.400	0.500	0.630	0.800	1.000	1.250	1.600	1.600	2.000

Coolant:
○ Air
● Neat oil
● Soluble oil

Material group	Material examples Figures in bold = material no. to DIN EN 10 027	Tensile strength MPa (N/mm²)	Hardness	Coolant
Common structural steels	**1.0035** S185(St33), **1.0486** P275N(StE285), **1.0345** P235GH(H1), **1.0425** P265GH(H2)	≤500		●
	1.0050 E295 (St50-2), **1.0070** E360 (St70-2), **1.8937** P500NH (WStE500)	≤1000		●
Free-cutting steels	**1.0718** 11SMnPb30 (9SMnPb28), **1.0736** 11SMn37 (9SMn36)	≤850		●
	1.0727 46S20 (45S20), **1.0728** (60S20), **1.0757** 46SPb20 (45SPb20)	≤1000		●
Unalloyed heat-treatable steels	**1.0402** C22, **1.1178** C30E (Ck30)	≤700		●
	1.0503 C45, **1.1191** C45E (Ck45)	≤850		●
	1.0601 C60, **1.1221** C60E (Ck60)	≤1000		●
Alloyed heat-treatable steels	**1.5131** 50MnSi4, **1.7003** 38Cr2, **1.7030** 28Cr4	≤1000		●
	1.5710 36NiCr6, **1.7035** 41Cr4, **1.7225** 42CrMo4	≤1400		●
Unalloyed case hardened steels	**1.0301** (C10), **1.1121** C10E (Ck10)	≤850		●
Alloyed case hardened steels	**1.7276** 10CrMo11, **1.5125** 11MnSi6	≤1000		●
	1.5752 15NiCr13, **1.7131** 16MnCr5, **1.7264** 20CrMo5	≤1400		●
Nitriding steels	**1.8504** 34CrAl6	≤1000		●
	1.8519 31CrMoV9, **1.8550** 34CrAlNi7	≤1400		●
Tool steels	**1.1750** C75W, **1.2067** 102Cr6, **1.2307** 29CrMoV9	≤850		●
	1.2080 X210Cr12, **1.2083** X42Cr13, **1.2419** 105WCr6, **1.2767** X45NiCrMo4	≤1400		●
High speed steels	**1.3243** S 6-5-2-5, **1.3343** S 6-5-2, **1.3344** S 6-5-3	≤1400		●
Spring steels	**1.5026** 55Si7, **1.7176** 55Cr3, **1.8159** 51CrV4 (51CrV4)		≤350 HB	●
Hardened steels	–		≤48 HRC	●
			≤66 HRC	●
Stainless steels, sulphured	**1.4005** X12CrS13, **1.4104** X14CrMoS17, **1.4105** X6CrMoS17, **1.4305** X8CrNiS18-9	≤900		●
austenitic	**1.4301** X5CrNi18-10 (V2A), **1.4541** X6CrNiTi18-10, **1.4571** X6CrNiMoTi 17-12-2 (V4A)	≤1100		●
martensitic	**1.4057** X20CrNi172 (X17CrNi16-2), **1.4122** X39CrMo17-1, **1.4521** X2CrMoTi18-2	≤1500		●
Cast iron	**0.6010** EN-GJL-100 (GG10), **0.6020** EN-GJL-200 (GG20)		≤240 HB	● ○
	0.6025 EN-GJL-250 (GG25), **0.6035** EN-GJL-350 (GG35)		≤350 HB	● ○
Spheroidal graphite iron and	**0.7050** EN-GJS-500-7 (GGG50), **0.8035** EN-GJMW-350-4 (GTW35)		≤240 HB	●
malleable cast iron	**0.7070** EN-GJS-700-2 (GGG70), **0.8170** EN-GJMB-700-2 (GTS70)		≤350 HB	●
Chilled cast iron	–		≤350 HB	●
New cast materials GGV	**EN-GJV250** (GGV25), **EN-GJV350** (GGV35)		≤220 HB	● ○
	EN-GJV400 (GGV40), **EN-GJV500** (GGV50), SiMo 6		≤300 HB	● ○
New cast materials ADI	**EN-GJS-800-8** (ADI800), **EN-GJS-1000-5** (ADI1000)	≤1000		● ○
	EN-GJS-1200-2 (ADI1200), **EN-GJS-1400-1** (ADI1400)	≤1400		● ○
Special alloys	Nimonic, Inconel, Monel, Hastelloy	≤2000		●
Ti and Ti alloys	**3.7024** Ti99,5, **3.7114** TiAl5Sn2,5, **3.7124** TiCu2	≤850		●
	3.7154 TiAl6Zr5, **3.7165** TiAl6V4, **3.7184** TiAl4Mo4Sn2,5, - TiAl8Mo1V1	≤1400		●
Aluminium and Al alloys	**3.0255** Al99,5, **3.2315** AlMgSi1, **3.3515** AlMg1	≤400		●
Al wrought alloys	**3.0615** AlMgSiPb, **3.1325** AlCuMg1, **3.3245** AlMg3Si, **3.4365** AlZnMgCu1,5	≤650		●
Al cast alloys ≤ 10 % Si	**3.2131** G-AlSi5Cu1, **3.2153** G-AlSi7Cu3, **3.2573** G-AlSi9	≤600		●
≤ 24 % Si	**3.2581** G-AlSi12, **3.2583** G-AlSi12Cu, - G-AlSi12CuNiMg	≤600		●
Magnesium alloys	**3.5200** MgMn2, **3.5812.05** G-MgAl8Zn1, **3.5612.05** G-MgAl6Zn1	≤400		○
Copper, low-alloyed	**2.0070** SE-Cu, **2.1020** CuSn6, **2.1096** G-CuSn5ZnPb	≤500		●
Brass, short-chipping	**2.0380** CuZn39Pb2, **2.0401** CuZn39Pb3, **2.0410** CuZn43Pb2	≤600		●
long-chipping	**2.0250** CuZn20, **2.0280** CuZn33, **2.0332** CuZn37Pb0,5	≤600		●
Bronze, short-chipping	**2.1090** CuSn7ZnPb, **2.1170** CuPb5Sn5, **2.1176** CuPb10Sn	≤600		● ●
	2.0790 CuNi18Zn19Pb	≤850		●
Bronze, long-chipping	**2.0916** CuAl5, **2.0960** CuAl9Mn, **2.1050** CuSn10	≤850		●
	2.0980 CuAl11Ni, **2.1247** CuBe2	≤1000		●
Duroplastics	Bakelit, Resopal, Pertinax, Moltopren	≤150		○
Thermoplastics	Plexiglass, Hostalen, Novodur, Makralon	≤100		● ○
Kevlar	Kevlar	≤1000		○
Glass, carbon concentr. plastics	GFK/CFK	≤1000		○

≤5xD	≤5xD	≤5xD	≤10xD	≤10xD
9651	5522	5517	5536	5537
338	338	Company standard	340	340
HSS	HSS-E-PM	Solid carbide	HSCO	HSCO
		K10/K20		
Ⓢ	Ⓢ	○	○	Ⓢ
N	GT 500 DZ	N	GU 500 DZ	GU 500 DZ
125	122	117	129	129





v_c m/min	Feed col. no.	v_c m/min	Feed col. no.	v_c m/min	Feed col. no.	v_c m/min	Feed col. no.	v_c m/min	Feed col. no.
32	**6**	*40*	**6**	*80*	4	*29*	5	*32*	5
26	**5**	*32*	**5**	*70*	4	*22*	4	*25*	4
36	**6**	*45*	**6**	*80*	**5**	*32*	5	*35*	5
36	**5**	*40*	**5**	*70*	**4**	*25*	5	*28*	5
31	**5**	*42*	**6**	*80*	4	*25*	5	*28*	5
31	**5**	*40*	**5**	*70*	4	*22*	5	*25*	5
28	**4**	*28*	**4**	*60*	4	*13*	4	*15*	4
24	4	*25*	4	*60*	4	*12*	3	*13*	3
		20	3			*11*	2	*12*	2
36	**6**	*40*	**4**	*80*	5	*25*	5	*28*	5
22	4	*22*	4	*60*	4	*12*	3	*14*	3
		18	3			*11*	2	*12*	2
16	4	*20*	4	*50*	4	*12*	3	*13*	3
		15	3			*7*	2	*8*	2
20	4	*21*	4	*50*	3	*12*	3	*13*	3
		16	3			*9*	2	*10*	2
		15	3			*9*	2	*10*	2
		12	2	*25*	2				
				20	2				
		15	**4**	*25*	**2**	*12*	3	*13*	3
		10	**3**	*15*	1	*7*	3	*8*	3
		12	**3**	*25*	2	*11*	3	*12*	3
36	**6**	*50*	**6**	*90*	**4**	*29*	6	*32*	6
36	**6**	*40*	**6**	*80*	**4**	*23*	6	*26*	6
31	**6**	*44*	**6**	*80*	**4**	*25*	6	*28*	6
24	**6**	*32*	**6**	*70*	**4**	*18*	6	*20*	6
		8	3						
		5	2	*15*	2				
				15	1				
				15	1				
				200	**7**	*45*	7	*50*	7
				200	**7**	*45*	7	*50*	7
				150	**6**	*54*	7	*60*	7
				120	**6**	*45*	6	*50*	6
90	6			*180*	**6**	*45*	6	*50*	6
70	**5**	*80*	**5**	*80*	**5**	*60*	5	*70*	5
80	**5**			*180*	5	*40*	5	*50*	5
50	**5**	*60*	**5**	*180*	5	*25*	5	*28*	5
36	**4**	*50*	**5**	*120*	5	*31*	4	*35*	4
33	**4**	*45*	**4**	*120*	5	*22*	4	*25*	4
18	**4**	*40*	**4**	*70*	4	*22*	4	*24*	4
18	**4**	*32*	**4**	*50*	3	*18*	4	*20*	4
29	**4**	*25*	**4**	*50*	4	*16*	4	*18*	4
36	**5**			*40*	3	*11*	4	*12*	4
				80	3			*80*	3

THREADING TOOLS

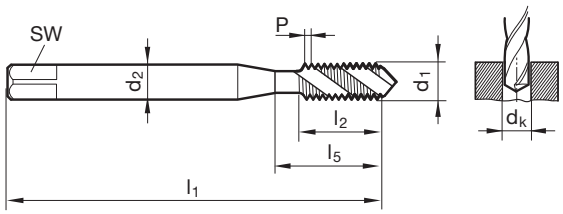
Taps for ISO metric threads

P	≤ 1000
M	○
K	
N	
S	
H	

GÜHRINGNAVIGATOR

Cutting data page 184

Tool material	HSS-E	
Tolerance on Ø	ISO2/6H	ISO2/6H
Surface	●	Ⓢ
Type	N R40	N R40
Form	C	C
Internal cooling	⊗	⊗
	SL	SL



DIN 2184-1 DIN 371/DIN 376

	Article no.	5555	5594
	Discount group	156	156

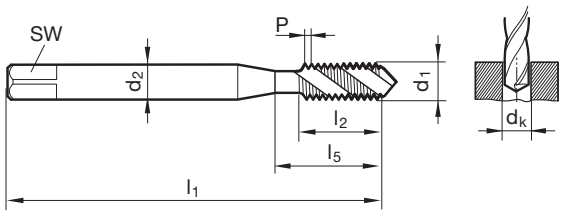
d1	P	d2	SW	dk	l1	l2	l5	Availability	
	mm	mm	mm	mm	mm	mm	mm		
M3	0.50	3.50	2.70	2.50	56.00	6.00	18.00	●	●
M4	0.70	4.50	3.40	3.30	63.00	7.50	21.00	●	●
M5	0.80	6.00	4.90	4.20	70.00	8.50	25.00	●	●
M6	1.00	6.00	4.90	5.00	80.00	11.00	30.00	●	●
M8	1.25	8.00	6.20	6.80	90.00	14.00	35.00	●	●
M10	1.50	10.00	8.00	8.50	100.00	16.00	39.00	●	●
M12	1.75	9.00	7.00	10.20	110.00	18.50	49.00	●	●
M16	2.00	12.00	9.00	14.00	110.00	20.00	54.00	●	●
M20	2.50	16.00	12.00	17.50	140.00	25.00	62.00	●	●

Taps for ISO metric threads

P	≤ 1200
M	
K	
N	
S	
H	

GÜHRINGNAVIGATOR
Cutting data page 184

Tool material	HSS-E	
Tolerance on Ø	ISO2/6H	ISO2/6H
Surface		C
Type	H R40	H R40
Form	C	C
Internal cooling		
	SL	SL



DIN 2184-1 DIN 371/DIN 376

	Article no.	5552	5591
	Discount group	156	156

d1	P	d2	SW	dk	l1	l2	l5	Availability	
	mm	mm	mm	mm	mm	mm	mm		
M3	0.50	3.50	2.70	2.50	56.00	6.00	18.00	●	●
M4	0.70	4.50	3.40	3.30	63.00	7.50	21.00	●	●
M5	0.80	6.00	4.90	4.20	70.00	8.50	25.00	●	●
M6	1.00	6.00	4.90	5.00	80.00	11.00	30.00	●	●
M8	1.25	8.00	6.20	6.80	90.00	14.00	35.00	●	●
M10	1.50	10.00	8.00	8.50	100.00	16.00	39.00	●	●
M12	1.75	9.00	7.00	10.20	110.00	18.50	49.00	●	●
M16	2.00	12.00	9.00	14.00	110.00	20.00	54.00	●	●
M20	2.50	16.00	12.00	17.50	140.00	25.00	62.00	●	●

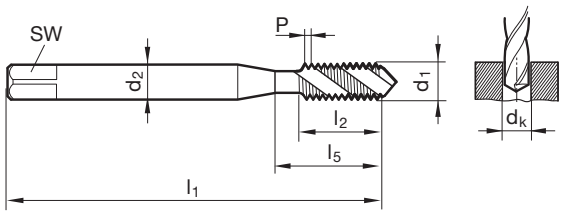
Taps for ISO metric threads

Tool material	HSS-E	
Tolerance on Ø	ISO2/6H	ISO2/6H
Surface		S
Type	VA R40	VA R40
Form	C	C
Internal cooling		
	SL	SL

P	
M	•
K	
N	
S	
H	

GÜHRINGNAVIGATOR

Cutting data page 184



DIN 2184-1 DIN 371/DIN 376

	Article no.	5553	5596
	Discount group	156	156

d1	P	d2	SW	dk	l1	l2	l5	Availability	
	mm	mm	mm	mm	mm	mm	mm		
M3	0.50	3.50	2.70	2.50	56.00	6.00	18.00	●	●
M4	0.70	4.50	3.40	3.30	63.00	7.50	21.00	●	●
M5	0.80	6.00	4.90	4.20	70.00	8.50	25.00	●	●
M6	1.00	6.00	4.90	5.00	80.00	11.00	30.00	●	●
M8	1.25	8.00	6.20	6.80	90.00	14.00	35.00	●	●
M10	1.50	10.00	8.00	8.50	100.00	16.00	39.00	●	●
M12	1.75	9.00	7.00	10.20	110.00	18.50	49.00	●	●
M16	2.00	12.00	9.00	14.00	110.00	20.00	54.00	●	●
M20	2.50	16.00	12.00	17.50	140.00	25.00	62.00	●	●

Taps for ISO metric threads

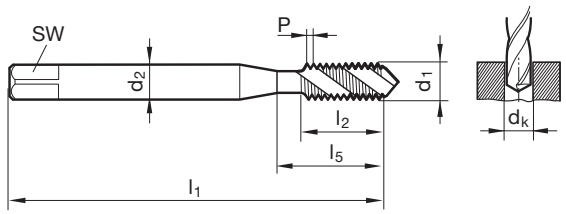
Tool material	HSS-E
Tolerance on Ø	ISO2/6H
Surface	○
Type	Al R45
Form	C
Internal cooling	⊠

SL

P	
M	
K	
N	•
S	
H	

GÜHRINGNAVIGATOR

Cutting data page 184



DIN 2184-1 DIN 371/DIN 376

Article no. **5551**

Discount group **156**

d1	P	d2	SW	dk	l1	l2	l5	Availability
	mm	mm	mm	mm	mm	mm	mm	
M3	0.50	3.50	2.70	2.50	56.00	6.00	18.00	●
M4	0.70	4.50	3.40	3.30	63.00	7.50	21.00	●
M5	0.80	6.00	4.90	4.20	70.00	8.50	25.00	●
M6	1.00	6.00	4.90	5.00	80.00	11.00	30.00	●
M8	1.25	8.00	6.20	6.80	90.00	14.00	35.00	●
M10	1.50	10.00	8.00	8.50	100.00	16.00	39.00	●
M12	1.75	9.00	7.00	10.20	110.00	18.50	49.00	●
M16	2.00	12.00	9.00	14.00	110.00	20.00	54.00	●
M20	2.50	16.00	12.00	17.50	140.00	25.00	62.00	●

Taps for ISO metric threads

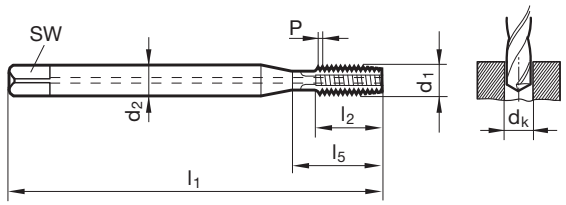
Tool material	**Solid carbide**
Tolerance on Ø	6HX
Surface	◯
Type	H
Form	C
Internal cooling	

SL

P	
M	
K	•
N	≥ 7
S	
H	

GÜHRINGNAVIGATOR
Cutting data page 184

• with internal coolant ≥ M5



DIN 2184-1 DIN 371/DIN 376

Article no. **5593**

Discount group **156**

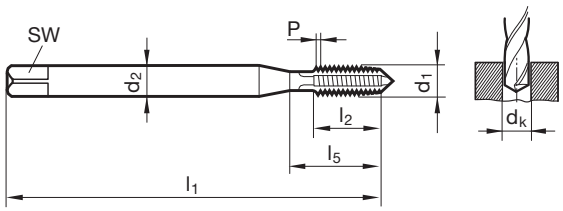
d1	P	d2	SW	dk	l1	l2	l5	Availability
	mm	mm	mm	mm	mm	mm	mm	
M3	0.50	3.50	2.70	2.50	56.00	8.00	18.00	●
M4	0.70	4.50	3.40	3.30	63.00	10.00	21.00	●
M5	0.80	6.00	4.90	4.20	70.00	10.00	25.00	●
M6	1.00	6.00	4.90	5.00	80.00	12.00	30.00	●
M8	1.25	8.00	6.20	6.80	90.00	16.00	35.00	●
M10	1.50	10.00	8.00	8.50	100.00	18.00	39.00	●
M12	1.75	9.00	7.00	10.20	110.00	18.00	49.00	●
M16	2.00	12.00	9.00	14.00	110.00	20.00	54.00	●
M20	2.50	16.00	12.00	17.50	140.00	25.00	62.00	●

Taps for ISO metric threads

P	≤ 1000
M	○
K	
N	
S	
H	

GÜHRINGNAVIGATOR
Cutting data page 186

Tool material	HSS-E	
Tolerance on Ø	ISO2/6H	ISO2/6H
Surface	●	Ⓢ
Type	N	N
Form	B	B
Internal cooling	⊠	⊠
	SL	SL



DIN 2184-1 DIN 371/DIN 376

	Article no.	5561	5586
	Discount group	156	156

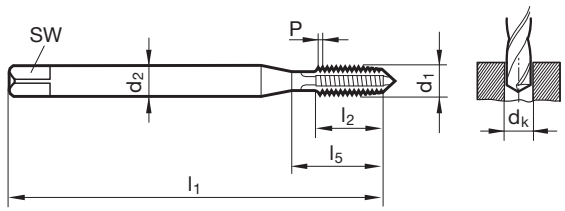
d1	P	d2	SW	dk	l1	l2	l5	Availability	
	mm	mm	mm	mm	mm	mm	mm		
M3	0.50	3.50	2.70	2.50	56.00	10.00	18.00	●	●
M4	0.70	4.50	3.40	3.30	63.00	12.00	21.00	●	●
M5	0.80	6.00	4.90	4.20	70.00	14.00	25.00	●	●
M6	1.00	6.00	4.90	5.00	80.00	16.00	30.00	●	●
M8	1.25	8.00	6.20	6.80	90.00	17.00	35.00	●	●
M10	1.50	10.00	8.00	8.50	100.00	20.00	39.00	●	●
M12	1.75	9.00	7.00	10.20	110.00	24.00	49.00	●	●
M16	2.00	12.00	9.00	14.00	110.00	26.00	54.00	●	●
M20	2.50	16.00	12.00	17.50	140.00	32.00	62.00	●	●

Taps for ISO metric threads

Tool material	HSS-E	
Tolerance on Ø	ISO2/6H	ISO2/6H
Surface		C
Type	H	H
Form	B	B
Internal cooling		
	SL	SL

P	≤ 1200
M	
K	
N	
S	
H	

GÜHRINGNAVIGATOR
Cutting data page 186



DIN 2184-1 DIN 371/DIN 376

	Article no.	5558	5587
	Discount group	156	156

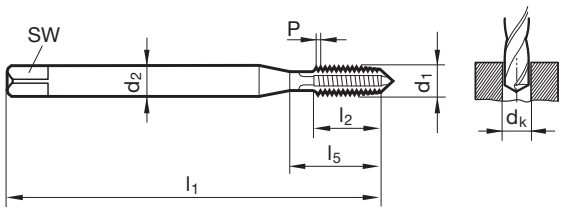
d1	P	d2	SW	dk	l1	l2	l5	Availability	
	mm	mm	mm	mm	mm	mm	mm		
M3	0.50	3.50	2.70	2.50	56.00	10.00	18.00	●	●
M4	0.70	4.50	3.40	3.30	63.00	12.00	21.00	●	●
M5	0.80	6.00	4.90	4.20	70.00	14.00	25.00	●	●
M6	1.00	6.00	4.90	5.00	80.00	16.00	30.00	●	●
M8	1.25	8.00	6.20	6.80	90.00	17.00	35.00	●	●
M10	1.50	10.00	8.00	8.50	100.00	20.00	39.00	●	●
M12	1.75	9.00	7.00	10.20	110.00	24.00	49.00	●	●
M16	2.00	12.00	9.00	14.00	110.00	26.00	54.00	●	●
M20	2.50	16.00	12.00	17.50	140.00	32.00	62.00	●	●

Taps for ISO metric threads

P	≤ 1000
M	•
K	
N	
S	
H	

GÜHRINGNAVIGATOR
Cutting data page 186

Tool material	HSS-E	
Tolerance on Ø	ISO2/6H	ISO2/6H
Surface	●	Ⓢ
Type	VA	VA
Form	B	B
Internal cooling	✕	✕
	SL	SL



DIN 2184-1 DIN 371/DIN 376

	Article no.	5597	5588
	Discount group	156	156

d1	P	d2	SW	dk	l1	l2	l5	Availability	
	mm	mm	mm	mm	mm	mm	mm		
M3	0.50	3.50	2.70	2.50	56.00	10.00	18.00	●	●
M4	0.70	4.50	3.40	3.30	63.00	12.00	21.00	●	●
M5	0.80	6.00	4.90	4.20	70.00	14.00	25.00	●	●
M6	1.00	6.00	4.90	5.00	80.00	16.00	30.00	●	●
M8	1.25	8.00	6.20	6.80	90.00	17.00	35.00	●	●
M10	1.50	10.00	8.00	8.50	100.00	20.00	39.00	●	●
M12	1.75	9.00	7.00	10.20	110.00	24.00	49.00	●	●
M16	2.00	12.00	9.00	14.00	110.00	26.00	54.00	●	●
M20	2.50	16.00	12.00	17.50	140.00	32.00	62.00	●	●

Taps for ISO metric threads

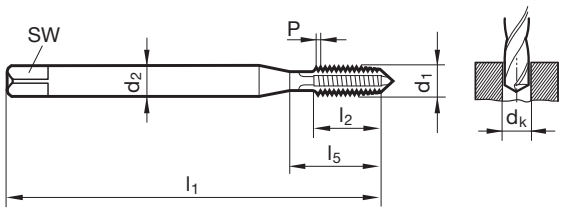
Tool material	HSS-E-PM
Tolerance on Ø	ISO2/6H
Surface	
Type	VA
Form	B
Internal cooling	

SL

P	≤ 1000
M	•
K	
N	
S	
H	

GÜHRINGNAVIGATOR

Cutting data page 186



DIN 2184-1 DIN 371

Article no. **5559**

Discount group **156**

d1	P	d2	SW	dk	l1	l2	l5	Availability
	mm	mm	mm	mm	mm	mm	mm	
M3	0.50	3.50	2.70	2.50	56.00	10.00	18.00	●
M4	0.70	4.50	3.40	3.30	63.00	12.00	21.00	●
M5	0.80	6.00	4.90	4.20	70.00	14.00	25.00	●
M6	1.00	6.00	4.90	5.00	80.00	16.00	30.00	●
M8	1.25	8.00	6.20	6.80	90.00	17.00	35.00	●
M10	1.50	10.00	8.00	8.50	100.00	20.00	39.00	●

Taps for ISO metric threads

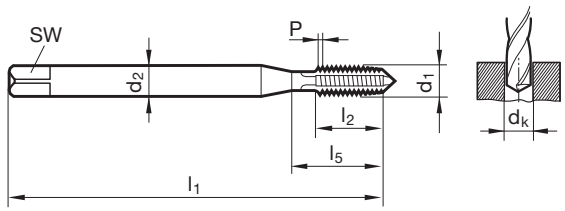
Tool material	HSS-E
Tolerance on Ø	ISO2/6H
Surface	◯
Type	AI
Form	B
Internal cooling	⊠

SL

P	
M	
K	
N	•
S	
H	

GÜHRINGNAVIGATOR

Cutting data page 186



DIN 2184-1 DIN 371/DIN 376

Article no. **5557**

Discount group **156**

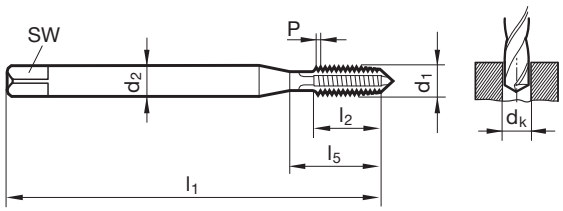
d1	P	d2	SW	dk	l1	l2	l5	Availability
	mm	mm	mm	mm	mm	mm	mm	
M3	0.50	3.50	2.70	2.50	56.00	10.00	18.00	●
M4	0.70	4.50	3.40	3.30	63.00	12.00	21.00	●
M5	0.80	6.00	4.90	4.20	70.00	14.00	25.00	●
M6	1.00	6.00	4.90	5.00	80.00	16.00	30.00	●
M8	1.25	8.00	6.20	6.80	90.00	17.00	35.00	●
M10	1.50	10.00	8.00	8.50	100.00	20.00	39.00	●
M12	1.75	9.00	7.00	10.20	110.00	24.00	49.00	●
M16	2.00	12.00	9.00	14.00	110.00	26.00	54.00	●
M20	2.50	16.00	12.00	17.50	140.00	32.00	62.00	●

Taps for ISO metric threads

Tool material	HSS-E	
Tolerance on Ø	6HX	6HX
Surface	●	F
Type	GG	GG
Form	C	C
Internal cooling	✕	✕
	SL	SL

P
M
K •
N
S
H

GÜHRINGNAVIGATOR
Cutting data page 186



DIN 2184-1 DIN 371/DIN 376

	Article no.	5550	5595
	Discount group	156	156

d1	P	d2	SW	dk	l1	l2	l5	Availability	
	mm	mm	mm	mm	mm	mm	mm		
M3	0.50	3.50	2.70	2.50	56.00	10.00	18.00	●	●
M4	0.70	4.50	3.40	3.30	63.00	12.00	21.00	●	●
M5	0.80	6.00	4.90	4.20	70.00	14.00	25.00	●	●
M6	1.00	6.00	4.90	5.00	80.00	16.00	30.00	●	●
M8	1.25	8.00	6.20	6.80	90.00	17.00	35.00	●	●
M10	1.50	10.00	8.00	8.50	100.00	20.00	39.00	●	●
M12	1.75	9.00	7.00	10.20	110.00	24.00	49.00	●	●
M16	2.00	12.00	9.00	14.00	110.00	26.00	54.00	●	●
M20	2.50	16.00	12.00	17.50	140.00	32.00	62.00	●	●

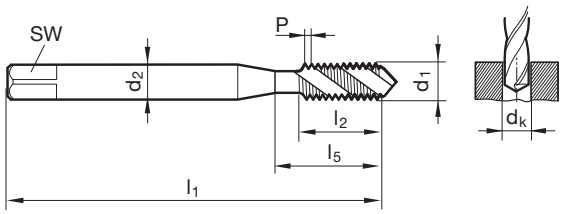
Taps for ISO metric threads

P	•
M	•
K	○
N	○
S	○
H	

GÜHRINGNAVIGATOR

Cutting data page 188

Tool material	HSS-E
Tolerance on Ø	6HX
Surface	A
Type	VA R45
Form	C
Internal cooling	



DIN 2184-1 DIN 371/DIN 376

Article no. **393**

Discount group **103**

d1	P	d2	SW	dk	l1	l2	l5	Availability
	mm	mm	mm	mm	mm	mm	mm	
M2	0.40	2.80	2.10	1.60	45.00	4.50	13.50	●
M2,5	0.45	2.80	2.10	2.05	50.00	5.00	14.50	●
M3	0.50	3.50	2.70	2.50	56.00	6.00	18.00	●
M3,5	0.60	4.00	3.00	2.90	56.00	7.00	20.00	●
M4	0.70	4.50	3.40	3.30	63.00	7.50	21.00	●
M5	0.80	6.00	4.90	4.20	70.00	8.50	25.00	●
M6	1.00	6.00	4.90	5.00	80.00	11.00	30.00	●
M8	1.25	8.00	6.20	6.80	90.00	14.00	35.00	●
M10	1.50	10.00	8.00	8.50	100.00	16.00	39.00	●
M12	1.75	9.00	7.00	10.20	110.00	18.50	49.00	●
M14	2.00	11.00	9.00	12.00	110.00	20.00	53.00	●
M16	2.00	12.00	9.00	14.00	110.00	20.00	54.00	●
M18	2.50	14.00	11.00	15.50	125.00	25.00	62.00	●
M20	2.50	16.00	12.00	17.50	140.00	25.00	62.00	●
M24	3.00	18.00	14.50	21.00	160.00	30.00	73.00	●
M30	3.50	22.00	18.00	26.50	180.00	35.00	85.00	●
M33	3.50	25.00	20.00	29.50	180.00	40.00	91.00	●
M36	4.00	28.00	22.00	32.00	200.00	40.00	102.00	●
M39	4.00	32.00	24.00	35.00	200.00	50.00	107.00	●

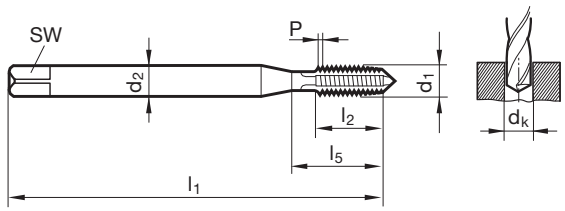
Taps for ISO metric threads

Tool material	HSS-E
Tolerance on Ø	6HX
Surface	S
Type	VA
Form	B
Internal cooling	

P	•
M	•
K	○
N	○
S	○
H	

GÜHRINGNAVIGATOR

Cutting data page 188



DIN 2184-1 DIN 371/DIN 376

Article no. **4218**

Discount group **103**

d1	P	d2	SW	dk	l1	l2	l5	Availability
	mm	mm	mm	mm	mm	mm	mm	
M2	0.40	2.80	2.10	1.60	45.00	8.00	13.50	●
M2,5	0.45	2.80	2.10	2.05	50.00	9.00	14.50	●
M3	0.50	3.50	2.70	2.50	56.00	10.00	18.00	●
M4	0.70	4.50	3.40	3.30	63.00	12.00	21.00	●
M5	0.80	6.00	4.90	4.20	70.00	14.00	25.00	●
M6	1.00	6.00	4.90	5.00	80.00	16.00	30.00	●
M8	1.25	8.00	6.20	6.80	90.00	17.00	35.00	●
M10	1.50	10.00	8.00	8.50	100.00	20.00	39.00	●
M12	1.75	9.00	7.00	10.20	110.00	24.00	49.00	●
M14	2.00	11.00	9.00	12.00	110.00	26.00	53.00	●
M16	2.00	12.00	9.00	14.00	110.00	26.00	54.00	●
M18	2.50	14.00	11.00	15.50	125.00	30.00	62.00	●
M20	2.50	16.00	12.00	17.50	140.00	32.00	62.00	●
M24	3.00	18.00	14.50	21.00	160.00	36.00	73.00	●
M30	3.50	22.00	18.00	26.50	180.00	40.00	85.00	●

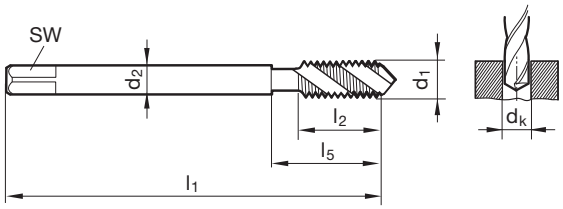
Taps for ISO metric fine threads

P	•
M	•
K	○
N	○
S	○
H	

GÜHRINGNAVIGATOR

Cutting data page 188

Tool material	HSS-E
Tolerance on Ø	6HX
Surface	A
Type	VA R45
Form	C
Internal cooling	



DIN 374 DIN 2184-1

Article no. **394**

Discount group **103**

d1	d2	SW	dk	l1	l2	l5	Code no.	Availability
	mm	mm	mm	mm	mm	mm		
M6 x 0,75	4.50	3.40	5.20	80.00	8.00	30.00	6.004	●
M8 x 0,75	6.00	4.90	7.20	80.00	8.00	30.00	8.004	●
M8 x 1	6.00	4.90	7.00	90.00	11.00	35.00	8.005	●
M10 x 1	7.00	5.50	9.00	90.00	11.00	35.00	10.005	●
M10 x 1,25	7.00	5.50	8.80	100.00	14.00	39.00	10.006	●
M12 x 1	9.00	7.00	11.00	100.00	11.00	40.00	12.005	●
M12 x 1,25	9.00	7.00	10.80	100.00	16.00	40.00	12.006	●
M12 x 1,5	9.00	7.00	10.50	100.00	16.00	40.00	12.007	●
M14 x 1,5	11.00	9.00	12.50	100.00	15.00	40.00	14.007	●
M16 x 1,5	12.00	9.00	14.50	100.00	15.00	44.00	16.007	●
M18 x 1,5	14.00	11.00	16.50	110.00	16.00	44.00	18.007	●
M20 x 1,5	16.00	12.00	18.50	125.00	16.00	44.00	20.007	●
M24 x 1,5	18.00	14.50	22.50	140.00	16.00	48.00	24.007	●

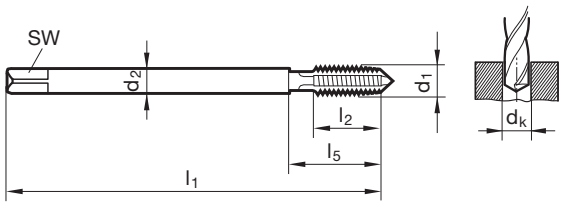
Taps for ISO metric fine threads

Tool material	HSS-E
Tolerance on Ø	6HX
Surface	S
Type	VA
Form	B
Internal cooling	

P	•
M	•
K	○
N	○
S	○
H	

GÜHRINGNAVIGATOR

Cutting data page 188



DIN 374 DIN 2184-1

Article no. **4219**

Discount group **103**

d1	d2	SW	dk	l1	l2	l5	Code no.	Availability
	mm	mm	mm	mm	mm	mm		
M6 x 0,75	4.50	3.40	5.20	80.00	13.00	30.00	6.004	●
M8 x 0,75	6.00	4.90	7.20	80.00	14.00	30.00	8.004	●
M8 x 1	6.00	4.90	7.00	90.00	17.00	35.00	8.005	●
M10 x 1	7.00	5.50	9.00	90.00	16.00	35.00	10.005	●
M10 x 1,25	7.00	5.50	8.80	100.00	20.00	39.00	10.006	●
M12 x 1	9.00	7.00	11.00	100.00	20.00	40.00	12.005	●
M12 x 1,25	9.00	7.00	10.80	100.00	20.00	40.00	12.006	●
M12 x 1,5	9.00	7.00	10.50	100.00	20.00	40.00	12.007	●
M14 x 1,5	11.00	9.00	12.50	100.00	20.00	40.00	14.007	●
M16 x 1,5	12.00	9.00	14.50	100.00	22.00	44.00	16.007	●
M18 x 1,5	14.00	11.00	16.50	110.00	25.00	44.00	18.007	●
M20 x 1,5	16.00	12.00	18.50	125.00	25.00	44.00	20.007	●
M24 x 1,5	18.00	14.50	22.50	140.00	28.00	48.00	24.007	●

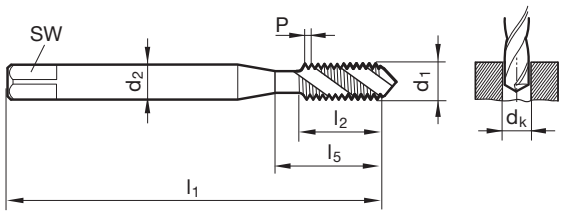
Taps for UNC threads

Tool material	HSS-E
Tolerance on Ø	2BX
Surface	A
Type	VA R45
Form	C
Internal cooling	

P	•
M	•
K	○
N	○
S	○
H	

GÜHRINGNAVIGATOR

Cutting data page 188



~DIN 371/~DIN 376 DIN 2184-1

Article no. **391**

Discount group **103**

d1	d2	SW	dk	l1	l2	l5	Code no.	Availability
	mm	mm	mm	mm	mm	mm		
2 - 56	2.80	2.10	1.85	45.00	5.00	14.50	2.184	●
4 - 40	3.50	2.70	2.35	56.00	7.00	18.00	2.845	●
6 - 32	4.00	3.00	2.85	56.00	8.00	20.00	3.505	●
8 - 32	4.50	3.40	3.50	63.00	8.00	21.00	4.166	●
10 - 24	6.00	4.90	3.90	70.00	11.00	25.00	4.826	●
12 - 24	6.00	4.90	4.50	80.00	11.00	30.00	5.486	●
1/4 - 20	7.00	5.50	5.10	80.00	13.00	30.00	6.350	●
5/16 - 18	8.00	6.20	6.60	90.00	14.00	35.00	7.938	●
3/8 - 16	10.00	8.00	8.00	100.00	16.00	39.00	9.525	●
7/16 - 14	8.00	6.20	9.40	100.00	18.00	42.00	11.113	●
1/2 - 13	9.00	7.00	10.80	110.00	20.00	49.00	12.700	●
9/16 - 12	11.00	9.00	12.20	110.00	21.00	53.00	14.288	●
5/8 - 11	12.00	9.00	13.50	110.00	24.00	53.00	15.875	●
3/4 - 10	14.00	11.00	16.50	125.00	25.00	62.00	19.050	●
7/8 - 9	18.00	14.50	19.50	140.00	28.00	62.00	22.225	●
1 - 8	18.00	14.50	22.25	160.00	32.00	73.00	25.400	●

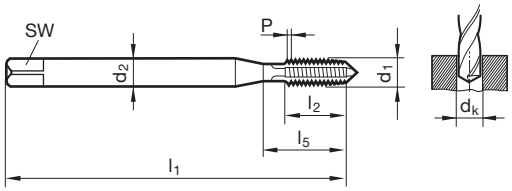
Taps for UNC threads

Tool material	HSS-E
Tolerance on Ø	2BX
Surface	S
Type	VA
Form	B
Internal cooling	

P	•
M	•
K	○
N	○
S	○
H	

GÜHRINGNAVIGATOR

Cutting data page 188



~DIN 371/~DIN 376 DIN 2184-1

Article no. **4642**

Discount group **103**

d1	d2	SW	dk	l1	l2	l5	Code no.	Availability
	mm	mm	mm	mm	mm	mm		
2 - 56	2.80	2.10	1.85	45.00	9.00	14.50	2.184	●
4 - 40	3.50	2.70	2.35	56.00	11.00	18.00	2.845	●
6 - 32	4.00	3.00	2.85	56.00	12.00	20.00	3.505	●
8 - 32	4.50	3.40	3.50	63.00	12.00	21.00	4.166	●
10 - 24	6.00	4.90	3.90	70.00	14.00	25.00	4.826	●
12 - 24	6.00	4.90	4.50	80.00	16.00	30.00	5.486	●
1/4 - 20	7.00	5.50	5.10	80.00	16.00	30.00	6.350	●
5/16 - 18	8.00	6.20	6.60	90.00	18.00	35.00	7.938	●
3/8 - 16	10.00	8.00	8.00	100.00	20.00	39.00	9.525	●
7/16 - 14	8.00	6.20	9.40	100.00	22.00	42.00	11.113	●
1/2 - 13	9.00	7.00	10.80	110.00	25.00	49.00	12.700	●
9/16 - 12	11.00	9.00	12.20	110.00	28.00	53.00	14.288	●
5/8 - 11	12.00	9.00	13.50	110.00	30.00	53.00	15.875	●
3/4 - 10	14.00	11.00	16.50	125.00	33.00	62.00	19.050	●
7/8 - 9	18.00	14.50	19.50	140.00	35.00	62.00	22.225	●
1 - 8	18.00	14.50	22.25	160.00	38.00	73.00	25.400	●

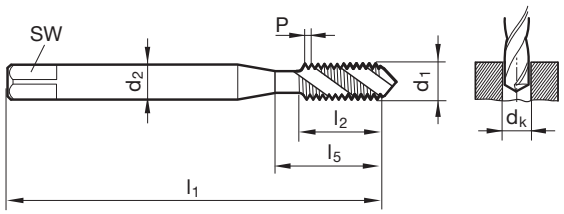
Taps for UNF threads

Tool material	HSS-E
Tolerance on Ø	2BX
Surface	A
Type	VA R45
Form	C
Internal cooling	

P	•
M	•
K	○
N	○
S	○
H	

GÜHRINGNAVIGATOR

Cutting data page 188



~DIN 371/~DIN 374 DIN 2184-1

Article no. **392**

Discount group **103**

d1	d2	SW	dk	l1	l2	l5	Code no.	Availability
	mm	mm	mm	mm	mm	mm		
2 - 64	2.80	2.10	1.85	45.00	5.00	14.50	2.184	●
4 - 48	3.50	2.70	2.40	56.00	6.00	18.00	2.845	●
6 - 40	4.00	3.00	2.95	56.00	6.50	20.00	3.505	●
8 - 36	4.50	3.40	3.50	63.00	7.00	21.00	4.166	●
10 - 32	6.00	4.90	4.10	70.00	8.50	25.00	4.826	●
12 - 28	6.00	4.90	4.60	80.00	9.50	30.00	5.486	●
1/4 - 28	7.00	5.50	5.50	80.00	9.50	30.00	6.350	●
5/16 - 24	8.00	6.20	6.90	90.00	11.50	35.00	7.938	●
3/8 - 24	10.00	8.00	8.50	90.00	11.50	35.00	9.525	●
7/16 - 20	8.00	6.20	9.90	100.00	13.00	42.00	11.113	●
1/2 - 20	9.00	7.00	11.50	100.00	13.00	40.00	12.700	●
9/16 - 18	11.00	9.00	12.90	100.00	14.00	40.00	14.288	●
5/8 - 18	12.00	9.00	14.50	100.00	15.00	44.00	15.875	●
3/4 - 16	14.00	11.00	17.50	110.00	16.00	44.00	19.050	●
7/8 - 14	18.00	14.50	20.40	125.00	19.00	44.00	22.225	●
1 - 12	18.00	14.50	23.25	140.00	22.00	50.00	25.400	●

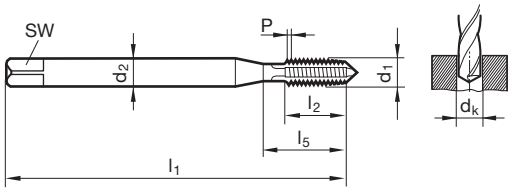
Taps for UNF threads

Tool material	HSS-E
Tolerance on Ø	2BX
Surface	S
Type	VA
Form	B
Internal cooling	

P	•
M	•
K	○
N	○
S	○
H	

GÜHRINGNAVIGATOR

Cutting data page 188



~DIN 371/~DIN 374 DIN 2184-1

Article no. **4643**

Discount group **103**

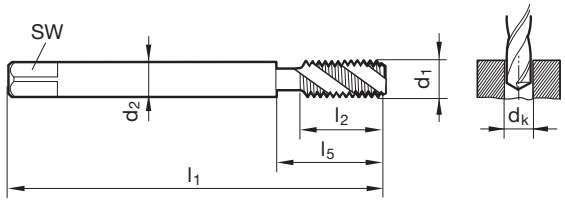
d1	d2	SW	dk	l1	l2	l5	Code no.	Availability
	mm	mm	mm	mm	mm	mm		
2 - 64	2.80	2.10	1.85	45.00	9.00	14.50	2.184	●
4 - 48	3.50	2.70	2.40	56.00	10.00	18.00	2.845	●
6 - 40	4.00	3.00	2.95	56.00	11.00	20.00	3.505	●
8 - 36	4.50	3.40	3.50	63.00	12.00	21.00	4.166	●
10 - 32	6.00	4.90	4.10	70.00	14.00	25.00	4.826	●
12 - 28	6.00	4.90	4.60	80.00	16.00	30.00	5.486	●
1/4 - 28	7.00	5.50	5.50	80.00	16.00	30.00	6.350	●
5/16 - 24	8.00	6.20	6.90	90.00	17.00	35.00	7.938	●
3/8 - 24	10.00	8.00	8.50	90.00	18.00	35.00	9.525	●
7/16 - 20	8.00	6.20	9.90	100.00	22.00	42.00	11.113	●
1/2 - 20	9.00	7.00	11.50	100.00	20.00	40.00	12.700	●
9/16 - 18	11.00	9.00	12.90	100.00	22.00	40.00	14.288	●
5/8 - 18	12.00	9.00	14.50	100.00	22.00	44.00	15.875	●
3/4 - 16	14.00	11.00	17.50	110.00	25.00	44.00	19.050	●
7/8 - 14	18.00	14.50	20.40	125.00	25.00	44.00	22.225	●
1 - 12	18.00	14.50	23.25	140.00	28.00	50.00	25.400	●

Taps for BSP threads

P	•
M	•
K	○
N	○
S	○
H	

GÜHRINGNAVIGATOR
Cutting data page 188

Tool material	HSS-E
Tolerance on Ø	
Surface	A
Type	VA R45
Form	C
Internal cooling	



DIN 5156 DIN 2184-1

Article no. **395**

Discount group **103**

d1	P	d2	SW	dk	l1	l2	l5	Code no.	Availability
		mm	mm	mm	mm	mm	mm		
G1/16	28	6.00	4.90	6.80	90.00	11.00	30.00	7.723	●
G1/8	28	7.00	5.50	8.80	90.00	11.00	35.00	9.728	●
G1/4	19	11.00	9.00	11.80	100.00	14.00	40.00	13.157	●
G3/8	19	12.00	9.00	15.25	100.00	14.00	44.00	16.662	●
G1/2	14	16.00	12.00	19.00	125.00	18.00	44.00	20.955	●
G5/8	14	18.00	14.50	21.00	125.00	18.00	48.00	22.911	●
G3/4	14	20.00	16.00	24.50	140.00	20.00	53.00	26.441	●
G7/8	14	22.00	18.00	28.25	150.00	22.00	53.00	30.201	●
G1	11	25.00	20.00	30.75	160.00	24.00	56.00	33.249	●

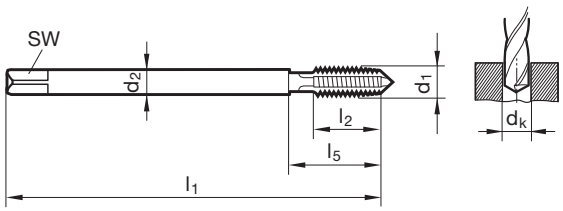
Taps for BSP threads

Tool material	HSS-E
Tolerance on Ø	
Surface	S
Type	VA
Form	B
Internal cooling	

P	•
M	•
K	○
N	○
S	○
H	

GÜHRINGNAVIGATOR

Cutting data page 188



DIN 5156 DIN 2184-1

Article no. **4220**

Discount group **103**

d1	P	d2	SW	dk	l1	l2	l5	Code no.	Availability
		mm	mm	mm	mm	mm	mm		
G1/16	28	6.00	4.90	6.80	90.00	18.00	30.00	7.723	●
G1/8	28	7.00	5.50	8.80	90.00	18.00	35.00	9.728	●
G1/4	19	11.00	9.00	11.80	100.00	20.00	40.00	13.157	●
G3/8	19	12.00	9.00	15.25	100.00	22.00	44.00	16.662	●
G1/2	14	16.00	12.00	19.00	125.00	25.00	44.00	20.955	●
G5/8	14	18.00	14.50	21.00	125.00	25.00	48.00	22.911	●
G3/4	14	20.00	16.00	24.50	140.00	28.00	53.00	26.441	●
G7/8	14	22.00	18.00	28.25	150.00	28.00	53.00	30.201	●
G1	11	25.00	20.00	30.75	160.00	30.00	56.00	33.249	●

Fluteless taps for ISO metric threads

Tool material	HSS-E
Tolerance on Ø	6HX
Surface	S
Type	N
Form	C
Internal cooling	

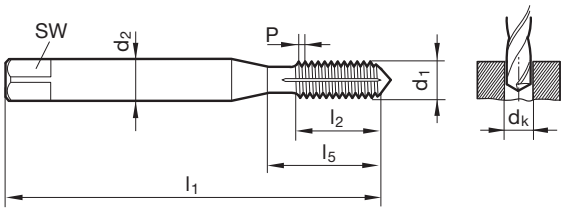
SL

P	•
M	•
K	
N	○
S	•
H	

GÜHRINGNAVIGATOR

Cutting data page 186

• with oil grooves ≥ M3



~DIN 371 DIN 2174

Article no. **5598**

Discount group **156**

d1	P	d2	SW	dk	l1	l2	l5	Code no.	Availability
	mm	mm	mm	mm	mm	mm	mm		
M1	0.250	2.50	2.10	0.90	40.00	4.00	4.00	1.000	●
M1,2	0.250	2.50	2.10	1.10	40.00	4.80	4.80	1.200	●
M1,4	0.300	2.50	2.10	1.25	40.00	5.60	5.60	1.400	●
M1,6	0.350	2.50	2.10	1.45	40.00	6.40	6.40	1.600	●
M1,7	0.350	2.50	2.10	1.55	40.00	6.80	6.80	1.700	●
M1,8	0.350	2.50	2.10	1.65	40.00	7.30	7.30	1.800	●
M2	0.400	2.80	2.10	1.85	45.00	8.00	13.50	2.000	●
M2,5	0.450	2.80	2.10	2.30	50.00	9.00	14.50	2.500	●
M3	0.500	3.50	2.70	2.80	56.00	10.00	18.00	3.000	●
M4	0.700	4.50	3.40	3.70	63.00	12.00	21.00	4.000	●
M5	0.800	6.00	4.90	4.65	70.00	14.00	25.00	5.000	●
M6	1.000	6.00	4.90	5.55	80.00	16.00	30.00	6.000	●
M8	1.250	8.00	6.20	7.40	90.00	17.00	35.00	8.000	●
M10	1.500	10.00	8.00	9.30	100.00	20.00	39.00	10.000	●

Fluteless taps for ISO metric threads

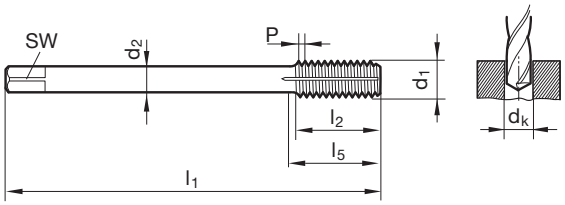
Tool material	HSS-E
Tolerance on Ø	6HX
Surface	S
Type	N
Form	C
Internal cooling	

SL

P	•
M	•
K	
N	○
S	•
H	

GÜHRINGNAVIGATOR

Cutting data page 186



~DIN 376 DIN 2174

Article no. **5599**

Discount group **156**

d1	P	d2	SW	dk	l1	l2	l5	Code no.	Availability
	mm	mm	mm	mm	mm	mm	mm		
M12	1.750	9.00	7.00	11.20	110.00	24.00	49.00	12.000	●
M14	2.000	11.00	9.00	13.10	110.00	26.00	53.00	14.000	●
M16	2.000	12.00	9.00	15.10	110.00	26.00	54.00	16.000	●

Fluteless taps for ISO metric threads

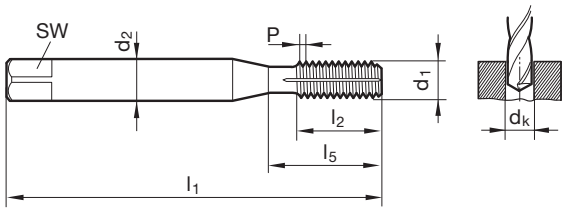
Tool material	HSS-E-PM
Tolerance on Ø	4HX/6HX
Surface	C
Type	N
Form	C
Internal cooling	

P	•
M	•
K	•
N	○
S	•
H	

GÜHRINGNAVIGATOR

Cutting data page 186

- with oil grooves ≥ M2
- Ø tolerance M1.4 = 4HX



~DIN 371/~DIN 376 DIN 2174

Article no. **4487**

Discount group **208**

d1	P	d2	SW	dk	l1	l2	l5	Code no.	Availability
	mm	mm	mm	mm	mm	mm	mm		
M1	0.250	2.50	2.10	0.90	40.00	4.00	4.00	1.000	●
M1,2	0.250	2.50	2.10	1.10	40.00	4.80	4.80	1.200	●
M1,4	0.300	2.50	2.10	1.25	40.00	5.60	5.60	1.400	●
M1,6	0.350	2.50	2.10	1.45	40.00	6.40	6.40	1.600	●
M1,7	0.350	2.50	2.10	1.55	40.00	6.80	6.80	1.700	●
M1,8	0.350	2.50	2.10	1.65	40.00	7.30	7.30	1.800	●
M2	0.400	2.80	2.10	1.85	45.00	8.00	13.50	2.000	●
M2,5	0.450	2.80	2.10	2.30	50.00	9.00	14.50	2.500	●
M3	0.500	3.50	2.70	2.80	56.00	10.00	18.00	3.000	●
M4	0.700	4.50	3.40	3.70	63.00	12.00	21.00	4.000	●
M5	0.800	6.00	4.90	4.65	70.00	14.00	25.00	5.000	●
M6	1.000	6.00	4.90	5.55	80.00	16.00	30.00	6.000	●
M8	1.250	8.00	6.20	7.40	90.00	17.00	35.00	8.000	●
M10	1.500	10.00	8.00	9.30	100.00	20.00	39.00	10.000	●
M12	1.750	9.00	7.00	11.20	110.00	24.00	49.00	12.000	●
M14	2.000	11.00	9.00	13.10	110.00	26.00	53.00	14.000	●
M16	2.000	12.00	9.00	15.10	110.00	26.00	54.00	16.000	●
M20	2.500	16.00	12.00	18.90	140.00	32.00	62.00	20.000	●

Micro thread milling cutters

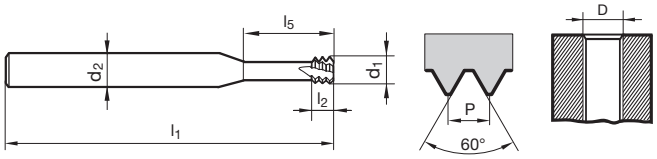
3xD

P	•
M	•
K	•
N	•
S	•
H	≤ 55

GÜHRINGNAVIGATOR

Cutting data page 184

Tool material	**Solid carbide**
Tolerance on Ø	
Surface	C
Type	MTM3 SP
Shank form	DIN 6535-HA
Internal cooling	



Article no.	**4226**
Discount group	**108**

D	P	d1	d2	l1	l2	l5	Z	Code no.	Availability
	mm	mm	mm	mm	mm	mm			
M1,6	0.350	1.200	3.00	39.00	1.10	4.800	3	1.600	●
M1,8	0.350	1.400	3.00	39.00	1.10	5.400	3	1.800	●
M2	0.400	1.550	3.00	39.00	1.20	6.000	4	2.000	●
M2,5	0.450	1.950	3.00	39.00	1.40	7.500	4	2.500	●
M3	0.500	2.400	6.00	58.00	1.50	9.500	4	3.000	●
M3,5	0.600	2.800	6.00	58.00	1.80	11.000	4	3.500	●
M4	0.700	3.200	6.00	58.00	2.10	12.500	4	4.000	●
M5	0.800	4.000	6.00	58.00	2.40	16.000	4	5.000	●
M6	1.000	4.800	6.00	58.00	3.00	20.000	4	6.000	●
M8	1.250	5.950	6.00	58.00	3.80	24.000	4	8.000	●
M10	1.500	7.800	8.00	73.00	4.50	33.000	4	10.000	●
M12	1.750	9.000	10.00	84.00	5.30	38.000	4	12.000	●
M16	2.000	11.800	12.00	84.00	6.00	35.000	5	16.000	●

Micro thread milling cutters

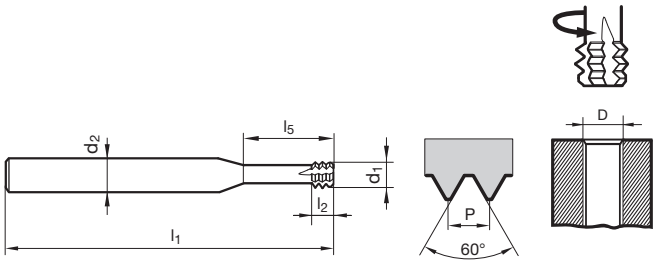
2,5xD

P	•
M	•
K	•
N	•
S	•
H	≤ 65

GÜHRINGNAVIGATOR
Cutting data page 184

- with cooling grooves
- rotating direction left-hand

Tool material	**Solid carbide**
Tolerance on Ø	
Surface	
Type	MTMH3-Z
Shank form	~DIN 6535-HB
Internal cooling	



Article no.	**4002**
Discount group	**108**

D	P	d1	d2	l1	l2	l5	Z	Code no.	Availability
	mm	mm	mm	mm	mm	mm			
M2	0.400	1.400	3.00	39.00	1.20	5.000	4	2.000	●
M2,5	0.450	1.800	3.00	39.00	1.30	6.500	4	2.500	●
M3	0.500	2.400	6.00	58.00	1.50	7.500	4	3.000	●
M3,5	0.600	2.700	6.00	58.00	1.80	9.000	4	3.500	●
M4	0.700	3.100	6.00	58.00	2.10	10.000	4	4.000	●
M5	0.800	3.800	6.00	58.00	2.40	12.500	4	5.000	●
M6	1.000	4.600	8.00	64.00	3.00	15.000	4	6.000	●
M8	1.250	6.200	8.00	64.00	3.60	20.000	4	8.000	●
M10	1.500	7.500	10.00	73.00	4.50	25.000	4	10.000	●
M12	1.750	9.000	10.00	73.00	5.20	30.000	4	12.000	●
M16	2.000	11.500	12.00	90.00	6.00	40.000	4	16.000	●

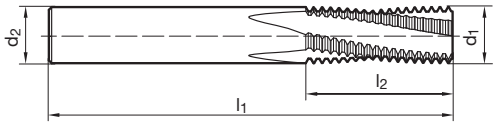
Thread milling cutters without chamfer for ISO metric threads

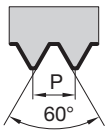
P	•
M	○
K	•
N	•
S	•
H	≤ 55

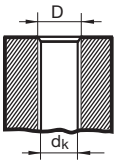
GÜHRINGNAVIGATOR

Cutting data page 184

Tool material	Solid carbide	
Tolerance on Ø		
Surface	C	C
Type	TM SP	TM SP
Shank form	HB	HA
Internal cooling		
	SL	SL







Company std.

	Article no.	5547	5548
	Discount group	153	153

D	P	d1	d2	dk	l1	l2	Z	Code no.	Availability	
	mm	mm	mm	mm	mm	mm				
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	●	●
M10	1.500	7.950	10.000	8.50	74.000	21.800	3	10.000	●	●
M12	1.750	9.950	10.000	10.20	74.000	25.400	4	12.000	●	●
M14	2.000	11.200	12.000	12.00	90.000	31.000	4	14.000	●	●
M16	2.000	12.800	14.000	14.00	90.000	35.000	4	16.000	●	●
M20	2.500	14.950	16.000	17.50	102.000	41.300	4	20.000	●	●

Pionex

GUHRINGNAVIGATOR

Article no.
Thread type
Tolerance
Standard/DIN
Tool material
Type/Form
Surface finish
Cooling
Shank tolerance
Std. range page

Milling part Ø mm	Feed column no. art. no. 5547/5548					
	1	2	3	4	5	6
	f_z (mm/tooth) up-cut milling					
4.80	0.010	0.020	0.025	0.030	0.045	0.050
6.40	0.012	0.025	0.030	0.035	0.050	0.055
7.95	0.018	0.030	0.040	0.050	0.060	0.060
9.95	0.020	0.040	0.050	0.060	0.070	0.075
11.20	0.022	0.045	0.050	0.060	0.080	0.085
12.80	0.025	0.050	0.050	0.065	0.085	0.090
14.95	0.030	0.050	0.055	0.065	0.090	0.100

Milling part Ø mm	Feed column no. art. no. 4002/4226							
	1	2	3	4	5	6	7	8
	f_z (mm/tooth)							
≤ 1.6	0.005	0.007	0.008	x	0.010	0.010	0.020	0.020
≤ 2.0	0.005	0.007	0.008	0.010	0.020	0.020	0.030	0.030
≤ 2.5	0.008	0.010	0.012	0.010	0.020	0.020	0.030	0.030
≤ 3.0	0.009	0.011	0.014	0.015	0.025	0.020	0.035	0.040
≤ 3.7	0.010	0.012	0.016	0.020	0.020	0.025	0.040	0.045
≤ 4.0	0.014	0.016	0.020	0.020	0.030	0.025	0.040	0.045
≤ 5.0	0.018	0.020	0.024	0.025	0.030	0.030	0.045	0.050
≤ 7.0	0.022	0.025	0.030	0.030	0.035	0.040	0.050	0.055
≤ 8.0	0.028	0.030	0.036	0.035	0.040	0.050	0.060	0.070
≤ 9.0	0.033	0.036	0.040	0.040	0.050	0.055	0.065	0.080
≤ 12.0	0.042	0.044	0.048	0.045	0.055	0.060	0.070	0.090

Cooling:
⊠ without coolant ducts

Coolant:
○ Air
● Neat oil
● Soluble oil
△ Paste

Material group	Material examples Figures in bold = material no. to DIN EN 10 027	Tensile strength MPa (N/mm²)	Hardness	Coolant
Common structural steels	**1.0035** S185(St33), **1.0486** P275N(StE285), **1.0345** P235GH(H1), **1.0425** P265GH(H2)	≤500		●●△
	1.0050 E295 (St50-2), **1.0070** E360 (St70-2), **1.8937** P500NH (WStE500)	≤1000		●●△
Free-cutting steels	**1.0718** 11SMnPb30 (9SMnPb28), **1.0736** 11SMn37 (9SMn36)	≤850		●●△
	1.0727 46S20 (45S20), **1.0728** (60S20), **1.0757** 46SPb20 (45SPb20)	≤1000		●●△
Unalloyed heat-treatable steels	**1.0402** C22, **1.1178** C30E (Ck30)	≤700		●●△
	1.0503 C45, **1.1191** C45E (Ck45)	≤850		●●△
	1.0601 C60, **1.1221** C60E (Ck60)	≤1000		●●△
Alloyed heat-treatable steels	**1.5131** 50MnSi4, **1.7003** 38Cr2, **1.7030** 28Cr4	≤1000		●●△
	1.5710 36NiCr6, **1.7035** 41Cr4, **1.7225** 42CrMo4	≤1400		●●△
Unalloyed case hardened steels	**1.0301** (C10), **1.1121** C10E (Ck10)	≤850		●●△
Alloyed case hardened steels	**1.7276** 10CrMo11, **1.5125** 11MnSi6	≤1000		●●△
	1.5752 15NiCr13, **1.7131** 16MnCr5, **1.7264** 20CrMo5	≤1400		●●△
Nitriding steels	**1.8504** 34CrAl6	≤1000		●●△
	1.8519 31CrMoV9, **1.8550** 34CrAlNi7	≤1400		●●△
Tool steels	**1.1750** C75W, **1.2067** 102Cr6, **1.2307** 29CrMoV9	≤850		●●△
	1.2080 X210Cr12, **1.2083** X42Cr13, **1.2419** 105WCr6, **1.2767** X45NiCrMo4	≤1400		●●△
High speed steels	**1.3243** S 6-5-2-5, **1.3343** S 6-5-2, **1.3344** S 6-5-3	≤1400		●●△
Spring steels	**1.5026** 55Si7, **1.7176** 55Cr3, **1.8159** 51CrV4 (51CrV4)		≤350 HB	●△●
Hardened steels	–		≤48 HRC	●●
			≤66 HRC	●△●
Stainless steels, sulphured	**1.4005** X12CrS13, **1.4104** X14CrMoS17, **1.4105** X6CrMoS17, **1.4305** X8CrNiS18-9	≤900		●△●
austenitic	**1.4301** X5CrNi18-10 (V2A), **1.4541** X6CrNiTi18-10, **1.4571** X6CrNiMoTi 17-12-2 (V4A)	≤1100		●△●
martensitic	**1.4057** X20CrNi172 (X17CrNi16-2), **1.4122** X39CrMo17-1, **1.4521** X2CrMoTi18-2	≤1500		●△●
Cast iron	**0.6010** EN-GJL-100 (GG10), **0.6020** EN-GJL-200 (GG20)		≤240 HB	●●
	0.6025 EN-GJL-250 (GG25), **0.6035** EN-GJL-350 (GG35)		≤350 HB	●●
Spheroidal graphite iron and malleable cast iron	**0.7050** EN-GJS-500-7 (GGG50), **0.8035** EN-GJMW-350-4 (GTW35)		≤240 HB	●●
	0.7070 EN-GJS-700-2 (GGG70), **0.8170** EN-GJMB-700-2 (GTS70)		≤350 HB	●●
Chilled cast iron	–		≤350 HB	●●
New cast materials GGV	**EN-GJV250** (GGV25), **EN-GJV350** (GGV35)		≤220 HB	●●
	EN-GJV400 (GGV40), **EN-GJV500** (GGV50), SiMo 6		≤300 HB	●●
New cast materials ADI	**EN-GJS-800-8** (ADI800), **EN-GJS-1000-5** (ADI1000)	≤1000		●●
	EN-GJS-1200-2 (ADI1200), **EN-GJS-1400-1** (ADI1400)	≤1400		●●
Special alloys	Nimonic, Inconel, Monel, Hastelloy	≤2000		●●
Ti and Ti alloys	**3.7024** Ti99,5, **3.7114** TiAl5Sn2,5, **3.7124** TiCu2	≤850		●●
	3.7154 TiAl6Zr5, **3.7165** TiAl6V4, **3.7184** TiAl4Mo4Sn2,5, - TiAl8Mo1V1	≤1400		●●
Aluminium and Al alloys	**3.0255** Al99,5, **3.2315** AlMgSi1, **3.3515** AlMg1	≤400		○△●
Al wrought alloys	**3.0615** AlMgSiPb, **3.1325** AlCuMg1, **3.3245** AlMg3Si, **3.4365** AlZnMgCu1,5	≤650		○△●
Al cast alloys ≤ 10 % Si	**3.2131** G-AlSi5Cu1, **3.2153** G-AlSi7Cu3, **3.2573** G-AlSi9	≤600		○△●
≤ 24 % Si	**3.2581** G-AlSi12, **3.2583** G-AlSi12Cu, - G-AlSi12CuNiMg	≤600		○△●
Magnesium alloys	**3.5200** MgMn2, **3.5812.05** G-MgAl8Zn1, **3.5612.05** G-MgAl6Zn1	≤400		○△●
Copper, low-alloyed	**2.0070** SE-Cu, **2.1020** CuSn6, **2.1096** G-CuSn5ZnPb	≤500		○△●
Brass, short-chipping	**2.0380** CuZn39Pb2, **2.0401** CuZn39Pb3, **2.0410** CuZn43Pb2	≤600		○△●
long-chipping	**2.0250** CuZn20, **2.0280** CuZn33, **2.0332** CuZn37Pb0,5	≤600		○△●
Bronze, short-chipping	**2.1090** CuSn7ZnPb, **2.1170** CuPb5Sn5, **2.1176** CuPb10Sn	≤600		○△●
	2.0790 CuNi18Zn19Pb	≤850		○△●
Bronze, long-chipping	**2.0916** CuAl5, **2.0960** CuAl9Mn, **2.1050** CuSn10	≤850		○△●
	2.0980 CuAl11Ni, **2.1247** CuBe2	≤1000		○△●
Duroplastics	Bakelit, Resopal, Pertinax, Moltopren	≤150		○
Thermoplastics	Plexiglass, Hostalen, Novodur, Makralon	≤100		○
Kevlar	Kevlar	≤1000		○
Glass, carbon concentr. plastics	GFK/CFK	≤1000		○

≤3xD	≤3xD	≤3xD	≤3xD	≤3xD	≤3xD	≤3xD	≤3xD	≤2xD		≤2xD		≤2,5xD		≤3xD	
5555	5594	5552	5591	5553	5596	5551	5593	5547		5548		4002		4226	
M	M	M	M	M	M	M	M	M		M		M		M	
6H	6H	6H	6H	6H	6H	6H	6HX								
371/376	371/376	371/376	371/376	371/376	371/376	371/376	371/376	Comp. std.		Comp. std.		Comp. std.		Comp. std.	
HSS-E	HSS-E	HSS-E	HSS-E	HSS-E	HSS-E	HSS-E	Solid carb.	Solid carb.		Solid carb.		Solid carb.		Solid carb.	
N R40/C	N R40/C	H R40/C	H R40/C	VA R40/C	VA R40/C	AI R45/C	H/C	TM SP/HB		TM SP/HA		MTMH3-Z		MTM3 SP	
●	Ⓢ	●	Ⓒ	●	Ⓢ	○	○	Ⓒ		Ⓒ		●		Ⓒ	
☒	☒	☒	☒	☒	☒	☒	axial	☒		axial		☒		☒	
h9	h9	h9	h9	h9	h9	h9	h6	h6		h6		h6		h6	
156	156	157	157	158	158	159	160	182		182		181		180	
v_c m/min	v_c m/min	v_c m/min	v_c m/min	v_c m/min	v_c m/min	v_c m/min	v_c m/min	v_c m/min	Feed col. no.	v_c m/min	Feed col. no.	v_c m/min	Feed col. no.	v_c m/min	Feed col. no.
10	15							*110*	4	*110*	4	*80*	3	*90*	6
10	15							*110*	4	*110*	4	*80*	3	*90*	6
10	15							*110*	4	*110*	4	*70*	3	*80*	6
8	10							*110*	4	*110*	4	*70*	3	*80*	6
10	15							*110*	4	*110*	4	*80*	3	*90*	6
10	15							*110*	4	*110*	4	*80*	3	*90*	6
8	10							*110*	4	*110*	4	*80*	3	*90*	6
4	6	8	10					*90*	3	*90*	3	*70*	2	*70*	6
		6	8					*90*	3	*90*	3	*70*	2	*70*	6
10	15							*110*	4	*110*	4	*70*	3	*80*	6
4	6	8	10					*90*	3	*90*	3	*70*	2	*70*	6
		6	8					*90*	3	*90*	3	*70*	2	*70*	6
4	6	8	10					*90*	3	*90*	3	*70*	2	*70*	6
		6	8					*90*	3	*90*	3	*70*	2	*70*	6
4	6	8	10					*90*	3	*90*	3	*70*	2	*70*	6
		6	8					*90*	3	*90*	3	*70*	2	*70*	6
		6	8					*90*	3	*90*	3	*70*	2	*70*	6
								90	3	*90*	3	*70*	2	*70*	6
								25	1	*25*	1	*40*	2	*45*	4
												30	1		
				8	10			*60*	2	*60*	2	*55*	2	*55*	5
				8	10			*60*	2	*60*	2	*55*	2	*55*	5
				4	6			*60*	2	*60*	2	*50*	2	*50*	5
							45	*120*	4	*120*	4	*80*	3	*120*	6
							45	*120*	4	*120*	4	*80*	3	*120*	6
							35	*120*	4	*120*	4	*75*	3	*100*	6
							35	*120*	4	*120*	4	*75*	3	*100*	6
							30	*100*	3	*100*	3	*65*	2	*80*	6
							30	*120*	4	*120*	4	*65*	2	*80*	6
							30	*120*	4	*120*	4	*65*	2	*80*	6
							30	*100*	3	*100*	3	*65*	2	*80*	6
							30	*100*	3	*100*	3	*50*	2	*60*	6
								35	2	*35*	2	*45*	2	*30*	5
								35	2	*35*	2	*45*	2	*40*	5
								35	2	*35*	2	*45*	2	*40*	5
						15		*250*	5	*250*	5			*250*	7
						15		*250*	5	*250*	5			*250*	7
							50	*250*	5	*250*	5	*120*	2	*230*	7
							50	*250*	5	*250*	5	*100*	2	*180*	7
								250	5	*250*	5			*180*	7
						15		*250*	5	*250*	5	*80*	3	*130*	6
							50	*250*	5	*250*	5	*80*	3	*130*	6
						15		*250*	5	*250*	5	*80*	3	*130*	6
								250	5	*250*	5	*80*	3	*130*	6
								250	5	*250*	5	*80*	3	*130*	6
						15	15	*250*	5	*250*	5	*80*	3	*130*	6
						15	15	*250*	5	*250*	5	*80*	3	*130*	6
								350	5	*350*	5			*300*	8
								350	6	*350*	6			*300*	8

GUHRINGNAVIGATOR

Article no.
Thread type
Tolerance
Standard/DIN
Tool material
Type/Form
Surface finish
Cooling
Shank tolerance
Std. range page

Cooling:
⊠ without coolant ducts

Coolant:
○ Air
● Neat oil
◍ Soluble oil
△ Paste

Material group	Material examples Figures in bold = material no. to DIN EN 10 027	Tensile strength MPa (N/mm²)	Hardness	Coolant
Common structural steels	**1.0035** S185(St33), **1.0486** P275N(StE285), **1.0345** P235GH(H1), **1.0425** P265GH(H2)	≤500		◍●△
	1.0050 E295 (St50-2), **1.0070** E360 (St70-2), **1.8937** P500NH (WStE500)	≤1000		◍●△
Free-cutting steels	**1.0718** 11SMnPb30 (9SMnPb28), **1.0736** 11SMn37 (9SMn36)	≤850		◍●△
	1.0727 46S20 (45S20), **1.0728** (60S20), **1.0757** 46SPb20 (45SPb20)	≤1000		◍●△
Unalloyed heat-treatable steels	**1.0402** C22, **1.1178** C30E (Ck30)	≤700		◍●△
	1.0503 C45, **1.1191** C45E (Ck45)	≤850		◍●△
	1.0601 C60, **1.1221** C60E (Ck60)	≤1000		◍●△
Alloyed heat-treatable steels	**1.5131** 50MnSi4, **1.7003** 38Cr2, **1.7030** 28Cr4	≤1000		◍●△
	1.5710 36NiCr6, **1.7035** 41Cr4, **1.7225** 42CrMo4	≤1400		◍●△
Unalloyed case hardened steels	**1.0301** (C10), **1.1121** C10E (Ck10)	≤850		◍●△
Alloyed case hardened steels	**1.7276** 10CrMo11, **1.5125** 11MnSi6	≤1000		◍●△
	1.5752 15NiCr13, **1.7131** 16MnCr5, **1.7264** 20CrMo5	≤1400		◍●△
Nitriding steels	**1.8504** 34CrAl6	≤1000		◍●△
	1.8519 31CrMoV9, **1.8550** 34CrAlNi7	≤1400		◍●△
Tool steels	**1.1750** C75W, **1.2067** 102Cr6, **1.2307** 29CrMoV9	≤850		◍●△
	1.2080 X210Cr12, **1.2083** X42Cr13, **1.2419** 105WCr6, **1.2767** X45NiCrMo4	≤1400		◍●△
High speed steels	**1.3243** S 6-5-2-5, **1.3343** S 6-5-2, **1.3344** S 6-5-3	≤1400		◍●△
Spring steels	**1.5026** 55Si7, **1.7176** 55Cr3, **1.8159** 51CrV4 (51CrV4)		≤350 HB	●△◍
Hardened steels	–		≤48 HRC	●◍
			≤66 HRC	●△◍
Stainless steels, sulphured	**1.4005** X12CrS13, **1.4104** X14CrMoS17, **1.4105** X6CrMoS17, **1.4305** X8CrNiS18-9	≤900		●△◍
austenitic	**1.4301** X5CrNi18-10 (V2A), **1.4541** X6CrNiTi18-10, **1.4571** X6CrNiMoTi 17-12-2 (V4A)	≤1100		●△◍
martensitic	**1.4057** X20CrNi172 (X17CrNi16-2), **1.4122** X39CrMo17-1, **1.4521** X2CrMoTi18-2	≤1500		●△◍
Cast iron	**0.6010** EN-GJL-100 (GG10), **0.6020** EN-GJL-200 (GG20)		≤240 HB	◍●
	0.6025 EN-GJL-250 (GG25), **0.6035** EN-GJL-350 (GG35)		≤350 HB	◍●
Spheroidal graphite iron and malleable cast iron	**0.7050** EN-GJS-500-7 (GGG50), **0.8035** EN-GJMW-350-4 (GTW35)		≤240 HB	◍●
	0.7070 EN-GJS-700-2 (GGG70), **0.8170** EN-GJMB-700-2 (GTS70)		≤350 HB	◍●
Chilled cast iron	–		≤350 HB	◍●
New cast materials GGV	**EN-GJV250** (GGV25), **EN-GJV350** (GGV35)		≤220 HB	◍●
	EN-GJV400 (GGV40), **EN-GJV500** (GGV50), SiMo 6		≤300 HB	◍●
New cast materials ADI	**EN-GJS-800-8** (ADI800), **EN-GJS-1000-5** (ADI1000)	≤1000		◍●
	EN-GJS-1200-2 (ADI1200), **EN-GJS-1400-1** (ADI1400)	≤1400		◍●
Special alloys	Nimonic, Inconel, Monel, Hastelloy	≤2000		●◍
Ti and Ti alloys	**3.7024** Ti99,5, **3.7114** TiAl5Sn2,5, **3.7124** TiCu2	≤850		●◍
	3.7154 TiAl6Zr5, **3.7165** TiAl6V4, **3.7184** TiAl4Mo4Sn2,5, - TiAl8Mo1V1	≤1400		●◍
Aluminium and Al alloys	**3.0255** Al99,5, **3.2315** AlMgSi1, **3.3515** AlMg1	≤400		◍△●
Al wrought alloys	**3.0615** AlMgSiPb, **3.1325** AlCuMg1, **3.3245** AlMg3Si, **3.4365** AlZnMgCu1,5	≤650		◍△●
Al cast alloys ≤ 10 % Si	**3.2131** G-AlSi5Cu1, **3.2153** G-AlSi7Cu3, **3.2573** G-AlSi9	≤600		◍△●
≤ 24 % Si	**3.2581** G-AlSi12, **3.2583** G-AlSi12Cu, - G-AlSi12CuNiMg	≤600		◍△●
Magnesium alloys	**3.5200** MgMn2, **3.5812.05** G-MgAl8Zn1, **3.5612.05** G-MgAl6Zn1	≤400		◍△●
Copper, low-alloyed	**2.0070** SE-Cu, **2.1020** CuSn6, **2.1096** G-CuSn5ZnPb	≤500		◍△●
Brass, short-chipping	**2.0380** CuZn39Pb2, **2.0401** CuZn39Pb3, **2.0410** CuZn43Pb2	≤600		◍△●
long-chipping	**2.0250** CuZn20, **2.0280** CuZn33, **2.0332** CuZn37Pb0,5	≤600		◍△●
Bronze, short-chipping	**2.1090** CuSn7ZnPb, **2.1170** CuPb5Sn5, **2.1176** CuPb10Sn	≤600		◍△●
	2.0790 CuNi18Zn19Pb	≤850		◍△●
Bronze, long-chipping	**2.0916** CuAl5, **2.0960** CuAl9Mn, **2.1050** CuSn10	≤850		◍△●
	2.0980 CuAl11Ni, **2.1247** CuBe2	≤1000		◍△●
Duroplastics	Bakelit, Resopal, Pertinax, Moltopren	≤150		◍
Thermoplastics	Plexiglass, Hostalen, Novodur, Makralon	≤100		◍
Kevlar	Kevlar	≤1000		◍
Glass, carbon concentr. plastics	GFK/CFK	≤1000		◍

≤3xD	≤3xD	≤3xD	≤3xD	≤3xD	≤3xD	≤3xD	≤3xD	≤3xD	≤3xD	Former		
5561	5586	5558	5587	5597	5588	5559	5557	5550	5595	5598	5599	4487
M	M	M	M	M	M	M	M	M	M	M	M	M
6H	6H	6H	6H	6H	6H	6H	6H	6HX	6HX	6HX	6HX	6HX/6HX
371/376	371/376	371/376	371/376	371/376	371/376	371	371/376	371/376	371/376	~371	~376	~371/376
HSS-E	HSS-E	HSS-E	HSS-E	HSS-E	HSS-E	HSS-E-PM	HSS-E	HSS-E	HSS-E	HSS-E	HSS-E	HSS-E-PM
N/B	N/B	H/B	H/B	VA/B	VA/B	VA/B	Al/B	GG/C	GG/C	N/C	N/C	N/C
	S		C		S				F	S	S	S
h9	h9	h9	h9	h9	h9	h9	h9	h9	h9	h9	h9	h9
161	161	162	162	163	163	164	165	166	166	177	178	179

v_c m/min	v_c m/min	v_c m/min	v_c m/min	v_c m/min	v_c m/min	v_c m/min	v_c m/min	v_c m/min	v_c m/min	v_c m/min	v_c m/min	v_c m/min
12	15			8	10	12				15	15	25
12	15			8	10	12				15	15	25
10	12			6	8	10				15	15	25
10	12			6	8	10				15	15	25
12	15			8	10	12				15	15	25
12	15			6	10	12				15	15	25
10	12			6	8	10				12	12	25
6	8	10	12	4	4	6				12	12	15
		8	10							8	8	15
12	15			8	10	12				15	15	25
6	8	10	12		4	6				15	15	15
		8	10							8	8	15
6	8	10	12		4	6				15	15	25
		8	10							8	8	25
		10	12							12	12	15
		8	10							8	8	15
		8	10							8	8	15
		8	10							10	10	15
4	6			8	10	8				6	6	15
4	6			8	10	8				6	6	15
				6	8	6				4	4	10
								15	25			
								15	25			
								10	20			30
								10	20			30
								10	15			
								8	15			25
								8	15			25
								8	15			25
									10			
												8
												8
												8
							15			20	20	15
							15			20	20	15
										20	20	30
							15					30
							15			20	20	30
												30
							15			20	20	30
							15			20	20	30

GUHRINGNAVIGATOR

Article no.
Thread type
Tolerance
Standard/DIN
Tool material
Type/Form
Surface finish
Cooling
Shank tolerance
Std. range page

Cooling:
⊠ without coolant ducts

Coolant:
○ Air
● Neat oil
◍ Soluble oil
△ Paste

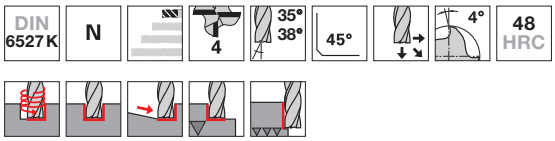
Material group	Material examples Figures in bold = material no. to DIN EN 10 027	Tensile strength MPa (N/mm²)	Hardness	Coolant
Common structural steels	**1.0035** S185(St33), **1.0486** P275N(StE285), **1.0345** P235GH(H1), **1.0425** P265GH(H2)	≤500		◍●△
	1.0050 E295 (St50-2), **1.0070** E360 (St70-2), **1.8937** P500NH (WStE500)	≤1000		◍●△
Free-cutting steels	**1.0718** 11SMnPb30 (9SMnPb28), **1.0736** 11SMn37 (9SMn36)	≤850		◍●△
	1.0727 46S20 (45S20), **1.0728** (60S20), **1.0757** 46SPb20 (45SPb20)	≤1000		◍●△
Unalloyed heat-treatable steels	**1.0402** C22, **1.1178** C30E (Ck30)	≤700		◍●△
	1.0503 C45, **1.1191** C45E (Ck45)	≤850		◍●△
	1.0601 C60, **1.1221** C60E (Ck60)	≤1000		◍●△
Alloyed heat-treatable steels	**1.5131** 50MnSi4, **1.7003** 38Cr2, **1.7030** 28Cr4	≤1000		◍●△
	1.5710 36NiCr6, **1.7035** 41Cr4, **1.7225** 42CrMo4	≤1400		◍●△
Unalloyed case hardened steels	**1.0301** (C10), **1.1121** C10E (Ck10)	≤850		◍●△
Alloyed case hardened steels	**1.7276** 10CrMo11, **1.5125** 11MnSi6	≤1000		◍●△
	1.5752 15NiCr13, **1.7131** 16MnCr5, **1.7264** 20CrMo5	≤1400		◍●△
Nitriding steels	**1.8504** 34CrAl6	≤1000		◍●△
	1.8519 31CrMoV9, **1.8550** 34CrAlNi7	≤1400		◍●△
Tool steels	**1.1750** C75W, **1.2067** 102Cr6, **1.2307** 29CrMoV9	≤850		◍●△
	1.2080 X210Cr12, **1.2083** X42Cr13, **1.2419** 105WCr6, **1.2767** X45NiCrMo4	≤1400		◍●△
High speed steels	**1.3243** S 6-5-2-5, **1.3343** S 6-5-2, **1.3344** S 6-5-3	≤1400		◍●△
Spring steels	**1.5026** 55Si7, **1.7176** 55Cr3, **1.8159** 51CrV4 (51CrV4)		≤350 HB	●△◍
Hardened steels	–		≤48 HRC	●◍
			≤66 HRC	●△◍
Stainless steels, sulphured	**1.4005** X12CrS13, **1.4104** X14CrMoS17, **1.4105** X6CrMoS17, **1.4305** X8CrNiS18-9	≤900		●△◍
austenitic	**1.4301** X5CrNi18-10 (V2A), **1.4541** X6CrNiTi18-10, **1.4571** X6CrNiMoTi 17-12-2 (V4A)	≤1100		●△◍
martensitic	**1.4057** X20CrNi172 (X17CrNi16-2), **1.4122** X39CrMo17-1, **1.4521** X2CrMoTi18-2	≤1500		●△◍
Cast iron	**0.6010** EN-GJL-100 (GG10), **0.6020** EN-GJL-200 (GG20)		≤240 HB	◍●
	0.6025 EN-GJL-250 (GG25), **0.6035** EN-GJL-350 (GG35)		≤350 HB	◍●
Spheroidal graphite iron and malleable cast iron	**0.7050** EN-GJS-500-7 (GGG50), **0.8035** EN-GJMW-350-4 (GTW35)		≤240 HB	◍●
	0.7070 EN-GJS-700-2 (GGG70), **0.8170** EN-GJMB-700-2 (GTS70)		≤350 HB	◍●
Chilled cast iron	–		≤350 HB	◍●
New cast materials GGV	**EN-GJV250** (GGV25), **EN-GJV350** (GGV35)		≤220 HB	◍●
	EN-GJV400 (GGV40), **EN-GJV500** (GGV50), SiMo 6		≤300 HB	◍●
New cast materials ADI	**EN-GJS-800-8** (ADI800), **EN-GJS-1000-5** (ADI1000)	≤1000		◍●
	EN-GJS-1200-2 (ADI1200), **EN-GJS-1400-1** (ADI1400)	≤1400		◍●
Special alloys	Nimonic, Inconel, Monel, Hastelloy	≤2000		●◍
Ti and Ti alloys	**3.7024** Ti99,5, **3.7114** TiAl5Sn2,5, **3.7124** TiCu2	≤850		●◍
	3.7154 TiAl6Zr5, **3.7165** TiAl6V4, **3.7184** TiAl4Mo4Sn2,5, - TiAl8Mo1V1	≤1400		●◍
Aluminium and Al alloys	**3.0255** Al99,5, **3.2315** AlMgSi1, **3.3515** AlMg1	≤400		◍△●
Al wrought alloys	**3.0615** AlMgSiPb, **3.1325** AlCuMg1, **3.3245** AlMg3Si, **3.4365** AlZnMgCu1,5	≤650		◍△●
Al cast alloys ≤ 10 % Si	**3.2131** G-AlSi5Cu1, **3.2153** G-AlSi7Cu3, **3.2573** G-AlSi9	≤600		◍△●
≤ 24 % Si	**3.2581** G-AlSi12, **3.2583** G-AlSi12Cu, - G-AlSi12CuNiMg	≤600		◍△●
Magnesium alloys	**3.5200** MgMn2, **3.5812.05** G-MgAl8Zn1, **3.5612.05** G-MgAl6Zn1	≤400		◍△●
Copper, low-alloyed	**2.0070** SE-Cu, **2.1020** CuSn6, **2.1096** G-CuSn5ZnPb	≤500		◍△●
Brass, short-chipping	**2.0380** CuZn39Pb2, **2.0401** CuZn39Pb3, **2.0410** CuZn43Pb2	≤600		◍△●
long-chipping	**2.0250** CuZn20, **2.0280** CuZn33, **2.0332** CuZn37Pb0,5	≤600		◍△●
Bronze, short-chipping	**2.1090** CuSn7ZnPb, **2.1170** CuPb5Sn5, **2.1176** CuPb10Sn	≤600		◍△●
	2.0790 CuNi18Zn19Pb	≤850		◍△●
Bronze, long-chipping	**2.0916** CuAl5, **2.0960** CuAl9Mn, **2.1050** CuSn10	≤850		◍△●
	2.0980 CuAl11Ni, **2.1247** CuBe2	≤1000		◍△●
Duroplastics	Bakelit, Resopal, Pertinax, Moltopren	≤150		◍
Thermoplastics	Plexiglass, Hostalen, Novodur, Makralon	≤100		◍
Kevlar	Kevlar	≤1000		◍
Glass, carbon concentr. plastics	GFK/CFK	≤1000		◍

≤3xD	≤3xD	≤3xD	≤3xD	≤3xD	≤3xD	≤3xD	≤3xD	≤3xD	≤3xD
393	394	391	392	395	4218	4219	4642	4643	4220
M	MF	UNC	UNF	BSP	M	MF	UNC	UNF	BSP
6HX	6HX	2BX	2BX		6HX	6HX	2BX	2BX	
371/376	374	~371/376	~371/374	5156	371/376	374	~371/376	~371/374	5156
HSS-E	HSS-E	HSS-E	HSS-E	HSS-E	HSS-E	HSS-E	HSS-E	HSS-E	HSS-E
VA R45/C	VA R45/C	VA R45/C	VA R45/C	VA R45/C	VA/B	VA/B	VA/B	VA/B	VA/B
A	A	A	A	A	S	S	S	S	S
h9	h9	h9	h9	h9	h9	h9	h9	h9	h9
167	169	171	173	175	168	170	172	174	176
									
v_c m/min	v_c m/min	v_c m/min	v_c m/min	v_c m/min	v_c m/min	v_c m/min	v_c m/min	v_c m/min	v_c m/min
20	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**
20	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**
20	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**
20	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**
20	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**
20	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**
20	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**
10	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
10	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
15	**15**	**15**	**15**	**15**	**15**	**15**	**15**	**15**	**15**
10	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
10	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
15	**15**	**15**	**15**	**15**	**15**	**15**	**15**	**15**	**15**
15	**15**	**15**	**15**	**15**	**15**	**15**	**15**	**15**	**15**
10	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
10	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
10	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
10	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
12	**12**	**12**	**12**	**12**	**12**	**12**	**12**	**12**	**12**
12	**12**	**12**	**12**	**12**	**12**	**12**	**12**	**12**	**12**
10	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
20	20	20	20	20	20	20	20	20	20
20	20	20	20	20	20	20	20	20	20
20	20	20	20	20	20	20	20	20	20
20	20	20	20	20	20	20	20	20	20
10	10	10	10	10	10	10	10	10	10
10	10	10	10	10	10	10	10	10	10
10	10	10	10	10	10	10	10	10	10
10	10	10	10	10	10	10	10	10	10
2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3
3	3	3	3	3	3	3	3	3	3
10	10	10	10	10	10	10	10	10	10
10	10	10	10	10	10	10	10	10	10
20	20	20	20	20	20	20	20	20	20
20	20	20	20	20	20	20	20	20	20
20	20	20	20	20	20	20	20	20	20
20	20	20	20	20	20	20	20	20	20
10	10	10	10	10	10	10	10	10	10
10	10	10	10	10	10	10	10	10	10
10	10	10	10	10	10	10	10	10	10
10	10	10	10	10	10	10	10	10	10

Threading tools

MILLING CUTTERS

Standard Ratio end mills RF 100 U



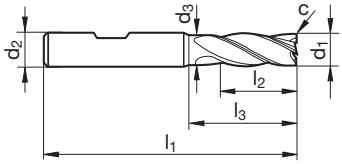
Tool material	**Solid carbide**
Surface	F
Type	N
Shank form	HB

SL

P	•
M	
K	•
N	
S	
H	○

GÜHRINGNAVIGATOR

Cutting data page 226



Article no.	**5534**
Discount group	**157**

d1 h10	d2 h6	d3	l1	l2	l3	c	Z	Code no.	Availability
mm	mm	mm	mm	mm	mm	mm x 45°			
6.000	6.000	5.700	54.000	10.000	17.000	0.150	4	6.000	●
8.000	8.000	7.700	58.000	12.000	21.000	0.150	4	8.000	●
10.000	10.000	9.500	66.000	14.000	24.000	0.200	4	10.000	●
12.000	12.000	11.500	73.000	16.000	26.000	0.200	4	12.000	●
14.000	14.000	13.500	75.000	18.000	28.000	0.250	4	14.000	●
16.000	16.000	15.500	82.000	22.000	32.000	0.350	4	16.000	●
18.000	18.000	17.500	84.000	24.000	34.000	0.400	4	18.000	●
20.000	20.000	19.500	92.000	26.000	40.000	0.450	4	20.000	●

Standard Ratio end mills RF 100 U

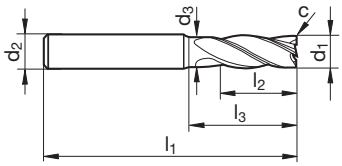
DIN 6527L | N | 4 | 35° 38° | 45° | 4° | 48 HRC

Tool material	Solid carbide	
Surface	F	F
Type	N	N
Shank form	HA	HB
	SL	SL

P	•
M	
K	•
N	
S	
H	○

GÜHRINGNAVIGATOR

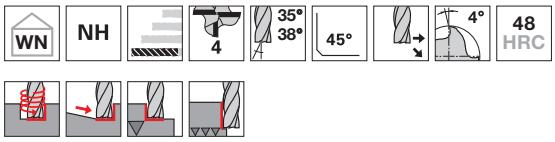
Cutting data page 226



Article no.	5735	5535
Discount group	157	157

d1 h10	d2 h6	d3	l1	l2	l3	c	Z	Code no.	Availability	
mm	mm	mm	mm	mm	mm	mm x 45°				
4.00	6.00	3.80	57	11.0	18.0	0.10	4	4.000	●	●
5.00	6.00	4.80	57	13.0	18.0	0.10	4	5.000	●	●
6.00	6.00	5.70	57	13.0	20.0	0.15	4	6.000	●	●
8.00	8.00	7.70	63	19.0	26.0	0.15	4	8.000	●	●
10.00	10.00	9.50	72	22.0	30.0	0.20	4	10.000	●	●
12.00	12.00	11.50	83	26.0	36.0	0.20	4	12.000	●	●
14.00	14.00	13.50	83	26.0	36.0	0.25	4	14.000	●	●
16.00	16.00	15.50	92	32.0	42.0	0.35	4	16.000	●	●
18.00	18.00	17.50	92	32.0	42.0	0.40	4	18.000	●	●
20.00	20.00	19.50	104	38.0	52.0	0.45	4	20.000	●	●
25.00	25.00	24.00	121	45.0	63.0	0.60	4	25.000	●	●

Standard Ratio end mills RF 100 U



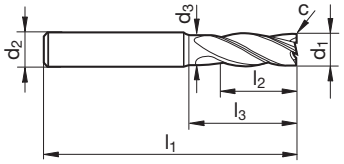
Tool material	**Solid carbide**
Surface	F
Type	NH
Shank form	HA

P	•
M	
K	•
N	
S	
H	○

GÜHRINGNAVIGATOR

Cutting data page 226

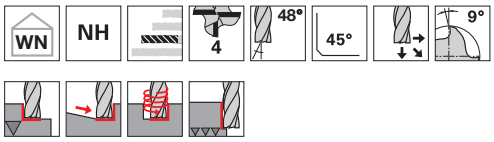
SL



Article no.	**5582**
Discount group	**157**

d1 h10	d2 h6	d3	l1	l2	l3	c	Z	Code no.	Availability
mm	mm	mm	mm	mm	mm	mm x 45°			
10.00	10.00	9.50	100	40.0	48.0	0.20	4	10.000	●
12.00	12.00	11.50	150	45.0	58.0	0.20	4	12.000	●
16.00	16.00	15.50	150	65.0	78.0	0.35	4	16.000	●
20.00	20.00	19.50	150	65.0	78.0	0.45	4	20.000	●
25.00	25.00	24.00	150	75.0	92.0	0.60	4	25.000	●

Ratio end mills RF 100 Speed M



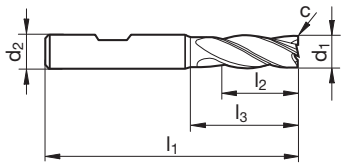
Tool material	**Solid carbide**
Surface	A
Type	NH
Shank form	HB

P	•
M	•
K	
N	
S	•
H	

GÜHRINGNAVIGATOR

Cutting data page 229

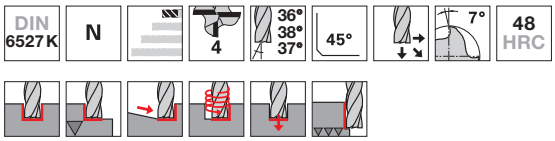
- with chip breaker
- re-inforced core from Ø 6 mm
- centre cutting



Article no.	**6761**
Discount group	**106**

d1 h10	d2 h6	l1	l2	l3	c	Z	Code no.	Availability
mm	mm	mm	mm	mm	mm x 45°			
3.000	6.00	57.00	12.00	14.90	0.06	4	3.000	●
4.000	6.00	65.00	16.00	18.90	0.08	4	4.000	●
5.000	6.00	65.00	20.00	22.90	0.10	4	5.000	●
6.000	6.00	65.00	24.00	29.00	0.12	4	6.000	●
8.000	8.00	75.00	32.00	39.00	0.16	4	8.000	●
10.000	10.00	90.00	40.00	50.00	0.20	4	10.000	●
12.000	12.00	100.00	46.00	55.00	0.24	4	12.000	●
16.000	16.00	108.00	55.00	60.00	0.32	4	16.000	●
20.000	20.00	126.00	65.00	76.00	0.40	4	20.000	●

Ratio end mills RF 100 DIVER

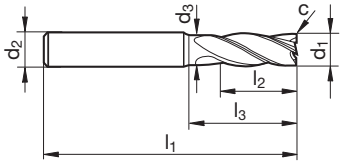


P	•
M	•
K	•
N	•
S	•
H	○

GÜHRINGNAVIGATOR

Cutting data page 228

Tool material	Solid carbide	
Surface	Y	Y
Type	N	N
Shank form	HA	HB
	★	★



Article no.	6803	6804
Discount group	106	106

d1 h10	d2 h6	d3	l1	l2	l3	c	Z	Code no.	Availability	
mm	mm	mm	mm	mm	mm	mm x 45°				
3.00	6.00	2.80	50	5.0	12.0	0.03	4	3.000	●	●
3.70	6.00	3.50	54	8.0	12.0	0.04	4	3.700	●	●
4.00	6.00	3.80	54	8.0	15.0	0.04	4	4.000	●	●
4.70	6.00	4.50	54	9.0	15.0	0.05	4	4.700	●	●
5.00	6.00	4.80	54	9.0	15.0	0.05	4	5.000	●	●
5.70	6.00	5.50	54	10.0	16.6	0.06	4	5.700	●	●
6.00	6.00	5.70	54	10.0	17.0	0.06	4	6.000	●	●
7.00	8.00	6.70	58	11.0	19.9	0.07	4	7.000	●	●
7.70	8.00	7.40	58	12.0	20.5	0.08	4	7.700	●	●
8.00	8.00	7.70	58	12.0	21.0	0.08	4	8.000	●	●
9.00	10.00	8.70	66	13.0	23.9	0.09	4	9.000	●	●
9.70	10.00	9.40	66	14.0	24.5	0.10	4	9.700	●	●
10.00	10.00	9.50	66	14.0	24.0	0.10	4	10.000	●	●
11.70	12.00	11.20	73	16.0	25.3	0.12	4	11.700	●	●
12.00	12.00	11.50	73	16.0	26.0	0.12	4	12.000	●	●
15.60	16.00	15.10	82	22.0	31.2	0.16	4	15.600	●	●
16.00	16.00	15.50	82	22.0	32.0	0.16	4	16.000	●	●
19.00	20.00	18.50	92	26.0	38.7	0.19	4	19.000	●	●
20.00	20.00	19.50	92	26.0	40.0	0.20	4	20.000	●	●

Ratio end mills RF 100 DIVER

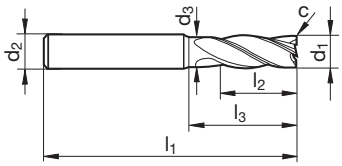
DIN 6527L | NH | 4 | 36° 38° 37° | 45° | 7° | 48 HRC

Tool material	Solid carbide	
Surface	Y	Y
Type	NH	NH
Shank form	HA	HB

P	•
M	•
K	•
N	•
S	•
H	○

GÜHRINGNAVIGATOR

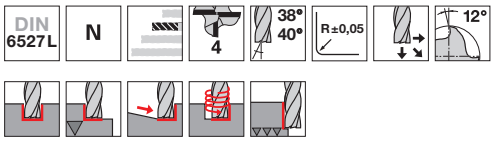
Cutting data page 228



Article no.	6737	6736
Discount group	106	106

d1 h10	d2 h6	d3	l1	l2	l3	c	Z	Code no.	Availability	
mm	mm	mm	mm	mm	mm	mm x 45°				
4.00	6.00	3.80	57	11.0	18.0	0.04	4	4.000	●	●
5.00	6.00	4.80	57	13.0	18.0	0.05	4	5.000	●	●
5.70	6.00	5.50	57	13.0	19.6	0.06	4	5.700	●	●
6.00	6.00	5.70	57	13.0	20.0	0.06	4	6.000	●	●
7.70	8.00	7.40	63	19.0	25.5	0.08	4	7.700	●	●
8.00	8.00	7.70	63	19.0	26.0	0.08	4	8.000	●	●
9.70	10.00	9.40	72	22.0	30.5	0.10	4	9.700	●	●
10.00	10.00	9.50	72	22.0	30.0	0.10	4	10.000	●	●
11.70	12.00	11.20	83	26.0	35.3	0.12	4	11.700	●	●
12.00	12.00	11.50	83	26.0	36.0	0.12	4	12.000	●	●
13.70	14.00	13.20	83	26.0	35.3	0.14	4	13.700	●	●
14.00	14.00	13.50	83	26.0	36.0	0.14	4	14.000	●	●
15.60	16.00	15.10	92	32.0	41.2	0.16	4	15.600	●	●
16.00	16.00	15.50	92	32.0	42.0	0.16	4	16.000	●	●
19.50	20.00	19.00	104	38.0	51.1	0.20	4	19.500	●	●
20.00	20.00	19.50	104	38.0	52.0	0.20	4	20.000	●	●

Ratio end mills RF 100 iMill

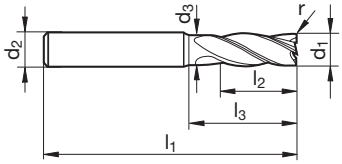


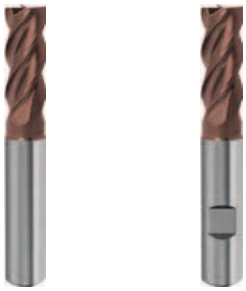
Tool material	Solid carbide	
Surface	Y	Y
Type	N	N
Shank form	HA	HB

P	○
M	•
K	
N	•
S	•
H	

GÜHRINGNAVIGATOR

Cutting data page 229



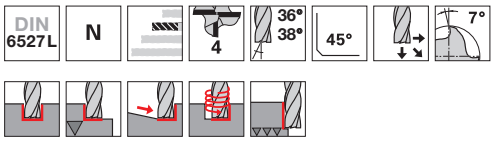


Article no.	6964	6965
Discount group	106	106

d1 e8	d2 h6	d3	l1	l2	l3	r	Z	Code no.	Availability	
mm	mm	mm	mm	mm	mm	mm				
3.000	6.000	2.800	57.000	8.000	15.000	0.200	4	3.002	•	•
3.000	6.000	2.800	57.000	8.000	15.000	0.500	4	3.005	•	•
4.000	6.000	3.800	57.000	11.000	18.000	0.200	4	4.002	•	•
4.000	6.000	3.800	57.000	11.000	18.000	0.500	4	4.005	•	•
4.000	6.000	3.800	57.000	11.000	18.000	1.000	4	4.010	•	•
5.000	6.000	4.800	57.000	13.000	18.000	0.200	4	5.002	•	•
5.000	6.000	4.800	57.000	13.000	18.000	0.500	4	5.005	•	•
5.000	6.000	4.800	57.000	13.000	18.000	1.000	4	5.010	•	•
6.000	6.000	5.700	57.000	13.000	20.000	0.200	4	6.002	•	•
6.000	6.000	5.700	57.000	13.000	20.000	0.500	4	6.005	•	•
6.000	6.000	5.700	57.000	13.000	20.000	1.000	4	6.010	•	•
6.000	6.000	5.700	57.000	13.000	20.000	1.500	4	6.015	•	•
8.000	8.000	7.700	63.000	19.000	26.000	0.300	4	8.003	•	•
8.000	8.000	7.700	63.000	19.000	26.000	0.500	4	8.005	•	•
8.000	8.000	7.700	63.000	19.000	26.000	1.000	4	8.010	•	•
8.000	8.000	7.700	63.000	19.000	26.000	1.500	4	8.015	•	•
8.000	8.000	7.700	63.000	19.000	26.000	2.000	4	8.020	•	•
10.000	10.000	9.500	72.000	22.000	30.000	0.300	4	10.003	•	•
10.000	10.000	9.500	72.000	22.000	30.000	0.500	4	10.005	•	•
10.000	10.000	9.500	72.000	22.000	30.000	1.000	4	10.010	•	•
10.000	10.000	9.500	72.000	22.000	30.000	1.500	4	10.015	•	•
10.000	10.000	9.500	72.000	22.000	30.000	2.000	4	10.020	•	•
10.000	10.000	9.500	72.000	22.000	30.000	2.500	4	10.025	•	•
12.000	12.000	11.500	83.000	26.000	36.000	0.300	4	12.003	•	•
12.000	12.000	11.500	83.000	26.000	36.000	0.500	4	12.005	•	•
12.000	12.000	11.500	83.000	26.000	36.000	1.000	4	12.010	•	•
12.000	12.000	11.500	83.000	26.000	36.000	1.500	4	12.015	•	•
12.000	12.000	11.500	83.000	26.000	36.000	2.000	4	12.020	•	•
12.000	12.000	11.500	83.000	26.000	36.000	2.500	4	12.025	•	•
12.000	12.000	11.500	83.000	26.000	36.000	3.000	4	12.030	•	•

								Article no.	6964	6965
								Discount group	106	106
d1 e8	d2 h6	d3	l1	l2	l3	r	Z	Code no.	Availability	
mm	mm	mm	mm	mm	mm	mm				
16.000	16.000	15.500	92.000	32.000	42.000	0.500	4	16.005	●	●
16.000	16.000	15.500	92.000	32.000	42.000	1.000	4	16.010	●	●
16.000	16.000	15.500	92.000	32.000	42.000	1.500	4	16.015	●	●
16.000	16.000	15.500	92.000	32.000	42.000	2.000	4	16.020	●	●
16.000	16.000	15.500	92.000	32.000	42.000	2.500	4	16.025	●	●
16.000	16.000	15.500	92.000	32.000	42.000	3.000	4	16.030	●	●
16.000	16.000	15.500	92.000	32.000	42.000	4.000	4	16.040	●	●
20.000	20.000	19.500	104.000	38.000	52.000	0.500	4	20.005	●	●
20.000	20.000	19.500	104.000	38.000	52.000	1.000	4	20.010	●	●
20.000	20.000	19.500	104.000	38.000	52.000	1.500	4	20.015	●	●
20.000	20.000	19.500	104.000	38.000	52.000	2.000	4	20.020	●	●
20.000	20.000	19.500	104.000	38.000	52.000	2.500	4	20.025	●	●
20.000	20.000	19.500	104.000	38.000	52.000	3.000	4	20.030	●	●
20.000	20.000	19.500	104.000	38.000	52.000	4.000	4	20.040	●	●

Ratio end mills RF 100 VA

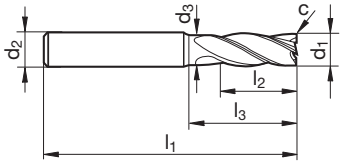


Tool material	Solid carbide	
Surface	a	a
Type	N	N
Shank form	HA	HB
	SL	SL

P	•
M	•
K	
N	○
S	•
H	

GÜHRINGNAVIGATOR

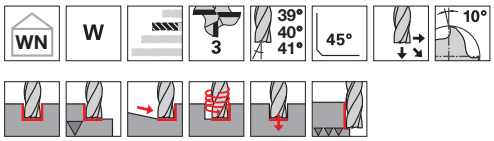
Cutting data page 226



Article no.	5653	5654
Discount group	157	157

d1 h10	d2 h6	d3	l1	l2	l3	c	Z	Code no.	Availability	
mm	mm	mm	mm	mm	mm	mm x 45°				
3.00	6.00	2.80	57	8.0	15.0	0.10	4	3.000	●	●
4.00	6.00	3.80	57	11.0	18.0	0.15	4	4.000	●	●
5.00	6.00	4.80	57	13.0	18.0	0.15	4	5.000	●	●
6.00	6.00	5.70	57	13.0	20.0	0.20	4	6.000	●	●
8.00	8.00	7.70	63	19.0	26.0	0.25	4	8.000	●	●
10.00	10.00	9.50	72	22.0	30.0	0.30	4	10.000	●	●
12.00	12.00	11.50	83	26.0	36.0	0.35	4	12.000	●	●
14.00	14.00	13.50	83	26.0	36.0	0.40	4	14.000	●	●
16.00	16.00	15.50	92	32.0	42.0	0.50	4	16.000	●	●
18.00	18.00	17.50	92	32.0	42.0	0.60	4	18.000	●	●
20.00	20.00	19.50	104	38.0	52.0	0.60	4	20.000	●	●
25.00	25.00	24.00	121	45.0	63.0	0.75	4	25.000	●	●

Ratio end mills Alu RF 100 A

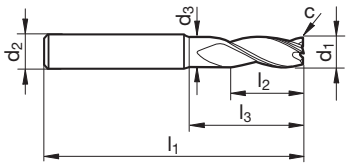


Tool material	Solid carbide	
Surface	◯	◯
Type	W	W
Shank form	HA	HB
	SL	SL

P	
M	
K	
N	•
S	
H	

GÜHRINGNAVIGATOR

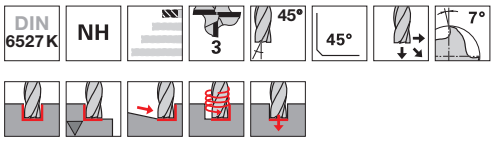
Cutting data page 226



Article no.	6010	5655
Discount group	157	157

d1 e8	d2 h6	d3	l1	l2	l3	c	Z	Code no.	Availability	
mm	mm	mm	mm	mm	mm	mm x 45°				
3.00	6.00	2.80	57	8.0	15.0	0.03	3	3.000	•	•
4.00	6.00	3.80	57	11.0	18.0	0.04	3	4.000	•	•
5.00	6.00	4.80	57	13.0	18.0	0.05	3	5.000	•	•
6.00	6.00	5.70	57	13.0	20.0	0.06	3	6.000	•	•
8.00	8.00	7.70	63	19.0	26.0	0.08	3	8.000	•	•
10.00	10.00	9.50	72	22.0	30.0	0.10	3	10.000	•	•
12.00	12.00	11.50	83	26.0	36.0	0.12	3	12.000	•	•
16.00	16.00	15.50	92	32.0	42.0	0.16	3	16.000	•	•
20.00	20.00	19.50	104	38.0	52.0	0.20	3	20.000	•	•

Slot drills GH 100 U (3-fluted)



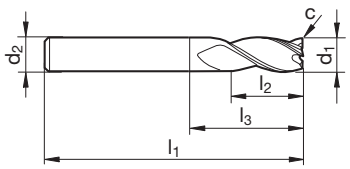
Tool material	**Solid carbide**
Surface	F
Type	NH
Shank form	HA

P	●
M	●
K	●
N	○
S	○
H	

GÜHRINGNAVIGATOR

Cutting data page 224

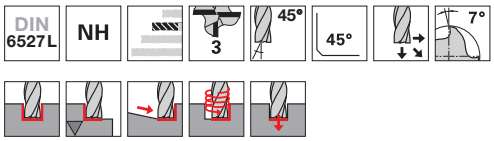
SL



Article no.	**5505**
Discount group	**157**

d1 h10	d2 h6	l1	l2	l3	c	Z	Code no.	Availability
mm	mm	mm	mm	mm	mm x 45°			
3.000	6.00	50.00	4.00	7.90	0.05	3	3.000	●
4.000	6.00	54.00	5.00	8.90	0.06	3	4.000	●
5.000	6.00	54.00	6.00	11.40	0.08	3	5.000	●
6.000	6.00	54.00	7.00	18.00	0.09	3	6.000	●
8.000	8.00	58.00	9.00	22.00	0.12	3	8.000	●
9.000	10.00	66.00	10.00	19.40	0.14	3	9.000	●
10.000	10.00	66.00	11.00	26.00	0.15	3	10.000	●
12.000	12.00	73.00	12.00	28.00	0.18	3	12.000	●
16.000	16.00	82.00	16.00	34.00	0.19	3	16.000	●
20.000	20.00	92.00	20.00	42.00	0.24	3	20.000	●

Slot drills GH 100 U (3-fluted)

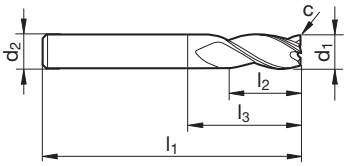


P	•
M	•
K	•
N	○
S	○
H	

GÜHRINGNAVIGATOR

Cutting data page 224

Tool material	Solid carbide	
Surface	F	F
Type	NH	NH
Shank form	HA	HB
	SL	SL



Article no.	5506	5546
Discount group	157	157

d1 h10	d2 h6	l1	l2	l3	c	Z	Code no.	Availability	
mm	mm	mm	mm	mm	mm x 45°				
3.000	6.00	57.00	7.00	10.90	0.05	3	3.000	●	●
3.500	6.00	57.00	7.00	10.90	0.05	3	3.500	●	●
4.000	6.00	57.00	8.00	11.90	0.06	3	4.000	●	●
4.500	6.00	57.00	8.00	13.40	0.07	3	4.500		●
5.000	6.00	57.00	10.00	15.40	0.08	3	5.000	●	●
6.000	6.00	57.00	10.00	21.00	0.09	3	6.000	●	●
7.000	8.00	63.00	13.00	21.40	0.11	3	7.000	●	●
8.000	8.00	63.00	16.00	27.00	0.12	3	8.000	●	●
9.000	10.00	72.00	16.00	25.40	0.14	3	9.000		●
10.000	10.00	72.00	19.00	32.00	0.15	3	10.000	●	●
12.000	12.00	83.00	22.00	38.00	0.18	3	12.000	●	●
14.000	14.00	83.00	22.00	38.00	0.21	3	14.000	●	●
16.000	16.00	92.00	26.00	44.00	0.19	3	16.000	●	●
18.000	18.00	92.00	26.00	44.00	0.22	3	18.000	●	●
20.000	20.00	104.00	32.00	54.00	0.24	3	20.000	●	●

Mini slot drills (3-fluted)

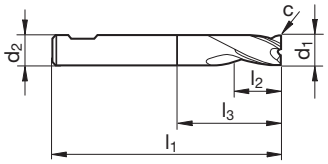
Tool material	Solid carbide
Surface	F
Type	NH
Shank form	HA/HB

P	•
M	•
K	○
N	•
S	○
H	

GÜHRINGNAVIGATOR

Cutting data page 224

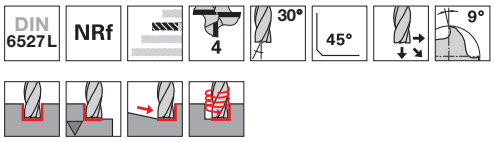
SL



Article no.	5574
Discount group	157

d1 e8	d2 h6	l1	l2	l3	c	Z	Code no.	Availability
mm	mm	mm	mm	mm	mm x 45°			
1.000	3.00	38.00	2.00	3.40	0.02	3	1.000	●
1.200	3.00	38.00	2.00	3.40	0.02	3	1.200	●
1.500	3.00	38.00	3.00	5.90	0.02	3	1.500	●
1.800	3.00	38.00	3.00	5.90	0.02	3	1.800	●
2.000	6.00	45.00	4.00	6.90	0.02	3	2.000	●
2.500	6.00	45.00	5.00	7.90	0.05	3	2.500	●
3.000	6.00	45.00	6.00	9.90	0.05	3	3.000	●
3.500	6.00	45.00	6.00	9.90	0.05	3	3.500	●
4.000	6.00	45.00	7.00	10.90	0.05	3	4.000	●
4.500	6.00	45.00	8.00	13.40	0.05	3	4.500	●
5.000	6.00	45.00	8.00	13.40	0.05	3	5.000	●
5.500	6.00	45.00	8.00	14.40	0.05	3	5.500	●
5.750	6.00	45.00	10.00	3.80	0.05	3	5.750	●
6.000	6.00	45.00	10.00	15.00	0.05	3	6.000	●
6.750	8.00	55.00	10.00	18.40	0.10	3	6.750	●
7.000	8.00	55.00	12.00	12.00	0.10	3	7.000	●
7.750	8.00	55.00	12.00	12.00	0.10	3	7.750	●
8.000	8.00	55.00	13.00	19.00	0.10	3	8.000	●
8.700	10.00	55.00	14.00	23.40	0.10	3	8.700	●
9.000	10.00	55.00	14.00	23.40	0.10	3	9.000	●
9.700	10.00	55.00	16.00	16.30	0.10	3	9.700	●
10.000	10.00	55.00	16.00	25.00	0.10	3	10.000	●

Roughing end mills GS 100 U (fine teeth)



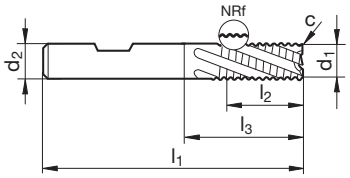
Tool material	**Solid carbide**
Surface	F
Type	NRf
Shank form	HB

SL

P	●
M	●
K	●
N	○
S	
H	

GÜHRINGNAVIGATOR

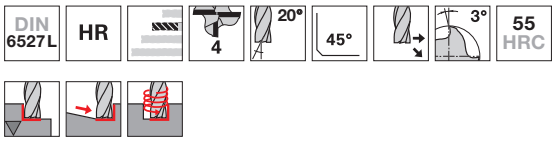
Cutting data page 226



Article no.	**5504**
Discount group	**157**

d1 h10	d2 h6	l1	l2	l3	c	Z	Code no.	Availability
mm	mm	mm	mm	mm	mm x 45°			
6.000	6.00	57.00	13.00	21.00	0.30	4	6.000	●
8.000	8.00	63.00	19.00	27.00	0.30	4	8.000	●
10.000	10.00	72.00	22.00	32.00	0.30	4	10.000	●
12.000	12.00	83.00	26.00	38.00	0.50	4	12.000	●
16.000	16.00	92.00	32.00	44.00	0.50	4	16.000	●
20.000	20.00	104.00	38.00	54.00	0.50	4	20.000	●

Hard roughing end mills GS 100 H (fine teeth)



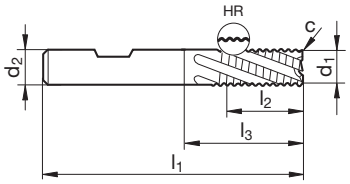
P	○
M	
K	•
N	
S	
H	•

Tool material	**Solid carbide**
Surface	Y
Type	HR
Shank form	HB

SL

GÜHRINGNAVIGATOR

Cutting data page 226



Article no.	**5583**
Discount group	**157**

d1 h10	d2 h6	l1	l2	l3	c	Z	Code no.	Availability
mm	mm	mm	mm	mm	mm x 45°			
6.000	6.00	57.00	13.00	21.00	0.30	4	6.000	●
8.000	8.00	63.00	19.00	27.00	0.30	4	8.000	●
10.000	10.00	72.00	22.00	32.00	0.30	4	10.000	●
12.000	12.00	83.00	26.00	38.00	0.50	4	12.000	●
16.000	16.00	92.00	32.00	44.00	0.50	4	16.000	●
20.000	20.00	104.00	38.00	54.00	0.50	4	20.000	●

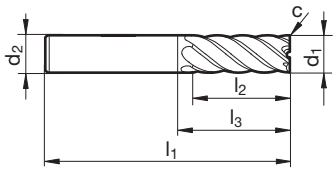
Multi-tooth end mills GH 100 U

P	•
M	•
K	•
N	•
S	•
H	○

GÜHRINGNAVIGATOR

Cutting data page 224

Tool material	Solid carbide	
Surface	F	F
Type	NH	NH
Shank form	HA	HB
	SL	SL



	Article no.	5745	5545
	Discount group	157	157

d1 h10	d2 h6	l1	l2	l3	c	Z	Code no.	Availability	
mm	mm	mm	mm	mm	mm x 45°				
3.000	6.00	57.00	8.00	11.40	0.05	6	3.000	●	
4.000	6.00	57.00	11.00	15.90	0.05	6	4.000	●	
5.000	6.00	57.00	13.00	17.90	0.05	6	5.000	●	
6.000	6.00	57.00	13.00	21.00	0.05	6	6.000	●	●
8.000	8.00	63.00	19.00	27.00	0.10	6	8.000	●	●
10.000	10.00	72.00	22.00	32.00	0.10	6	10.000	●	●
12.000	12.00	83.00	26.00	38.00	0.10	6	12.000	●	●
14.000	14.00	83.00	26.00	38.00	0.15	6	14.000	●	●
16.000	16.00	92.00	32.00	44.00	0.15	6	16.000	●	●
18.000	18.00	92.00	32.00	44.00	0.15	8	18.000	●	●
20.000	20.00	104.00	38.00	54.00	0.15	8	20.000	●	●
25.000	25.00	121.00	45.00	65.00	0.20	10	25.000	●	

Multi-tooth end mills GH 100 U

WN | NH | 6+ | 45° | 45° | 7° | 48 HRC

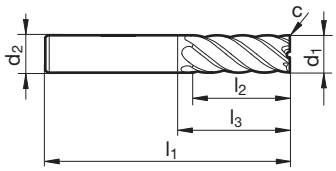
Tool material	**Solid carbide**
Surface	F
Type	NH
Shank form	HA

P	•
M	•
K	•
N	•
S	•
H	○

GÜHRINGNAVIGATOR

Cutting data page 224

SL



Article no.	**5729**
Discount group	**157**

d1 h10	d2 h6	l1	l2	l3	c	Z	Code no.	Availability
mm	mm	mm	mm	mm	mm x 45°			
6.000	6.00	75.00	30.00	39.00	0.05	6	6.000	●
8.000	8.00	100.00	40.00	64.00	0.10	6	8.000	●
10.000	10.00	100.00	40.00	60.00	0.10	6	10.000	●
12.000	12.00	150.00	45.00	105.00	0.10	6	12.000	●
16.000	16.00	150.00	65.00	102.00	0.15	6	16.000	●
20.000	20.00	150.00	65.00	100.00	0.15	8	20.000	●

Slot drills (2-fluted)

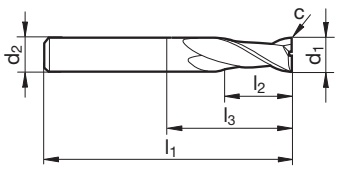
DIN 6527L | N | 2 | 30° | 45° | 9°

Tool material	Solid carbide	
Surface	F	F
Type	N	N
Shank form	HA	HB
	SL	SL

P	•
M	•
K	•
N	•
S	
H	

GÜHRINGNAVIGATOR

Cutting data page 224



Article no.	5730	5530
Discount group	157	157

d1 h10	d2 h6	l1	l2	l3	c	Z	Code no.	Availability	
mm	mm	mm	mm	mm	mm x 45°				
2.000	6.00	57.00	6.00	9.40	0.02	2	2.000	•	•
3.000	6.00	57.00	7.00	11.90	0.05	2	3.000	•	•
4.000	6.00	57.00	8.00	13.40	0.05	2	4.000	•	•
5.000	6.00	57.00	10.00	16.90	0.05	2	5.000	•	•
6.000	6.00	57.00	10.00	21.00	0.05	2	6.000	•	•
7.000	8.00	63.00	13.00	22.40	0.10	2	7.000	•	•
8.000	8.00	63.00	16.00	27.00	0.10	2	8.000	•	•
9.000	10.00	72.00	16.00	27.40	0.10	2	9.000	•	•
10.000	10.00	72.00	19.00	32.00	0.10	2	10.000	•	•
12.000	12.00	83.00	22.00	38.00	0.10	2	12.000	•	•
14.000	14.00	83.00	22.00	38.00	0.15	2	14.000	•	•
16.000	16.00	92.00	26.00	44.00	0.15	2	16.000	•	•
18.000	18.00	92.00	26.00	44.00	0.15	2	18.000	•	•
20.000	20.00	104.00	32.00	54.00	0.15	2	20.000	•	•

XL slot drills (2-fluted)

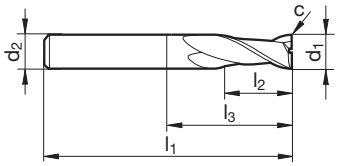
Tool material	**Solid carbide**
Surface	F
Type	N
Shank form	HA

SL

P	•
M	•
K	•
N	•
S	
H	

GÜHRINGNAVIGATOR

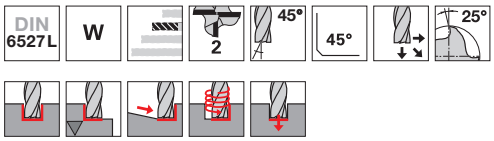
Cutting data page 224



Article no.	**5549**
Discount group	**157**

d1 h10	d2 h6	l1	l2	l3	c	Z	Code no.	Availability
mm	mm	mm	mm	mm	mm x 45°			
3.000	3.00	75.00	20.00	47.00	0.05	2	3.000	●
4.000	4.00	75.00	25.00	47.00	0.05	2	4.000	●
5.000	5.00	75.00	30.00	47.00	0.05	2	5.000	●
6.000	6.00	75.00	30.00	39.00	0.05	2	6.000	●
8.000	8.00	100.00	40.00	64.00	0.10	2	8.000	●
10.000	10.00	100.00	40.00	60.00	0.10	2	10.000	●
12.000	12.00	150.00	45.00	105.00	0.10	2	12.000	●
14.000	14.00	150.00	45.00	105.00	0.15	2	14.000	●
16.000	16.00	150.00	65.00	102.00	0.15	2	16.000	●
18.000	18.00	150.00	65.00	102.00	0.15	2	18.000	●
20.000	20.00	150.00	65.00	100.00	0.15	2	20.000	●

Al slot drills (2-fluted)



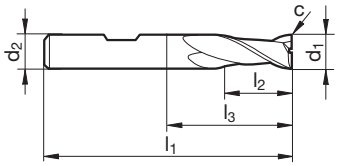
Tool material	**Solid carbide**
Surface	◯
Type	W
Shank form	HB

SL

P	
M	
K	
N	•
S	
H	

GÜHRINGNAVIGATOR

Cutting data page 224



Article no.	**5543**
Discount group	**157**

d1 e8	d2 h6	l1	l2	l3	c	Z	Code no.	Availability
mm	mm	mm	mm	mm	mm x 45°			
3.000	6.00	57.00	7.00	10.90	0.03	2	3.000	●
4.000	6.00	57.00	8.00	11.90	0.03	2	4.000	●
5.000	6.00	57.00	10.00	15.40	0.03	2	5.000	●
6.000	6.00	57.00	10.00	21.00	0.03	2	6.000	●
8.000	8.00	63.00	16.00	27.00	0.05	2	8.000	●
10.000	10.00	72.00	19.00	32.00	0.05	2	10.000	●
12.000	12.00	83.00	22.00	38.00	0.10	2	12.000	●
14.000	14.00	83.00	22.00	38.00	0.10	2	14.000	●
16.000	16.00	92.00	26.00	44.00	0.10	2	16.000	●
18.000	18.00	92.00	26.00	44.00	0.10	2	18.000	●
20.000	20.00	104.00	32.00	54.00	0.10	2	20.000	●

Slot drills (3-fluted)

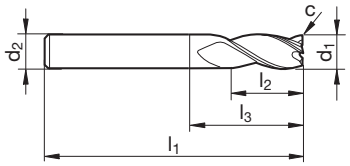
DIN 6527 L | N | 3 | 30° | 45° | 9°

Tool material	Solid carbide	
Surface	F	F
Type	N	N
Shank form	HA	HB
	SL	SL

P	•
M	•
K	•
N	•
S	
H	

GÜHRINGNAVIGATOR

Cutting data page 224



Article no.	5507	5531
Discount group	157	157

d1 h10	d2 h6	l1	l2	l3	c	Z	Code no.	Availability	
mm	mm	mm	mm	mm	mm x 45°				
2.000	6.00	57.00	6.00	10.40	0.02	3	2.000	•	•
2.500	6.00	57.00	7.00	11.40	0.05	3	2.500	•	•
3.000	6.00	57.00	7.00	11.40	0.05	3	3.000	•	•
3.500	6.00	57.00	7.00	11.40	0.05	3	3.500	•	•
4.000	6.00	57.00	8.00	13.90	0.05	3	4.000	•	•
4.500	6.00	57.00	8.00	13.90	0.05	3	4.500		•
5.000	6.00	57.00	10.00	16.90	0.05	3	5.000	•	•
6.000	6.00	57.00	10.00	21.00	0.05	3	6.000	•	•
7.000	8.00	63.00	13.00	21.90	0.10	3	7.000		•
8.000	8.00	63.00	16.00	27.00	0.10	3	8.000	•	•
8.500	10.00	72.00	16.00	27.40	0.10	3	8.500		•
9.000	10.00	72.00	16.00	27.40	0.10	3	9.000		•
10.000	10.00	72.00	19.00	32.00	0.10	3	10.000	•	•
12.000	12.00	83.00	22.00	38.00	0.10	3	12.000	•	•
14.000	14.00	83.00	22.00	38.00	0.15	3	14.000	•	•
16.000	16.00	92.00	26.00	44.00	0.15	3	16.000	•	•
18.000	18.00	92.00	26.00	44.00	0.15	3	18.000		•
20.000	20.00	104.00	32.00	54.00	0.15	3	20.000		•

Mini slot drills (3-fluted)

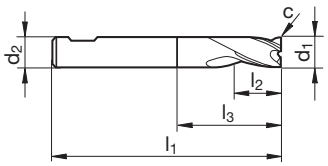
Tool material	**Solid carbide**
Surface	F
Type	N
Shank form	HA/HB

SL

P	•
M	•
K	○
N	○
S	•
H	

GÜHRINGNAVIGATOR

Cutting data page 224



Article no.	**5573**
Discount group	**157**

d1 h10	d2 h6	l1	l2	l3	c	Z	Code no.	Availability
mm	mm	mm	mm	mm	mm x 45°			
0.500	3.00	38.00	1.50	3.40	0.02	3	0.500	●
0.600	3.00	38.00	1.50	3.40	0.02	3	0.600	●
0.800	3.00	38.00	2.00	3.90	0.02	3	0.800	●
1.000	3.00	38.00	2.00	3.90	0.02	3	1.000	●
1.200	3.00	38.00	2.00	3.90	0.02	3	1.200	●
1.500	3.00	38.00	2.00	3.90	0.02	3	1.500	●
1.800	3.00	38.00	2.00	3.90	0.02	3	1.800	●
2.000	6.00	38.00	4.00	7.40	0.02	3	2.000	●
2.500	6.00	38.00	5.00	8.40	0.05	3	2.500	●
3.000	6.00	38.00	5.00	8.40	0.05	3	3.000	●
3.500	6.00	38.00	6.00	9.40	0.05	3	3.500	●
4.000	6.00	38.00	7.00	10.40	0.05	3	4.000	●
4.500	6.00	38.00	8.00	12.40	0.05	3	4.500	●
5.000	6.00	38.00	8.00	12.40	0.05	3	5.000	●
5.500	6.00	38.00	8.00	12.40	0.05	3	5.500	●
5.750	6.00	38.00	8.00	12.40	0.05	3	5.750	●
6.000	6.00	38.00	8.00	14.00	0.05	3	6.000	●
6.750	8.00	42.00	10.00	15.40	0.10	3	6.750	●
7.000	8.00	42.00	10.00	16.40	0.10	3	7.000	●
7.750	8.00	42.00	10.00	16.40	0.10	3	7.750	●
8.000	8.00	43.00	11.00	19.00	0.10	3	8.000	●
8.700	10.00	48.00	11.00	17.40	0.10	3	8.700	●
9.000	10.00	48.00	11.00	17.40	0.10	3	9.000	●
9.700	10.00	48.00	11.00	17.40	0.10	3	9.700	●
10.000	10.00	50.00	13.00	23.00	0.10	3	10.000	●
12.000	12.00	55.00	15.00	24.50	0.10	3	12.000	●
14.000	14.00	58.00	15.00	27.50	0.15	3	14.000	●
16.000	16.00	62.00	18.00	29.00	0.15	3	16.000	●
18.000	18.00	70.00	20.00	37.00	0.15	3	18.000	●
20.000	20.00	75.00	22.00	41.00	0.15	3	20.000	●

End mills (4-fluted)

DIN 6527 L | N | 4 | 30° | 45° | 9°

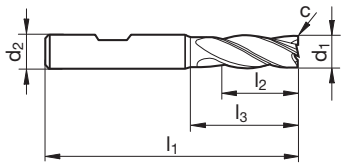
Tool material	**Solid carbide**
Surface	F
Type	N
Shank form	HB

P	•
M	•
K	•
N	•
S	
H	

GÜHRING NAVIGATOR

Cutting data page 226

SL



Article no.	**5532**
Discount group	**157**

d1 h10	d2 h6	l1	l2	l3	c	Z	Code no.	Availability
mm	mm	mm	mm	mm	mm x 45°			
2.000	6.00	57.00	7.00	11.40	0.02	4	2.000	●
3.000	6.00	57.00	8.00	12.90	0.05	4	3.000	●
4.000	6.00	57.00	11.00	16.90	0.05	4	4.000	●
5.000	6.00	57.00	13.00	19.90	0.05	4	5.000	●
6.000	6.00	57.00	13.00	21.00	0.05	4	6.000	●
7.000	8.00	63.00	16.00	23.90	0.10	4	7.000	●
8.000	8.00	63.00	19.00	27.00	0.10	4	8.000	●
9.000	10.00	72.00	19.00	28.40	0.10	4	9.000	●
10.000	10.00	72.00	22.00	32.00	0.10	4	10.000	●
12.000	12.00	83.00	26.00	38.00	0.10	4	12.000	●
14.000	14.00	83.00	26.00	38.00	0.15	4	14.000	●
16.000	16.00	92.00	32.00	44.00	0.15	4	16.000	●
18.000	18.00	92.00	32.00	44.00	0.15	4	18.000	●
20.000	20.00	104.00	38.00	54.00	0.15	4	20.000	●

XL end mills (4-fluted)

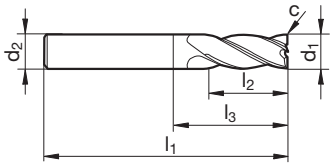
Tool material	**Solid carbide**
Surface	F
Type	N
Shank form	HA

P	•
M	•
K	•
N	•
S	
H	

GÜHRINGNAVIGATOR

Cutting data page 226

SL

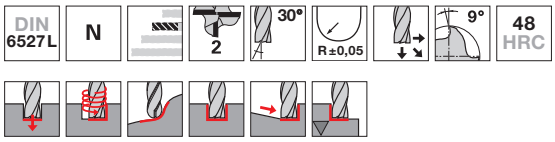


Article no. **5556**

Discount group **157**

d1 h10	d2 h6	l1	l2	l3	c	Z	Code no.	Availability
mm	mm	mm	mm	mm	mm x 45°			
3.000	3.00	75.00	20.00	47.00	0.05	4	3.000	●
4.000	4.00	75.00	25.00	47.00	0.05	4	4.000	●
5.000	5.00	75.00	30.00	47.00	0.05	4	5.000	●
6.000	6.00	75.00	30.00	39.00	0.05	4	6.000	●
8.000	8.00	100.00	40.00	64.00	0.10	4	8.000	●
10.000	10.00	100.00	40.00	60.00	0.10	4	10.000	●
12.000	12.00	150.00	45.00	105.00	0.10	4	12.000	●
14.000	14.00	150.00	45.00	105.00	0.15	4	14.000	●
16.000	16.00	150.00	65.00	102.00	0.15	4	16.000	●
18.000	18.00	150.00	65.00	102.00	0.15	4	18.000	●
20.000	20.00	150.00	65.00	100.00	0.15	4	20.000	●

Ball nose slot drills (2-fluted)

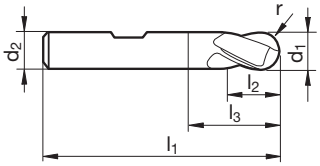


P	●
M	●
K	●
N	●
S	●
H	○

GÜHRINGNAVIGATOR

Cutting data page 224

Tool material	Solid carbide	
Surface	F	F
Type	N	N
Shank form	HB	HA
	SL	SL



	Article no.	5533	5585
	Discount group	157	157

d1 h10	d2 h6	l1	l2	l3	r	Z	Code no.	Availability	
mm	mm	mm	mm	mm	mm				
0.500	3.000	38.000	1.000	2.100	0.250	2	0.500		●
1.000	3.000	38.000	2.000	3.900	0.500	2	1.000		●
1.500	3.000	38.000	3.000	6.400	0.750	2	1.500		●
2.000	6.000	57.000	6.000	9.400	1.000	2	2.000		●
3.000	6.000	57.000	7.000	11.900	1.500	2	3.000		●
4.000	6.000	57.000	8.000	13.400	2.000	2	4.000	●	●
5.000	6.000	57.000	10.000	16.900	2.500	2	5.000	●	●
6.000	6.000	57.000	10.000	21.000	3.000	2	6.000	●	●
8.000	8.000	63.000	16.000	27.000	4.000	2	8.000	●	●
10.000	10.000	72.000	19.000	32.000	5.000	2	10.000	●	●
12.000	12.000	83.000	22.000	38.000	6.000	2	12.000	●	●
20.000	20.000	104.000	32.000	54.000	10.000	2	20.000		●

Ball nose end mills (4-fluted)

DIN 6527 L | N | 4 | 30° | R ±0,05 | 9° | 48 HRC

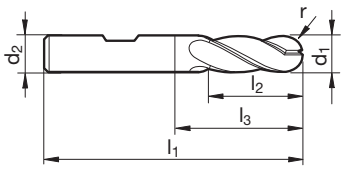
Tool material	**Solid carbide**
Surface	F
Type	N
Shank form	HB

SL

P	•
M	•
K	•
N	•
S	•
H	○

GÜHRINGNAVIGATOR

Cutting data page 224



Article no.	**5584**
Discount group	**157**

d1 h10	d2 h6	l1	l2	l3	r	Z	Code no.	Availability
mm	mm	mm	mm	mm	mm			
3.000	6.000	57.000	8.000	12.400	1.500	4	3.000	●
4.000	6.000	57.000	11.000	15.900	2.000	4	4.000	●
5.000	6.000	57.000	13.000	19.400	2.500	4	5.000	●
6.000	6.000	57.000	13.000	21.000	3.000	4	6.000	●
8.000	8.000	63.000	19.000	27.000	4.000	4	8.000	●
10.000	10.000	72.000	22.000	32.000	5.000	4	10.000	●
12.000	12.000	83.000	26.000	38.000	6.000	4	12.000	●
16.000	16.000	92.000	32.000	44.000	8.000	4	16.000	●
20.000	20.000	104.000	38.000	54.000	10.000	4	20.000	●

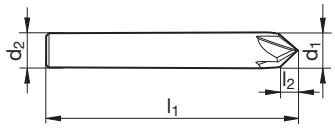
Chamfering milling cutters 60°

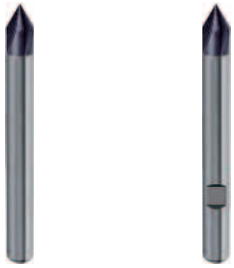
Tool material	Solid carbide	
Surface	A	A
Type	N	N
Shank form	HA	HB
	SL	SL

P	•
M	•
K	•
N	•
S	•
H	○

GÜHRINGNAVIGATOR

Cutting data page 226

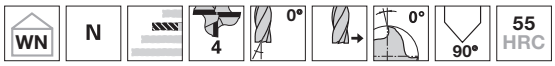




Article no.	6011	6012
Discount group	157	157

d1 js9	d2 h6	l1	l2	Z	Code no.	Availability	
mm	mm	mm	mm				
4.000	4.000	50.000	3.500	4	4.000	●	
6.000	6.000	57.000	5.200	4	6.000	●	●
8.000	8.000	63.000	7.000	4	8.000	●	●
10.000	10.000	72.000	8.700	4	10.000	●	●
12.000	12.000	83.000	10.400	4	12.000	●	●

Chamfering milling cutters 90°

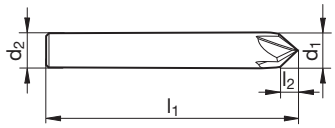


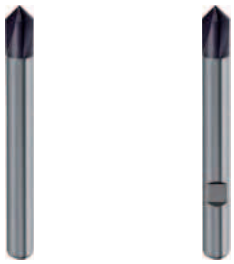
Tool material	Solid carbide	
Surface	A	A
Type	N	N
Shank form	HA	HB
	SL	SL

P	•
M	•
K	•
N	•
S	•
H	○

GÜHRINGNAVIGATOR

Cutting data page 226





Article no.	5578	5579
Discount group	157	157

d1 js9	d2 h6	l1	l2	Z	Code no.	Availability	
mm	mm	mm	mm				
4.000	4.000	50.000	2.000	4	4.000	●	
6.000	6.000	57.000	3.000	4	6.000	●	●
8.000	8.000	63.000	4.000	4	8.000	●	●
10.000	10.000	72.000	5.000	4	10.000	●	●
12.000	12.000	83.000	6.000	4	12.000	●	●

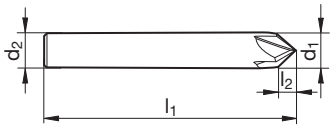
Chamfering milling cutters 120°

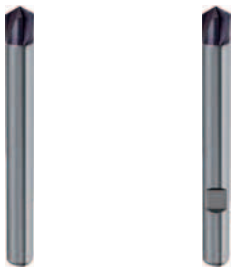
Tool material	Solid carbide	
Surface	A	A
Type	N	N
Shank form	HA	HB
	SL	SL

P	•
M	•
K	•
N	•
S	•
H	○

GÜHRINGNAVIGATOR

Cutting data page 226





Article no.	6014	6015
Discount group	157	157

d1 js9	d2 h6	l1	l2	Z	Code no.	Availability	
mm	mm	mm	mm				
4.000	4.000	50.000	1.200	4	4.000	●	
6.000	6.000	57.000	1.800	4	6.000	●	●
8.000	8.000	63.000	2.400	4	8.000	●	●
10.000	10.000	72.000	2.900	4	10.000	●	●
12.000	12.000	83.000	3.500	4	12.000	●	●

Front/back deburrer 90°, sets

Tool material	**Solid carbide**
Surface	a
Type	EW 100 VR
Shank form	cyl.

SL

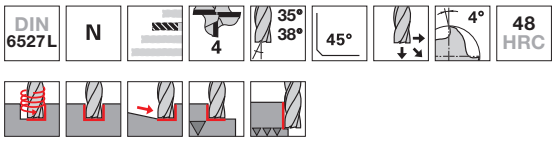
P	•
M	•
K	•
N	○
S	•
H	•

- neck clearance < Ø 6.0 mm
- without centre cutting
- consisting of art. no. 495

Article no.	**6013**
Discount group	**157**

Ø-range mm	Pieces/set	Code no.	Availability
4/6/10	3	1.000	●
4/5/6/8/10	5	2.000	●

Ratio end mill sets RF 100 U



Tool material	**Solid carbide**
Surface	F
Type	N
Shank form	HB

SL

P	•
M	
K	•
N	
S	
H	○

GÜHRINGNAVIGATOR

Cutting data page 226

- neck clearance
- centre cutting
- consisting of art. no. 5535

Article no.	**5635**
Discount group	**157**

Ø-range	Pieces/set	Code no.	Availability
mm			
6/8/10/12/16	5	1.000	●

Milling cutters

RF 100 U

GUHRINGNAVIGATOR

Tools with **bold** feed column no. (FC no.) are preferred choice.

a_e = Width of cut

a_p = Depth of cut

Slot milling

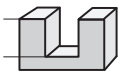
		Tool material	Solid carbide	Solid carbide
		Type	N	N
Art. no.	DIN 6527	HA	5730	5507
	DIN 6527	HB	5530	5531
	Company standard	HA		
	Company standard	HB		

* For large cutting depths on unstable machines f_z and v_c must be reduced or a 4-flute tool RF 100 (art. no. 5582) must be applied.

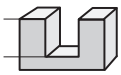
** To improve the surface quality, the milling angle should be 10°-15°.

a_e = 1xD

a_e = 1xD



a_p = 0.5xD



a_p = 0.5xD

Milling cutter Ø mm	Feed column no. 37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
	f_z (mm/tooth)															
2.00	0.001	0.001	0.001	0.002	0.002	0.004	0.005	0.006	0.007	0.008	0.010	0.012	0.014	0.016	0.018	0.020
3.00	0.002	0.002	0.003	0.003	0.004	0.007	0.010	0.010	0.010	0.015	0.016	0.013	0.019	0.022	0.024	0.030
5.00	0.005	0.006	0.007	0.009	0.010	0.014	0.020	0.020	0.022	0.025	0.026	0.026	0.028	0.030	0.032	0.038
6.00	0.006	0.008	0.009	0.011	0.013	0.017	0.024	0.025	0.027	0.031	0.029	0.033	0.039	0.036	0.041	0.047
8.00	0.010	0.012	0.014	0.016	0.019	0.024	0.032	0.032	0.035	0.042	0.042	0.047	0.053	0.052	0.058	0.064
10.00	0.013	0.015	0.018	0.021	0.025	0.030	0.038	0.039	0.044	0.050	0.053	0.059	0.065	0.066	0.073	0.080
12.00	0.010	0.018	0.022	0.026	0.030	0.036	0.046	0.048	0.052	0.059	0.063	0.072	0.079	0.085	0.090	0.100
16.00	0.020	0.023	0.027	0.032	0.038	0.045	0.054	0.058	0.063	0.071	0.079	0.088	0.095	0.100	0.110	0.120
20.00	0.023	0.028	0.033	0.038	0.045	0.057	0.066	0.073	0.080	0.090	0.097	0.100	0.110	0.120	0.130	0.140
25.00	0.030	0.035	0.040	0.045	0.055	0.065	0.075	0.100	0.120	0.130	0.140	0.150	0.165	0.170	0.180	0.190

Material group	Material examples	Tensile strength MPa (N/mm²)	Hardness	v_c m/min	Feed col. no.	v_c m/min	Feed col. no.
Common structural steels	**1.0035** S185, **1.0486** P275N, **1.0345** P235GH, **1.0425** P265GH	≤500		*85 - 105*	**42**	*85 - 105*	**42**
	1.0050 E295, **1.0070** E360, **1.8937** P500NH	≤1000		*81 - 99*	**41**	*81 - 99*	**41**
Free-cutting steels	**1.0718** 11SMnPb30, **1.0736** 11SMn37	≤850		*85 - 105*	**41**	*85 - 105*	**41**
	1.0727 46 S20, **1.0728** 60 S20, **1.0757** 46SPb20	≤1000		*63 - 77*	**42**	*63 - 77*	**42**
Unalloyed heat-treatable steels	**1.0402** C22, **1.1178** C30E	≤700		*85 - 105*	**41**	*85 - 105*	**41**
	1.0503 C45, **1.1191** C45E	≤850		*76 - 94*	**41**	*76 - 94*	**41**
	1.0601 C60, **1.1221** C60E	≤1000		*63 - 77*	**42**	*63 - 77*	**42**
Alloyed heat-treatable steels	**1.5131** 50MnSi4, **1.7003** 38Cr2, **1.7030** 28Cr4	≤1000		*76 - 94*	**42**	*76 - 94*	**42**
	1.5710 36NiCr6, **1.7035** 41Cr4, **1.7225** 42CrMo4	≤1400		*63 - 77*	42	*63 - 77*	42
Unalloyed case hardened steels	**1.0301** C10, **1.1121** C10E	≤850		*90 - 110*	**41**	*90 - 110*	**41**
Alloyed case hardened steels	**1.7043** 38Cr4	≤1000		*76 - 94*	**41**	*76 - 94*	**41**
	1.5752 15NiCr13, **1.7131** 16MnCr5, **1.7264** 20CrMo5	≤1400		*54 - 66*	42	*54 - 66*	42
Nitriding steels	**1.8504** 34CrAl6	≤1000		*85 - 105*	**41**	*85 - 105*	**41**
	1.8519 31CrMoV9, **1.8550** 34CrAlNi7	≤1400		*76 - 94*	**40**	*76 - 94*	40
Tool steels	**1.1750** C75W, **1.2067** 102Cr6, **1.2307** 29CrMoV9	≤850		*76 - 94*	**41**	*76 - 94*	**41**
	1.2080 X210Cr12, **1.2083** X42Cr13, **1.2419** 105WCr6	≤1400		*63 - 77*	40	*63 - 77*	**40**
High speed steels	**1.3243** S 6-5-2-5, **1.3343** S 6-5-2, **1.3344** S 6-5-3	≤1400		*45 - 55*	**42**	*45 - 55*	**42**
Spring steels	**1.5026** 55Si7, **1.7176** 55Cr3, **1.8159** 51CrV4		≤350 HB	*45 - 55*	**40**		
Hardened steels	–		≤48 HRC	*45 - 55*	40		
			≤66 HRC				
Stainless steels, sulphured	**1.4005** X12CrS13, **1.4104** X14CrMoS17, **1.4105** X6CrMoS17	≤900		*45 - 55*	**42**	*45 - 55*	**42**
austenitic	**1.4301** X5CrNi18-10, **1.4541** X6CrNiTi18-10	≤1100		*40 - 50*	**40**	*40 - 50*	**40**
martensitic	**1.4057** X20CrNi17-2, **1.4122** X39CrMo17-1	≤1500		*36 - 44*	41	*36 - 44*	41
Cast iron	**0.6010** EN-GJL-100(GG10), **0.6020** EN-GJL-200(GG20)		≤240 HB	*108 - 132*	**41**	*108 - 132*	**41**
	0.6025 EN-GJL-250(GG25), **0.6035** EN-GJL-350(GG35)		≤350 HB	*99 - 121*	**40**	*99 - 121*	**40**
Spheroidal graphite iron and	**0.7050** EN-GJS-500-7(GGG50), **0.8035** EN-GJMW-350-4(GTW35)		≤240 HB	*90 - 110*	**41**	*90 - 110*	**41**
malleable cast iron	**0.7070** EN-GJS-700-2(GGG70), **0.8170** EN-GJMB-700-2(GTS70)		≤350 HB	*81 - 99*	**40**	*81 - 99*	**40**
Chilled cast iron	–		≤350 HB	*54 - 66*	**40**	*54 - 66*	**40**
New cast materials GGV	**EN-GJV250** (GGV25), **EN-GJV350** (GGV35)		≤220 HB				
	EN-GJV400 (GGV40), **EN-GJV500** (GGV50), SiMo 6		≤300 HB				
New cast materials ADI	**EN-GJS-800-8** (ADI800), **EN-GJS-1000-5** (ADI1000)	≤1000					
	EN-GJS-1200-2 (ADI1200), **EN-GJS-1400-1** (ADI1400)	≤1400					
Special alloys	Nimonic, Inconel, Monel, Hastelloy	≤2000		*27 - 33*	**40**	*27 - 33*	**40**
Ti and Ti alloys	**3.7024** Ti99,5, **3.7114** TiAl5Sn2,5, **3.7124** TiCu2	≤850		*45 - 55*	**40**	*45 - 55*	**40**
	3.7154 TiAl6Zr5, **3.7164** TiAl6V4, **3.7184** TiAl4Mo4Sn2,5	≤1400		*36 - 44*	**40**	*36 - 44*	**40**
Aluminium and Al alloys	**3.0255** Al99,5, **3.2315** AlMgSi1, **3.3515** AlMg1	≤400		*405 - 495*	43		
Al wrought alloys	**3.0615** AlMgSiPb, **3.1325** AlCuMg1, **3.3245** AlMg3Si	≤650		*495 - 605*	43		
Al cast alloys ≤ 10 % Si	**3.2131** G-AlSi5Cu1, **3.2153** G-AlSi7Cu3, **3.2573** G-AlSi9	≤600		*198 - 242*	42		
≤ 24 % Si	**3.2581** G-AlSi12, **3.2583** G-AlSi12Cu, - G-AlSi12CuNiMg	≤600		*162 - 198*	43		
Magnesium alloys	**3.5200** MgMn2, **3.5812.05** G-MgAl8Zn1, **3.5612.05** G-MgAl6Zn1	≤400		*225 - 275*	44		
Copper, low-alloyed	**2.0070** SE-Cu, **2.1020** CuSn6, **2.1096** G-CuSn5ZnPb	≤500		*108 - 132*	43		
Brass, short-chipping	**2.0380** CuZn39Pb2, **2.0401** CuZn39Pb3, **2.0410** CuZn43Pb2	≤600		*90 - 110*	43		
long-chipping	**2.0250** CuZn20, **2.0280** CuZn33, **2.0332** CuZn37Pb0,5	≤600		*81 - 99*	42		
Bronze, short-chipping	**2.1090** CuSn7ZnPb, **2.1170** CuPb5Sn5, **2.1176** CuPb10Sn	≤600		*90 - 110*	42		
	2.0790 CuNi18Zn19Pb	≤850		*72 - 88*	41		
Bronze, long-chipping	**2.0916** CuAl5, **2.0960** CuAl9Mn, **2.1050** CuSn10	≤850		*72 - 88*	42		
	2.0980 CuAl11Ni, **2.1247** CuBe2	≤1000		*63 - 77*	40		
Duroplastics	Bakelit, Resopal, Pertinax, Moltopren	≤150		*108 - 132*	40		
Thermoplastics	Plexiglass, Hostalen, Novodur, Makralon	≤100		*99 - 121*	40		
Kevlar	Kevlar	≤1000					
Glass, carbon concentr. plastics	GFK/CFK	≤1000					

1xD = 75 %
1.5xD = 50 %

1xD = 75 %
1.5xD = 50 %

					Fine finishing		Copying	
Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide
N	NH	W	N	NH	NH	NH	N	N
	5505 5506						5585**	
	5546	5543					5533**	5584**
5549					5745	5729*		
			5573	5574	5545			

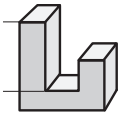
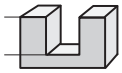
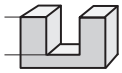
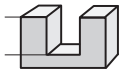
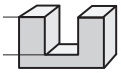


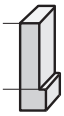
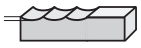
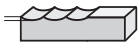






a_e = 1xD | a_e = 1xD | a_e = 1xD | a_e = 1xD | a_e = 1xD | a_e = 0.05xD | a_e = 0.05xD | a_e = 0.05xD | a_e = 0.05xD

a_p = 2xD | a_p = 0.5xD | a_p = 0.5xD | a_p = 0.5xD | a_p = 0.5xD | a_p = 1.5xD | a_p = 3xD | a_p = 0.05xD | a_p = 0.05xD

v_c m/min	Feed col. no.	v_c m/min	Feed col. no.	v_c m/min	Feed col. no.	v_c m/min	Feed col. no.	v_c m/min	Feed col. no.	v_c m/min	Feed col. no.	v_c m/min	Feed col. no.	v_c m/min	Feed col. no.	v_c m/min	Feed col. no.
72 - 88	39	94 - 116	**43**			85 - 105	**42**	94 - 116	**43**	171 - 209	**48**	136 - 168	**45**	153 - 187	**48**	153 - 187	**48**
67 - 83	38	89 - 109	**42**			81 - 99	**41**	89 - 109	**42**	157 - 193	**47**	126 - 154	**44**	144 - 176	**47**	144 - 176	**47**
72 - 88	38	94 - 116	**42**			85 - 105	**41**	94 - 116	**42**	171 - 209	**47**	136 - 168	**44**	153 - 187	**47**	153 - 187	**47**
54 - 66	39	69 - 85	**43**			63 - 77	42	69 - 85	43	126 - 154	**46**	100 - 124	**43**	153 - 187	**46**	153 - 187	**46**
72 - 88	38	94 - 116	**42**			85 - 105	**41**	94 - 116	**42**	171 - 209	**47**	136 - 168	**44**	135 - 165	**47**	135 - 165	**47**
63 - 77	38	84 - 104	**42**			76 - 94	**41**	84 - 104	**42**	153 - 187	**47**	122 - 150	**44**	135 - 165	**47**	135 - 165	**47**
54 - 66	39	69 - 85	**43**			63 - 77	42	69 - 85	43	126 - 154	**46**	100 - 124	**43**	117 - 143	**46**	117 - 143	**46**
63 - 77	39	84 - 104	**43**			76 - 94	42	84 - 104	43	153 - 187	**46**	122 - 150	**43**	126 - 154	**46**	126 - 154	**46**
54 - 66	39	69 - 85	43							126 - 154	**45**	100 - 124	**42**	153 - 187	**45**	153 - 187	**45**
67 - 83	38	99 - 121	**42**			90 - 110	**41**	99 - 121	**42**	189 - 231	**47**	151 - 185	**44**	198 - 242	**47**	198 - 242	**47**
63 - 77	38	84 - 104	**42**			76 - 94	41	84 - 104	42	153 - 187	**47**	122 - 150	**44**	171 - 209	**47**	171 - 209	**47**
45 - 55	39	59 - 73	43							117 - 143	**46**	93 - 115	**43**	108 - 132	**46**	108 - 132	**46**
72 - 88	38	94 - 116	**42**			85 - 105	41	94 - 116	42	171 - 209	**47**	136 - 168	**44**	144 - 176	**47**	144 - 176	**47**
63 - 77	37	84 - 104	41							153 - 187	**45**	122 - 150	**42**	135 - 165	**45**	135 - 165	**45**
63 - 77	38	84 - 104	**42**			76 - 94	**41**	84 - 104	**42**	153 - 187	**47**	122 - 150	**44**	135 - 165	**47**	135 - 165	**47**
54 - 66	37	69 - 85	**41**			63 - 77	40	69 - 85	41	126 - 154	**45**	100 - 124	**42**	117 - 143	**45**	117 - 143	**45**
40 - 50	39	49 - 61	**43**			45 - 55	42	49 - 61	43	94 - 116	**46**	75 - 93	**43**	85 - 105	**46**	85 - 105	**46**
		49 - 61	**41**							94 - 116	45	75 - 93	42	85 - 105	**45**	85 - 105	**45**
		49 - 61	**41**							49 - 61	43	39 - 49	41	49 - 61	**44**	49 - 61	**44**
		49 - 61	**43**			45 - 55	**42**	49 - 61	**43**	94 - 116	**46**	75 - 93	**43**	85 - 105	**46**	85 - 105	**46**
		45 - 55	**41**			40 - 50	**40**	45 - 55	**41**	81 - 99	**45**	64 - 80	**42**	76 - 94	**45**	76 - 94	**45**
		39 - 49	**42**			36 - 44	41	39 - 49	42	76 - 94	**46**	61 - 75	**43**	67 - 83	**46**	67 - 83	**46**
94 - 116	38	118 - 146	**42**			108 - 132	**41**	118 - 146	**42**	220 - 270	**47**	132 - 162	**44**	198 - 242	**47**	198 - 242	45
85 - 105	37	108 - 134	**41**			99 - 121	**40**	108 - 134	**41**	202 - 248	**46**	121 - 149	**43**	189 - 231	**46**	189 - 231	**47**
81 - 99	38	99 - 121	**42**			90 - 110	**41**	99 - 121	**42**	180 - 220	**47**	108 - 132	**44**	171 - 209	**47**	171 - 209	**46**
67 - 83	37	89 - 109	**41**			81 - 99	**40**	89 - 109	**41**	157 - 193	**46**	94 - 116	**41**	144 - 176	**46**	144 - 176	**47**
		59 - 73	**41**			54 - 66	**40**	59 - 73	**41**					99 - 121	44	99 - 121	**46**
																	44
		29 - 37	**41**					29 - 37	**41**	54 - 66	**45**	32 - 40	**42**	49 - 61	45	49 - 61	45
58 - 72	37	49 - 61	**41**			45 - 55	**40**	49 - 61	**41**	94 - 116	**45**	56 - 70	**42**				
31 - 39	37	39 - 49	**41**			36 - 44	**40**	39 - 49	**41**	76 - 94	**44**	45 - 57	**41**				
				297 - 363	**46**	297 - 363	**46**	297 - 363	**46**	810 - 990	50	486 - 594	41	720 - 880	50		
				360 - 440	**46**	360 - 440	**46**	360 - 440	**46**	720 - 880	50	432 - 528	41	855 - 1045	50		
		217 - 267	43	144 - 176	**45**	144 - 176	45	217 - 267	43	405 - 495	48	243 - 297	45	342 - 418	48		
		178 - 218	44	117 - 143	46	117 - 143	46	178 - 218	44	324 - 396	49	194 - 238	46	288 - 352	49		
				171 - 209	**47**	171 - 209	**47**	171 - 209	**47**	450 - 550	50			405 - 495	50		
		118 - 146	44	81 - 99	**46**	81 - 99	46	118 - 146	44	216 - 264	49			180 - 220	49		
		99 - 121	44	72 - 88	**46**	72 - 88	46	99 - 121	44	198 - 242	48	118 - 146	45	171 - 209	48		
				67 - 83	**45**	67 - 83	**45**	67 - 83	**45**	162 - 198	48			162 - 198	48		
		99 - 121	43	72 - 88	**45**	72 - 88	45	99 - 121	43	198 - 242	48	118 - 146	45	180 - 220	48		
		79 - 97	42	63 - 77	44	63 - 77	44	79 - 97	42	153 - 187	47	91 - 113	44	171 - 209	47		
				63 - 77	45	63 - 77	**45**	63 - 77	**45**	153 - 187	47			198 - 242	47		
				54 - 66	43	54 - 66	**43**	54 - 66	**43**	126 - 154	46	75 - 93	43	189 - 231	46		
				81 - 99	43	81 - 99	**43**	81 - 99	**43**	216 - 264	46						
				72 - 88	43	72 - 88	**43**	72 - 88	**43**	198 - 242	46						

3xD = 50 % | 1xD = 75 %
1.5xD = 50 % | 1xD = 75 %
1.5xD = 50 % | 1.5xD = 75 % | 1.5xD = 75 %

GUHRINGNAVIGATOR

Tools with **bold** feed column no. (FC no.) are preferred choice.

a_e = Width of cut

a_p = Depth of cut

Roughing

Art. no.	Tool material	Solid carbide	Solid carbide
	Type	N	N
DIN 6527	HA	5735*	
DIN 6527	HB	5535* 5534*	
Company standard	HA		5582
Company standard	HB		

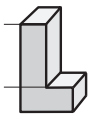
* With this application, optimal chip evacuation must be ensured. Slot milling only recommended > Ø 5 mm.

** In the event of excessive edge wear through vibration, the feed rate should be reduced by 30 %.

a_e = 0.5-1.0xD

a_e = 0.25xD

a_p = 1xD



a_p = 2xD

Milling cutter Ø mm	Feed column no. 37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
	f_z (mm/tooth)															
2.00	0.001	0.001	0.001	0.002	0.002	0.004	0.005	0.006	0.007	0.008	0.010	0.012	0.014	0.016	0.018	0.020
3.00	0.002	0.002	0.003	0.003	0.004	0.007	0.010	0.010	0.010	0.015	0.016	0.013	0.019	0.022	0.024	0.030
5.00	0.005	0.006	0.007	0.009	0.010	0.014	0.020	0.020	0.022	0.025	0.026	0.026	0.028	0.030	0.032	0.038
6.00	0.006	0.008	0.009	0.011	0.013	0.017	0.024	0.025	0.027	0.031	0.029	0.033	0.039	0.036	0.041	0.047
8.00	0.010	0.012	0.014	0.016	0.019	0.024	0.032	0.032	0.035	0.042	0.042	0.047	0.053	0.052	0.058	0.064
10.00	0.013	0.015	0.018	0.021	0.025	0.030	0.038	0.039	0.044	0.050	0.053	0.059	0.065	0.066	0.073	0.080
12.00	0.010	0.018	0.022	0.026	0.030	0.036	0.046	0.048	0.052	0.059	0.063	0.072	0.079	0.085	0.090	0.100
16.00	0.020	0.023	0.027	0.032	0.038	0.045	0.054	0.058	0.063	0.071	0.079	0.088	0.095	0.100	0.110	0.120
20.00	0.023	0.028	0.033	0.038	0.045	0.057	0.066	0.073	0.080	0.090	0.097	0.100	0.110	0.120	0.130	0.140
25.00	0.030	0.035	0.040	0.045	0.055	0.065	0.075	0.100	0.120	0.130	0.140	0.150	0.165	0.170	0.180	0.190

Material group	Material examples	Tensile strength MPa (N/mm²)	Hardness	v_c m/min	Feed col. no.	v_c m/min	Feed col. no.
Common structural steels	**1.0035** S185, **1.0486** P275N, **1.0345** P235GH, **1.0425** P265GH	≤500		*170 - 208*	51	*110 - 136*	**47**
	1.0050 E295, **1.0070** E360, **1.8937** P500NH	≤1000		*157 - 193*	50	*102 - 126*	**46**
Free-cutting steels	**1.0718** 11SMnPb30, **1.0736** 11SMn37	≤850		*170 - 208*	50	*110 - 136*	**46**
	1.0727 46 S20, **1.0728** 60 S20, **1.0757** 46SPb20	≤1000		*126 - 154*	**49**	*81 - 101*	**45**
Unalloyed heat-treatable steels	**1.0402** C22, **1.1178** C30E	≤700		*170 - 208*	50	*110 - 136*	**46**
	1.0503 C45, **1.1191** C45E	≤850		*151 - 185*	50	*98 - 120*	**46**
	1.0601 C60, **1.1221** C60E	≤1000		*126 - 154*	**49**	*81 - 101*	**45**
Alloyed heat-treatable steels	**1.5131** 50MnSi4, **1.7003** 38Cr2, **1.7030** 28Cr4	≤1000		*151 - 185*	**49**	*98 - 120*	**45**
	1.5710 36NiCr6, **1.7035** 41Cr4, **1.7225** 42CrMo4	≤1400		*126 - 154*	**48**	*81 - 101*	**44**
Unalloyed case hardened steels	**1.0301** C10, **1.1121** C10E	≤850		*189 - 231*	50	*123 - 151*	**46**
Alloyed case hardened steels	**1.7043** 38Cr4	≤1000		*151 - 185*	**50**	*98 - 120*	**46**
	1.5752 15NiCr13, **1.7131** 16MnCr5, **1.7264** 20CrMo5	≤1400		*113 - 139*	**49**	*73 - 91*	**45**
Nitriding steels	**1.8504** 34CrAl6	≤1000		*170 - 208*	**50**	*110 - 136*	**46**
	1.8519 31CrMoV9, **1.8550** 34CrAlNi7	≤1400		*151 - 185*	**48**	*98 - 120*	44
Tool steels	**1.1750** C75W, **1.2067** 102Cr6, **1.2307** 29CrMoV9	≤850		*151 - 185*	50	*98 - 120*	**46**
	1.2080 X210Cr12, **1.2083** X42Cr13, **1.2419** 105WCr6	≤1400		*126 - 154*	**48**	*81 - 101*	**44**
High speed steels	**1.3243** S 6-5-2-5, **1.3343** S 6-5-2, **1.3344** S 6-5-3	≤1400		*94 - 116*	**49**	*61 - 75*	45
Spring steels	**1.5026** 55Si7, **1.7176** 55Cr3, **1.8159** 51CrV4		≤350 HB	*94 - 116*	**48**		
Hardened steels	–		≤48 HRC	*44 - 54*	**46**		
			≤66 HRC				
Stainless steels, sulphured	**1.4005** X12CrS13, **1.4104** X14CrMoS17, **1.4105** X6CrMoS17	≤900		*80 - 100*	49	*60 - 80*	45
austenitic	**1.4301** X5CrNi18-10, **1.4541** X6CrNiTi18-10	≤1100		*70 - 90*	48	*55 - 75*	44
martensitic	**1.4057** X20CrNi17-2, **1.4122** X39CrMo17-1	≤1500		*65 - 70*	**49**	*50 - 65*	45
Cast iron	**0.6010** EN-GJL-100(GG10), **0.6020** EN-GJL-200(GG20)		≤240 HB	*220 - 270*	50	*143 - 175*	46
	0.6025 EN-GJL-250(GG25), **0.6035** EN-GJL-350(GG35)		≤350 HB	*201 - 247*	**49**	*131 - 161*	45
Spheroidal graphite iron and	**0.7050** EN-GJS-500-7(GGG50), **0.8035** EN-GJMW-350-4(GTW35)		≤240 HB	*182 - 224*	50	*118 - 146*	46
malleable cast iron	**0.7070** EN-GJS-700-2(GGG70), **0.8170** EN-GJMB-700-2(GTS70)		≤350 HB	*157 - 193*	**49**	*102 - 126*	45
Chilled cast iron	–		≤350 HB	*107 - 131*	**47**	*69 - 85*	43
New cast materials GGV	**EN-GJV250** (GGV25), **EN-GJV350** (GGV35)		≤220 HB				
	EN-GJV400 (GGV40), **EN-GJV500** (GGV50), SiMo 6		≤300 HB				
New cast materials ADI	**EN-GJS-800-8** (ADI800), **EN-GJS-1000-5** (ADI1000)	≤1000					
	EN-GJS-1200-2 (ADI1200), **EN-GJS-1400-1** (ADI1400)	≤1400					
Special alloys	Nimonic, Inconel, Monel, Hastelloy	≤2000		*56 - 70*	**48**		
Ti and Ti alloys	**3.7024** Ti99,5, **3.7114** TiAl5Sn2,5, **3.7124** TiCu2	≤850		*54 - 86*	43	*61 - 75*	44
	3.7154 TiAl6Zr5, **3.7164** TiAl6V4, **3.7184** TiAl4Mo4Sn2,5	≤1400		*44 - 72*	**42**	*49 - 61*	43
Aluminium and Al alloys	**3.0255** Al99,5, **3.2315** AlMgSi1, **3.3515** AlMg1	≤400				*300 - 380*	47
Al wrought alloys	**3.0615** AlMgSiPb, **3.1325** AlCuMg1, **3.3245** AlMg3Si	≤650				*370 - 440*	47
Al cast alloys ≤ 10 % Si	**3.2131** G-AlSi5Cu1, **3.2153** G-AlSi7Cu3, **3.2573** G-AlSi9	≤600				*150 - 185*	45
≤ 24 % Si	**3.2581** G-AlSi12, **3.2583** G-AlSi12Cu, **-** G-AlSi12CuNiMg	≤600				*115 - 145*	46
Magnesium alloys	**3.5200** MgMn2, **3.5812.05** G-MgAl8Zn1, **3.5612.05** G-MgAl6Zn1	≤400				*175 - 215*	47
Copper, low-alloyed	**2.0070** SE-Cu, **2.1020** CuSn6, **2.1096** G-CuSn5ZnPb	≤500				*80 - 100*	46
Brass, short-chipping	**2.0380** CuZn39Pb2, **2.0401** CuZn39Pb3, **2.0410** CuZn43Pb2	≤600				*75 - 95*	45
long-chipping	**2.0250** CuZn20, **2.0280** CuZn33, **2.0332** CuZn37Pb0,5	≤600				*60 - 75*	45
Bronze, short-chipping	**2.1090** CuSn7ZnPb, **2.1170** CuPb5Sn5, **2.1176** CuPb10Sn	≤600				*75 - 95*	45
	2.0790 CuNi18Zn19Pb	≤850				*55 - 70*	44
Bronze, long-chipping	**2.0916** CuAl5, **2.0960** CuAl9Mn, **2.1050** CuSn10	≤850					
	2.0980 CuAl11Ni, **2.1247** CuBe2	≤1000					
Duroplastics	Bakelit, Resopal, Pertinax, Moltopren	≤150					
Thermoplastics	Plexiglass, Hostalen, Novodur, Makralon	≤100					
Kevlar	Kevlar	≤1000					
Glass, carbon concentr. plastics	GFK/CFK	≤1000					

a_p 1.5xD = 50 %
a_e 0.25xD = 150 %

a_p 0.5xD = 75 %
a_p 2xD = 50 %

Finishing

Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide	Sol. carb.	Solid carbide
N	W	NRf	HR	N	NH	N	N	N
5653				5735				
5654		5504**	5583**	5535 5534		5532		
	6010				5582		5556	6011 5578 6014
	5655							6012 5579 6015





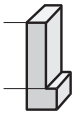


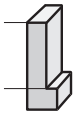


a_e = 0.5-1.0xD | a_e = 0.5-1.0xD | a_e = 0.5-1.0xD | a_e = 0.5-1.0xD | a_e = 0.1xD | a_e = 0.1xD | a_e = 0.1xD | a_e = 0.1xD | a_e = 0.1xD








a_p = 1xD | a_p = 1xD | a_p =1xD | a_p = 1xD | a_p = 1xD | a_p = 2xD | a_p = 1xD | a_p = 2xD | a_p = 0.1xD

v_c m/min	Feed col. no.	v_c m/min	Feed col. no.	v_c m/min	Feed col. no.	v_c m/min	Feed col. no.	v_c m/min	Feed col. no.	v_c m/min	Feed col. no.	v_c m/min	Feed col. no.	v_c m/min	Feed col. no.	v_c m/min	Feed col. no.
170 - 208	49			97 - 119	43			212 - 260	49	139 - 171	44	157 - 193	48	103 - 127	43	170 - 208	51
157 - 193	48			90 - 110	42			194 - 238	48	127 - 157	43	144 - 176	47	94 - 116	42	157 - 193	50
170 - 208	48			97 - 119	42			212 - 260	48	139 - 171	43	157 - 193	47	103 - 127	42	170 - 208	50
126 - 154	47			72 - 88	41			158 - 194	47	109 - 135	42	117 - 143	46	81 - 99	41	126 - 154	49
170 - 208	48			97 - 119	42			212 - 260	48	139 - 171	43	157 - 193	47	103 - 127	42	170 - 208	50
151 - 185	48			86 - 106	42			194 - 238	48	121 - 149	43	144 - 176	47	90 - 110	42	151 - 185	50
126 - 154	47			72 - 88	41			158 - 194	47	103 - 127	42	117 - 143	46	76 - 94	41	126 - 154	49
151 - 185	47			86 - 106	41			188 - 230	47	121 - 149	42	139 - 171	46	90 - 110	41	151 - 185	49
126 - 154	46			72 - 88	40	72 - 88	39	158 - 194	46	103 - 127	41	117 - 143	45	76 - 94	40	126 - 154	48
189 - 231	48			108 - 132	42			236 - 290	48	134 - 164	43	175 - 215	47	99 - 121	42	189 - 231	50
151 - 185	48			86 - 106	42	86 - 106	41	188 - 230	48	121 - 149	43	139 - 171	47	90 - 110	42	151 - 185	50
113 - 139	47			64 - 80	41	64 - 80	40	139 - 171	47	90 - 112	42	103 - 127	46	67 - 83	41	113 - 139	49
170 - 208	48			97 - 119	42	97 - 119	41	212 - 260	48	139 - 171	43	157 - 193	47	103 - 127	42	170 - 208	50
151 - 185	46			86 - 106	40	86 - 106	39	194 - 238	46	121 - 149	41	144 - 176	45	90 - 110	40	151 - 185	48
151 - 185	48			86 - 106	42	86 - 106	41	188 - 230	48	121 - 149	43	139 - 171	47	90 - 110	42	151 - 185	50
126 - 154	46			72 - 88	40	72 - 88	39	158 - 194	46	103 - 127	41	117 - 143	45	76 - 94	40	126 - 154	48
94 - 116	47					54 - 66	47	121 - 149	47	79 - 97	42	90 - 110	46	58 - 72	41	94 - 116	49
67 - 83	46					54 - 66	26	121 - 149	46							94 - 116	48
31 - 39	44			25 - 31	38	25 - 31	38	61 - 75	44							44 - 54	46
						18 - 22	38										
80 - 120	47			54 - 66	41			121 - 149	47	72 - 90	44	90 - 110	46			80 - 100	49
70 - 90	46			46 - 58	40			103 - 127	46	62 - 75	43	76 - 94	45			70 - 90	48
50 - 70	47			43 - 53	41	43 - 53	40	97 - 119	47	58 - 72	44	72 - 88	46			65 - 70	49
				126 - 154	44	126 - 154	42	255 - 313	48	182 - 224	43	189 - 231	47	135 - 165	42	220 - 270	50
				115 - 141	43	115 - 141	41	255 - 313	47	163 - 201	42	189 - 231	46	121 - 149	41	201 - 247	49
				104 - 128	44	104 - 128	42	231 - 283	48	152 - 186	43	171 - 209	47	112 - 138	42	182 - 224	50
				90 - 110	43	90 - 110	41	194 - 238	47	127 - 157	42	144 - 176	46	94 - 116	41	157 - 193	49
						61 - 75	39	134 - 164	45			99 - 121	44			107 - 131	47
40 - 50	46			32 - 40	42			72 - 90	46			54 - 66	45			56 - 70	48
67 - 83	46			54 - 66	41			121 - 149	46	79 - 97	41	90 - 110	45	58 - 72	40	54 - 86	43
54 - 66	45			43 - 53	40			97 - 119	45	61 - 75	40	72 - 88	44	45 - 55	39	44 - 72	42
		810 - 990	50							220 - 280	46	765 - 935	50	450 - 550	45	342 - 418	51
		720 - 880	50							250 - 300	45					414 - 506	50
		405 - 495	48							220 - 250	44	373 - 457	48	225 - 275	43	165 - 203	49
117 - 143	45	324 - 396	49							200 - 240	45	306 - 374	49	180 - 220	44		
		450 - 550	50							210 - 260	46					197 - 241	51
		216 - 264	49							110 - 120	45	198 - 242	49	135 - 165	44	93 - 115	50
		198 - 242	48	117 - 143	44	117 - 143	42			100 - 120	44	180 - 220	48	108 - 132	43	82 - 102	49
		162 - 198	48	94 - 116	44					90 - 110	44	144 - 176	48	90 - 110	43	77 - 95	49
		198 - 242	48	117 - 143	44	117 - 143	42			100 - 120	44	180 - 220	48	108 - 132	43	82 - 102	49
63 - 77	43	153 - 187	47	87 - 107	43	87 - 107	41					135 - 165	47				
63 - 77	43	153 - 187	47	87 - 107	43											72 - 90	48
54 - 66	42	126 - 154	46	72 - 90	42												
81 - 99	42	216 - 264	46													93 - 115	47
72 - 88	42	198 - 242	46													82 - 102	47

a_p 0.5xD = 120 %
a_p 2xD = 50 %

a_p 0.5xD = 120 %
a_p 2xD = 50 %

a_p 1.5xD = 50 %
a_e 0.25xD = 140 %

a_p 0.5xD = 120 %

a_p 2xD = 50 %

a_p 3xD = 50 %

a_p 2xD = 50 %

a_p 3xD = 50 %

a_p 3xD = 50 %

RF100 diver X-D

SLOTTING

Art. no. 6803/6804/6737/6736

	Material/ISO material	Hardness	a_p max.	a_e max.	v_c	f_z (mm/tooth) with nom. Ø							
						4	5	6	8	10	12	16	20
P	Struct./free-cutting steels, unall. heat-treat./case hard. steels	≤ 850 N/mm²	1xD	1xD	270	0.017	0.021	0.025	0.034	0.050	0.060	0.080	0.100
P	Free-cutting steels, unalloyed case hard. steels, nitr. steels	850-1200 N/mm²	1xD	1xD	230	0.017	0.021	0.025	0.034	0.050	0.060	0.080	0.100
P	Alloyed heat-treatable, tool and high speed steels	850-1400 N/mm²	1xD	1xD	180	0.014	0.018	0.021	0.028	0.045	0.054	0.072	0.090
M	Stainless steel - easy to machine/sulphured	≤ 750 N/mm²	1xD	1xD	120	0.014	0.018	0.021	0.028	0.045	0.054	0.072	0.090
M	Stainless steel - moderately difficult to machine	750-950 N/mm²	1xD	1xD	80	0.013	0.016	0.019	0.026	0.040	0.048	0.064	0.080
K	Cast iron, grey cast iron, spher. graphite/malleable cast iron	≥ 240 HB	1xD	1xD	150	0.017	0.021	0.025	0.034	0.050	0.060	0.080	0.100
N	Aluminium, Al-wrought alloys, Al alloys	≤ 7 % Si	1xD	1xD	500	0.022	0.028	0.033	0.044	0.065	0.078	0.104	0.130
N	Aluminium-cast alloys	≥ 7 % Si	1xD	1xD	340	0.018	0.023	0.027	0.036	0.055	0.066	0.088	0.110
S	Titanium, Titanium alloys	≤ 1300 N/mm²	1xD	1xD	60	0.013	0.016	0.019	0.026	0.040	0.048	0.064	0.080

HPC ROUGHING

	Material/ISO material	Hardness	a_p max.	a_e max.	v_c	f_z (mm/tooth) with nom. Ø							
						4	5	6	8	10	12	16	20
P	Struct./free-cutting steels. unall. heat-treat./case hard. steels	≤ 850 N/mm²	1.5xD	0.40xD	350	0.021	0.026	0.032	0.042	0.063	0.075	0.100	0.125
P	Free-cutting steels. unalloyed case hard. steels. nitr. steels	850-1200 N/mm²	1.5xD	0.40xD	290	0.021	0.026	0.032	0.042	0.063	0.075	0.100	0.125
P	Alloyed heat-treatable. tool and high speed steels	850-1400 N/mm²	1.5xD	0.33xD	260	0.018	0.023	0.027	0.036	0.059	0.070	0.094	0.117
M	Stainless steel - easy to machine/sulphured	≤ 750 N/mm²	1.5xD	0.33xD	160	0.018	0.023	0.027	0.036	0.059	0.070	0.094	0.117
M	Stainless steel - moderately difficult to machine	750-950 N/mm²	1.5xD	0.25xD	120	0.019	0.024	0.029	0.038	0.060	0.072	0.096	0.120
K	Cast iron. grey cast iron. spher. graphite/malleable cast iron	≥ 240 HB	1.5xD	0.40xD	190	0.021	0.026	0.032	0.042	0.063	0.075	0.100	0.125
N	Aluminium. Al-wrought alloys. Al alloys	≤ 7 % Si	1.5xD	0.40xD	600	0.028	0.034	0.041	0.055	0.081	0.098	0.130	0.163
N	Aluminium-cast alloys	≥ 7 % Si	1.5xD	0.40xD	440	0.023	0.028	0.034	0.045	0.069	0.083	0.110	0.138
S	Titanium. Titanium alloys	≤ 1300 N/mm²	1.5xD	0.33xD	110	0.017	0.021	0.025	0.033	0.052	0.062	0.083	0.104

HPC FINISHING

	Material/ISO material	Hardness	a_p max.	a_e max.	v_c	f_z (mm/tooth) with nom. Ø							
						4	5	6	8	10	12	16	20
P	Struct./free-cutting steels. unall. heat-treat./case hard. steels	≤ 850 N/mm²	2xD	0.02xD	540	0.018	0.023	0.028	0.037	0.055	0.066	0.088	0.110
P	Free-cutting steels. unalloyed case hard. steels. nitr. steels	850-1200 N/mm²	2xD	0.02xD	460	0.018	0.023	0.028	0.037	0.055	0.066	0.088	0.110
P	Alloyed heat-treatable. tool and high speed steels	850-1400 N/mm²	2xD	0.02xD	350	0.015	0.019	0.023	0.031	0.050	0.059	0.079	0.099
M	Stainless steel - easy to machine/sulphured	≤ 750 N/mm²	2xD	0.02xD	220	0.015	0.019	0.023	0.031	0.050	0.059	0.079	0.099
M	Stainless steel - moderately difficult to machine	750-950 N/mm²	2xD	0.02xD	160	0.014	0.018	0.021	0.028	0.044	0.053	0.070	0.088
K	Cast iron. grey cast iron. spher. graphite/malleable cast iron	≥ 240 HB	2xD	0.02xD	300	0.018	0.023	0.028	0.037	0.055	0.066	0.088	0.110
N	Aluminium. Al-wrought alloys. Al alloys	≤ 7 % Si	2xD	0.02xD	1000	0.024	0.030	0.036	0.048	0.072	0.086	0.114	0.143
N	Aluminium-cast alloys	≥ 7 % Si	2xD	0.02xD	680	0.020	0.025	0.030	0.040	0.061	0.073	0.097	0.121
S	Titanium. Titanium alloys	≤ 1300 N/mm²	2xD	0.02xD	130	0.014	0.018	0.021	0.028	0.044	0.053	0.070	0.088

RAMPING, HELIX, GROOVING

	Material/ISO material	Hardness	a_p	max. ramping angle	v_c	f_z (mm/tooth) with nom. Ø							
						4	5	6	8	10	12	16	20
P	Struct./free-cutting steels. unall. heat-treat./case hard. steels	≤ 850 N/mm²	1xD	45°	270	0.015	0.019	0.023	0.030	0.045	0.054	0.072	0.090
P	Free-cutting steels. unalloyed case hard. steels. nitr. steels	850-1200 N/mm²	1xD	45°	230	0.013	0.017	0.020	0.026	0.040	0.048	0.064	0.080
P	Alloyed heat-treatable. tool and high speed steels	850-1400 N/mm²	1xD	30°	180	0.011	0.014	0.017	0.022	0.030	0.036	0.048	0.060
M	Stainless steel - easy to machine/sulphured	≤ 750 N/mm²	1xD	10°	120	0.009	0.012	0.014	0.018	0.030	0.036	0.048	0.060
M	Stainless steel - moderately difficult to machine	750-950 N/mm²	1xD	5°	80	0.007	0.009	0.011	0.014	0.025	0.030	0.040	0.050
K	Cast iron. grey cast iron. spher. graphite/malleable cast iron	≥ 240 HB	1xD	45°	150	0.015	0.019	0.023	0.030	0.045	0.054	0.072	0.090
N	Aluminium. Al-wrought alloys. Al alloys	≤ 7 % Si	1xD	30°	500	0.013	0.017	0.020	0.026	0.040	0.048	0.064	0.080
N	Aluminium-cast alloys	≥ 7 % Si	1xD	45°	340	0.015	0.019	0.023	0.030	0.045	0.054	0.072	0.090
S	Titanium. Titanium alloys	≤ 1300 N/mm²	1xD	10°	60	0.007	0.009	0.011	0.014	0.025	0.030	0.040	0.050

DRILLING

	Material/ISO material	Hardness	Drilling depth (a_p max.)	v_c	f_z (mm/tooth) with nom. Ø							
					4	5	6	8	10	12	16	20
P	Struct./free-cutting steels. unall. heat-treat./case hard. steels	≤ 850 N/mm²	1.5xD	270	0.014	0.018	0.021	0.028	0.040	0.048	0.064	0.080
P	Free-cutting steels. unalloyed case hard. steels. nitr. steels	850-1200 N/mm²	1.5xD	230	0.012	0.015	0.018	0.024	0.035	0.042	0.056	0.070
P	Alloyed heat-treatable. tool and high speed steels	850-1400 N/mm²	1.0xD	180	0.008	0.010	0.012	0.016	0.025	0.030	0.040	0.050
K	Cast iron. grey cast iron. spher. graphite/malleable cast iron	≥ 240 HB	1.5xD	150	0.014	0.018	0.021	0.028	0.040	0.048	0.064	0.080
N	Aluminium. Al-wrought alloys. Al alloys	≤ 7 % Si	1.0xD	500	0.012	0.015	0.018	0.024	0.035	0.042	0.056	0.070
N	Aluminium-cast alloys	≥ 7 % Si	1.0xD	340	0.014	0.018	0.021	0.028	0.040	0.048	0.064	0.080

RF 100 SPEED

Art. no. 6761

ROUGHING

Milling conditions	Material	Machinability	max. a_p	max. a_e	max. pressure angle	v_c	f_z (mm/tooth) with nom. Ø								
							3	4	5	6	8	10	12	16	20
HPC	P	light/medial	L2	0.15xD	46°	280	0.026	0.034	0.043	0.051	0.084	0.105	0.125	0.167	0.209
		difficult	L2	0.15xD	46°	220	0.026	0.034	0.043	0.051	0.076	0.095	0.114	0.152	0.190
	M	light/medial	L2	0.10xD	37°	160	0.024	0.032	0.040	0.048	0.064	0.081	0.097	0.129	0.161
		difficult	L2	0.10xD	37°	100	0.024	0.032	0.040	0.048	0.064	0.081	0.097	0.129	0.161
	S	medial/difficult	L2	0.08xD	31°	90	0.026	0.035	0.044	0.053	0.070	0.088	0.105	0.140	0.175
		very difficult	L2	0.08xD	31°	60	0.023	0.030	0.038	0.045	0.060	0.075	0.090	0.120	0.150

ROUGHING

Milling conditions	Material	Machinability	max. a_p	max. a_e	max. pressure angle	v_c	f_z (mm/tooth) with nom. Ø								
							3	4	5	6	8	10	12	16	20
HSC	P	light/medial	L2	0.10xD	37°	310	0.031	0.041	0.052	0.062	0.101	0.127	0.152	0.202	0.253
		difficult	L2	0.10xD	37°	240	0.031	0.041	0.052	0.062	0.092	0.115	0.138	0.184	0.230
	M	light/medial	L2	0.08xD	31°	170	0.026	0.035	0.044	0.053	0.070	0.088	0.105	0.140	0.175
		difficult	L2	0.08xD	31°	110	0.026	0.035	0.044	0.053	0.070	0.088	0.105	0.140	0.175
	S	medial/difficult	L2	0.05xD	26°	100	0.026	0.035	0.044	0.053	0.070	0.088	0.105	0.140	0.175
		very difficult	L2	0.05xD	26°	70	0.023	0.030	0.038	0.045	0.060	0.075	0.090	0.120	0.150

FINISHING

Milling conditions	Material	Machinability	max. a_p	max. a_e	max. pressure angle	v_c	f_z (mm/tooth) with nom. Ø								
							3	4	5	6	8	10	12	16	20
HSC	P	light/medial	L2	0.01xD	11°	340	0.024	0.032	0.041	0.049	0.079	0.099	0.119	0.158	0.198
		difficult	L2	0.01xD	11°	270	0.024	0.032	0.041	0.049	0.072	0.090	0.108	0.144	0.180
	M	light/medial	L2	0.01xD	11°	180	0.019	0.025	0.032	0.038	0.050	0.063	0.076	0.101	0.126
		difficult	L2	0.01xD	11°	120	0.019	0.025	0.032	0.038	0.050	0.063	0.076	0.101	0.126
	S	medial/difficult	L2	0.01xD	11°	100	0.019	0.025	0.032	0.038	0.050	0.063	0.076	0.101	0.126
		very difficult	L2	0.01xD	11°	70	0.016	0.022	0.027	0.032	0.043	0.054	0.065	0.086	0.108

GTC GÜHRING TROCHOIDAL CUTTING

Art. no. 6964/6965

SLOTTING

Milling conditions	Material	Machinability	max. a_p	max. a_e	max. pressure angle	v_c	f_z (mm/tooth) with nom. Ø								
							3	4	5	6	8	10	12	16	20
HPC	P	light/medial	1xD	1xD	180°	180	0.016	0.022	0.026	0.031	0.042	0.060	0.070	0.100	0.120
		difficult	1xD	1xD	180°	135	0.014	0.018	0.022	0.027	0.036	0.050	0.060	0.080	0.100
	M	light/medial	1xD	1xD	180°	120	0.014	0.018	0.022	0.027	0.036	0.050	0.060	0.080	0.100
		difficult	1xD	1xD	180°	60	0.011	0.015	0.018	0.021	0.028	0.040	0.050	0.060	0.080
	S	medial/difficult	1xD	1xD	180°	60	0.012	0.016	0.020	0.024	0.032	0.045	0.050	0.070	0.090
		very difficult	1xD	1xD	180°	30	0.008	0.010	0.014	0.017	0.022	0.032	0.040	0.050	0.060

ROUGHING

Milling conditions	Material	Machinability	max. a_p	max. a_e	max. pressure angle	v_c	f_z (mm/tooth) with nom. Ø								
							3	4	5	6	8	10	12	16	20
HPC	P	light/medial	L2	0.2xD	53°	305	0.025	0.032	0.040	0.050	0.067	0.096	0.120	0.150	0.190
		difficult	L2	0.2xD	53°	230	0.022	0.028	0.034	0.043	0.058	0.080	0.100	0.130	0.160
	M	light/medial	L2	0.2xD	53°	205	0.022	0.028	0.034	0.043	0.058	0.080	0.100	0.130	0.160
		difficult	L2	0.2xD	53°	100	0.017	0.022	0.026	0.034	0.045	0.064	0.080	0.100	0.130
	S	medial/difficult	L2	0.2xD	53°	100	0.019	0.024	0.028	0.038	0.051	0.072	0.090	0.120	0.140
		very difficult	L2	0.2xD	53°	50	0.013	0.015	0.022	0.027	0.036	0.051	0.060	0.080	0.100

FINISHING

Milling conditions	Material	Machinability	max. a_p	max. a_e	max. pressure angle	v_c	f_z (mm/tooth) with nom. Ø								
							3	4	5	6	8	10	12	16	20
HSC	P	light/medial	L2	0.01xD	11°	340	0.024	0.032	0.041	0.049	0.079	0.099	0.119	0.158	0.198
		difficult	L2	0.01xD	11°	270	0.024	0.032	0.041	0.049	0.072	0.090	0.108	0.144	0.180
	M	light/medial	L2	0.01xD	11°	180	0.019	0.025	0.032	0.038	0.050	0.063	0.076	0.101	0.126
		difficult	L2	0.01xD	11°	120	0.019	0.025	0.032	0.038	0.050	0.063	0.076	0.101	0.126
	S	medial/difficult	L2	0.01xD	11°	100	0.019	0.025	0.032	0.038	0.050	0.063	0.076	0.101	0.126
		very difficult	L2	0.01xD	11°	70	0.016	0.022	0.027	0.032	0.043	0.054	0.065	0.086	0.108

REAMERS AND COUNTERSINKS

NC machine reamers

DIN 212-3 | H7

Tool material	HSS-E
Surface	◯
Form	B
Shank form	HA

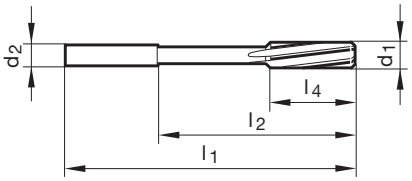
SL

P	•
M	○
K	•
N	•
S	○
H	

- ≤ Ø 3.75 mm with external centres on both ends
- > Ø 3.75 mm with internal centres on both ends

GÜHRINGNAVIGATOR

Cutting data page 252



Article no.	6019
Discount group	154

d1	d2 h6	l1	l2	l4	Z	Code no.	Availability
mm	mm	mm	mm	mm			
1.500	2.000	40.000	12.000	8.000	3	1.500	●
2.000	2.000	49.000	21.000	11.000	4	2.000	●
2.500	3.000	57.000	27.000	14.000	4	2.500	●
3.000	3.000	61.000	31.000	15.000	6	3.000	●
3.500	4.000	70.000	38.000	18.000	6	3.500	●
4.000	4.000	75.000	43.000	19.000	6	4.000	●
4.500	5.000	80.000	47.000	21.000	6	4.500	●
5.000	5.000	86.000	52.000	23.000	6	5.000	●
5.500	6.000	93.000	57.000	26.000	6	5.500	●
6.000	6.000	93.000	57.000	26.000	6	6.000	●
6.500	6.000	101.000	63.000	28.000	6	6.500	●
7.000	8.000	109.000	69.000	31.000	6	7.000	●
7.500	8.000	109.000	69.000	31.000	6	7.500	●
8.000	8.000	117.000	75.000	33.000	6	8.000	●
8.500	8.000	117.000	75.000	33.000	6	8.500	●
9.000	10.000	125.000	81.000	36.000	6	9.000	●
9.500	10.000	125.000	81.000	36.000	6	9.500	●
10.000	10.000	133.000	87.000	38.000	6	10.000	●
11.000	10.000	142.000	96.000	41.000	6	11.000	●
12.000	10.000	151.000	105.000	44.000	6	12.000	●
13.000	10.000	151.000	105.000	44.000	6	13.000	●
14.000	14.000	160.000	110.000	47.000	8	14.000	●
15.000	14.000	162.000	112.000	50.000	8	15.000	●
16.000	14.000	170.000	120.000	52.000	8	16.000	●
17.000	14.000	175.000	123.000	54.000	8	17.000	●
18.000	14.000	182.000	130.000	56.000	8	18.000	●
19.000	16.000	189.000	131.000	58.000	8	19.000	●
20.000	16.000	195.000	137.000	60.000	8	20.000	●

NC machine reamers

DIN 212-3 | ≤Ø5,5=+0,004 >Ø5,5=+0,005

Tool material	HSS-E
Surface	◯
Form	B
Shank form	HA

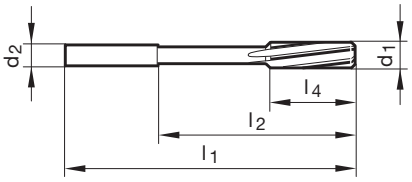
SL

P	•
M	○
K	•
N	•
S	○
H	

- ≤ Ø 3.75 mm with external centres on both ends
- > Ø 3.75 mm with internal centres on both ends
- ≤ Ø 5.50 mm: 0.000/+0.004
- > Ø 5.50 mm: 0.000/+0.005

GÜHRINGNAVIGATOR

Cutting data page 252



Article no.	6020
Discount group	154

d1	d2 h6	l1	l2	l4	Z	Code no.	Availability
mm	mm	mm	mm	mm			
1.000	1.000	34.000	6.500	5.500	3	1.000	●
1.010	1.000	34.000	6.500	5.500	3	1.010	●
1.020	1.000	34.000	6.500	5.500	3	1.020	●
1.030	1.000	34.000	6.500	5.500	3	1.030	●
1.500	2.000	40.000	12.000	8.000	3	1.500	●
1.510	2.000	43.000	15.000	9.000	3	1.510	●
1.520	2.000	43.000	15.000	9.000	3	1.520	●
1.530	2.000	43.000	15.000	9.000	3	1.530	●
1.970	2.000	49.000	21.000	11.000	4	1.970	●
1.980	2.000	49.000	21.000	11.000	4	1.980	●
1.990	2.000	49.000	21.000	11.000	4	1.990	●
2.000	2.000	49.000	21.000	11.000	4	2.000	●
2.010	2.000	49.000	21.000	11.000	4	2.010	●
2.020	2.000	49.000	21.000	11.000	4	2.020	●
2.030	2.000	49.000	21.000	11.000	4	2.030	●
2.470	3.000	57.000	27.000	14.000	4	2.470	●
2.480	3.000	57.000	27.000	14.000	4	2.480	●
2.490	3.000	57.000	27.000	14.000	4	2.490	●
2.500	3.000	57.000	27.000	14.000	4	2.500	●
2.510	3.000	57.000	27.000	14.000	4	2.510	●
2.520	3.000	57.000	27.000	14.000	4	2.520	●
2.530	3.000	57.000	27.000	14.000	4	2.530	●
2.970	3.000	61.000	31.000	15.000	6	2.970	●
2.980	3.000	61.000	31.000	15.000	6	2.980	●
2.990	3.000	61.000	31.000	15.000	6	2.990	●
3.000	3.000	61.000	31.000	15.000	6	3.000	●
3.010	4.000	65.000	34.000	16.000	6	3.010	●
3.020	4.000	65.000	34.000	16.000	6	3.020	●
3.030	4.000	65.000	34.000	16.000	6	3.030	●
3.970	4.000	75.000	43.000	19.000	6	3.970	●
3.980	4.000	75.000	43.000	19.000	6	3.980	●
3.990	4.000	75.000	43.000	19.000	6	3.990	●
4.000	4.000	75.000	43.000	19.000	6	4.000	●
4.010	4.000	75.000	43.000	19.000	6	4.010	●
4.020	4.000	75.000	43.000	19.000	6	4.020	●
4.030	4.000	75.000	43.000	19.000	6	4.030	●

						Article no.	6020
						Discount group	154
d1	d2 h6	l1	l2	l4	Z	Code no.	Availability
mm	mm	mm	mm	mm			
4.970	5.000	86.000	52.000	23.000	6	4.970	●
4.980	5.000	86.000	52.000	23.000	6	4.980	●
4.990	5.000	86.000	52.000	23.000	6	4.990	●
5.000	5.000	86.000	52.000	23.000	6	5.000	●
5.010	5.000	86.000	52.000	23.000	6	5.010	●
5.020	5.000	86.000	52.000	23.000	6	5.020	●
5.030	5.000	86.000	52.000	23.000	6	5.030	●
5.970	6.000	93.000	57.000	26.000	6	5.970	●
5.980	6.000	93.000	57.000	26.000	6	5.980	●
5.990	6.000	93.000	57.000	26.000	6	5.990	●
6.000	6.000	93.000	57.000	26.000	6	6.000	●
6.010	6.000	101.000	63.000	28.000	6	6.010	●
6.020	6.000	101.000	63.000	28.000	6	6.020	●
6.030	6.000	101.000	63.000	28.000	6	6.030	●
7.970	8.000	117.000	75.000	33.000	6	7.970	●
7.980	8.000	117.000	75.000	33.000	6	7.980	●
7.990	8.000	117.000	75.000	33.000	6	7.990	●
8.000	8.000	117.000	75.000	33.000	6	8.000	●
8.010	8.000	117.000	75.000	33.000	6	8.010	●
8.020	8.000	117.000	75.000	33.000	6	8.020	●
8.030	8.000	117.000	75.000	33.000	6	8.030	●
9.000	10.000	125.000	81.000	36.000	6	9.000	●
9.010	10.000	125.000	81.000	36.000	6	9.010	●
9.020	10.000	125.000	81.000	36.000	6	9.020	●
9.030	10.000	125.000	81.000	36.000	6	9.030	●
9.970	10.000	133.000	87.000	38.000	6	9.970	●
9.980	10.000	133.000	87.000	38.000	6	9.980	●
9.990	10.000	133.000	87.000	38.000	6	9.990	●
10.000	10.000	133.000	87.000	38.000	6	10.000	●
10.010	10.000	133.000	87.000	38.000	6	10.010	●
10.020	10.000	133.000	87.000	38.000	6	10.020	●
10.030	10.000	133.000	87.000	38.000	6	10.030	●
11.970	10.000	151.000	105.000	44.000	6	11.970	●
11.980	10.000	151.000	105.000	44.000	6	11.980	●
11.990	10.000	151.000	105.000	44.000	6	11.990	●
12.000	10.000	151.000	105.000	44.000	6	12.000	●
12.010	10.000	151.000	105.000	44.000	6	12.010	●
12.020	10.000	151.000	105.000	44.000	6	12.020	●
12.030	10.000	151.000	105.000	44.000	6	12.030	●

NC machine reamers

WN | H7

Tool material	Solid carbide
Surface	◯
Form	B
Shank form	HA

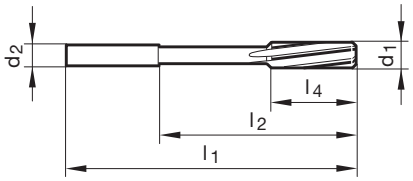
SL

P	•
M	○
K	•
N	•
S	○
H	52

• Ø > 3.75 mm with extremely unequal flute spacing

GÜHRINGNAVIGATOR

Cutting data page 252



Article no. **6016**

Discount group **154**

d1	d2 h6	l1	l2	l4	Z	Code no.	Availability
mm	mm	mm	mm	mm			
3.000	4.000	64.000	35.400	17.000	6	3.000	●
3.500	4.000	74.000	46.000	20.000	6	3.500	●
4.000	4.000	77.000	45.000	21.000	6	4.000	●
4.500	6.000	82.000	50.000	23.000	6	4.500	●
5.000	6.000	93.000	59.000	26.000	6	5.000	●
5.500	6.000	93.000	57.000	26.000	6	5.500	●
6.000	6.000	93.000	57.000	26.000	6	6.000	●
6.500	8.000	101.000	63.000	28.000	6	6.500	●
7.000	8.000	109.000	69.000	31.000	6	7.000	●
7.500	8.000	109.000	69.000	31.000	6	7.500	●
8.000	8.000	117.000	75.000	33.000	6	8.000	●
8.500	10.000	117.000	75.000	33.000	6	8.500	●
9.000	10.000	125.000	81.000	36.000	6	9.000	●
9.500	10.000	125.000	81.000	36.000	6	9.500	●
10.000	10.000	133.000	87.000	38.000	6	10.000	●
10.500	10.000	133.000	87.000	38.000	6	10.500	●
11.000	10.000	142.000	96.000	41.000	6	11.000	●
11.500	10.000	142.000	96.000	41.000	6	11.500	●
12.000	12.000	151.000	105.000	44.000	6	12.000	●
13.000	14.000	160.000	114.000	44.000	6	13.000	●
14.000	14.000	160.000	110.000	47.000	6	14.000	●
15.000	16.000	170.000	120.000	50.000	6	15.000	●
16.000	16.000	170.000	120.000	52.000	6	16.000	●
17.000	18.000	182.000	130.000	52.000	6	17.000	●
18.000	18.000	182.000	130.000	52.000	6	18.000	●
19.000	20.000	195.000	137.000	52.000	6	19.000	●
20.000	20.000	195.000	137.000	52.000	6	20.000	●

NC machine reamers

WN | H7

Tool material	Solid carbide
Surface	a
Form	B
Shank form	HA

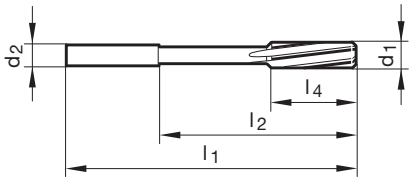
SL

P	•
M	•
K	•
N	
S	•
H	52

• Ø > 3.75 mm with extremely unequal flute spacing

GÜHRINGNAVIGATOR

Cutting data page 252



Article no. **6017**

Discount group **154**

d1	d2 h6	l1	l2	l4	Z	Code no.	Availability
mm	mm	mm	mm	mm			
3.000	4.000	64.000	35.400	17.000	6	3.000	●
3.500	4.000	74.000	74.000	20.000	6	3.500	●
4.000	4.000	77.000	45.000	21.000	6	4.000	●
4.500	6.000	82.000	50.000	23.000	6	4.500	●
5.000	6.000	93.000	59.000	26.000	6	5.000	●
5.500	6.000	93.000	57.000	26.000	6	5.500	●
6.000	6.000	93.000	57.000	26.000	6	6.000	●
6.500	8.000	101.000	63.000	28.000	6	6.500	●
7.000	8.000	109.000	69.000	31.000	6	7.000	●
7.500	8.000	109.000	69.000	31.000	6	7.500	●
8.000	8.000	117.000	75.000	33.000	6	8.000	●
8.500	10.000	117.000	75.000	33.000	6	8.500	●
9.000	10.000	125.000	81.000	36.000	6	9.000	●
9.500	10.000	125.000	81.000	36.000	6	9.500	●
10.000	10.000	133.000	87.000	38.000	6	10.000	●
10.500	10.000	133.000	87.000	38.000	6	10.500	●
11.000	10.000	142.000	96.000	41.000	6	11.000	●
11.500	10.000	142.000	96.000	41.000	6	11.500	●
12.000	12.000	151.000	105.000	44.000	6	12.000	●
13.000	14.000	160.000	114.000	44.000	6	13.000	●
14.000	14.000	160.000	110.000	47.000	6	14.000	●
15.000	16.000	170.000	120.000	50.000	6	15.000	●
16.000	16.000	170.000	120.000	52.000	6	16.000	●
17.000	18.000	182.000	130.000	52.000	6	17.000	●
18.000	18.000	182.000	130.000	52.000	6	18.000	●
19.000	20.000	195.000	137.000	52.000	6	19.000	●
20.000	20.000	195.000	137.000	52.000	6	20.000	●

NC machine reamers

WN | ≤Ø5,5=+0,004 >Ø5,5=+0,005

Tool material	Solid carbide
Surface	◯
Form	B
Shank form	HA

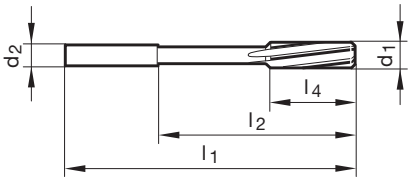
SL

P	•
M	○
K	•
N	•
S	○
H	52

- Ø > 3.75 mm with extremely unequal flute spacing
- ≤ Ø 5.50 mm: 0.000/+0.004
- > Ø 5.50 mm: 0.000/+0.005

GÜHRINGNAVIGATOR

Cutting data page 252



Article no.	5527
Discount group	154

d1	d2 h6	l1	l2	l4	Z	Code no.	Availability
mm	mm	mm	mm	mm			
0.980	4.000	50.000	22.000	6.000	3	0.980	●
0.990	4.000	50.000	22.000	6.000	3	0.990	●
1.000	4.000	50.000	22.000	6.000	3	1.000	●
1.010	4.000	50.000	22.000	6.000	3	1.010	●
1.020	4.000	50.000	22.000	6.000	3	1.020	●
1.030	4.000	50.000	22.000	9.000	3	1.030	●
1.480	4.000	50.000	22.000	9.000	3	1.480	●
1.490	4.000	50.000	22.000	9.000	3	1.490	●
1.500	4.000	50.000	22.000	9.000	3	1.500	●
1.510	4.000	50.000	22.000	9.000	3	1.510	●
1.520	4.000	50.000	22.000	9.000	3	1.520	●
1.530	4.000	50.000	22.000	9.000	3	1.530	●
1.980	4.000	50.000	22.000	12.000	4	1.980	●
1.990	4.000	50.000	22.000	12.000	4	1.990	●
2.000	4.000	50.000	22.000	12.000	4	2.000	●
2.010	4.000	50.000	22.000	12.000	4	2.010	●
2.020	4.000	50.000	22.000	12.000	4	2.020	●
2.030	4.000	50.000	22.000	12.000	4	2.030	●
2.480	4.000	60.000	32.000	16.000	4	2.480	●
2.490	4.000	60.000	32.000	16.000	4	2.490	●
2.500	4.000	60.000	32.000	16.000	4	2.500	●
2.510	4.000	60.000	32.000	16.000	4	2.510	●
2.520	4.000	60.000	32.000	16.000	4	2.520	●
2.530	4.000	60.000	32.000	16.000	4	2.530	●
2.970	4.000	64.000	36.000	17.000	6	2.970	●
2.980	4.000	64.000	36.000	17.000	6	2.980	●
2.990	4.000	64.000	36.000	17.000	6	2.990	●
3.000	4.000	64.000	36.000	17.000	6	3.000	●
3.010	4.000	64.000	36.000	17.000	6	3.010	●
3.020	4.000	64.000	36.000	17.000	6	3.020	●
3.030	4.000	64.000	36.000	17.000	6	3.030	●
3.970	4.000	77.000	45.000	21.000	6	3.970	●
3.980	4.000	77.000	45.000	21.000	6	3.980	●
3.990	4.000	77.000	45.000	21.000	6	3.990	●
4.000	4.000	77.000	45.000	21.000	6	4.000	●
4.010	4.000	77.000	45.000	21.000	6	4.010	●

						Article no.	5527
						Discount group	154
d1	d2 h6	l1	l2	l4	Z	Code no.	Availability
mm	mm	mm	mm	mm			
4.020	4.000	77.000	45.000	21.000	6	4.020	●
4.030	4.000	77.000	45.000	21.000	6	4.030	●
4.970	6.000	93.000	59.000	26.000	6	4.970	●
4.980	6.000	93.000	59.000	26.000	6	4.980	●
4.990	6.000	93.000	59.000	26.000	6	4.990	●
5.000	6.000	93.000	59.000	26.000	6	5.000	●
5.010	6.000	93.000	59.000	26.000	6	5.010	●
5.020	6.000	93.000	59.000	26.000	6	5.020	●
5.030	6.000	93.000	59.000	26.000	6	5.030	●
5.970	6.000	93.000	57.000	26.000	6	5.970	●
5.980	6.000	93.000	57.000	26.000	6	5.980	●
5.990	6.000	93.000	57.000	26.000	6	5.990	●
6.000	6.000	93.000	57.000	26.000	6	6.000	●
6.010	6.000	93.000	57.000	26.000	6	6.010	●
6.020	6.000	93.000	57.000	26.000	6	6.020	●
6.030	6.000	93.000	57.000	26.000	6	6.030	●
7.000	8.000	109.000	69.000	31.000	6	7.000	●
7.970	8.000	117.000	75.000	33.000	6	7.970	●
7.980	8.000	117.000	75.000	33.000	6	7.980	●
7.990	8.000	117.000	75.000	33.000	6	7.990	●
8.000	8.000	117.000	75.000	33.000	6	8.000	●
8.010	8.000	117.000	75.000	33.000	6	8.010	●
8.020	8.000	117.000	75.000	33.000	6	8.020	●
8.030	8.000	117.000	75.000	33.000	6	8.030	●
8.040	8.000	117.000	75.000	33.000	6	8.040	●
9.000	10.000	125.000	81.000	36.000	6	9.000	●
9.970	10.000	133.000	87.000	38.000	6	9.970	●
9.980	10.000	133.000	87.000	38.000	6	9.980	●
9.990	10.000	133.000	87.000	38.000	6	9.990	●
10.000	10.000	133.000	87.000	38.000	6	10.000	●
10.010	10.000	133.000	87.000	38.000	6	10.010	●
10.020	10.000	133.000	87.000	38.000	6	10.020	●
10.030	10.000	133.000	87.000	38.000	6	10.030	●
10.040	10.000	133.000	87.000	38.000	6	10.040	●
10.050	10.000	133.000	87.000	38.000	6	10.050	●
11.970	12.000	151.000	105.000	44.000	6	11.970	●
11.980	12.000	151.000	105.000	44.000	6	11.980	●
11.990	12.000	151.000	105.000	44.000	6	11.990	●
12.000	12.000	151.000	105.000	44.000	6	12.000	●
12.010	12.000	151.000	105.000	44.000	6	12.010	●
12.020	12.000	151.000	105.000	44.000	6	12.020	●
12.030	12.000	151.000	105.000	44.000	6	12.030	●
12.040	12.000	151.000	105.000	44.000	6	12.040	●
12.050	12.000	151.000	105.000	44.000	6	12.050	●

NC machine reamers

WN | ≤Ø5,5=+0,004 >Ø5,5=+0,005

Tool material	Solid carbide
Surface	a
Form	B
Shank form	HA

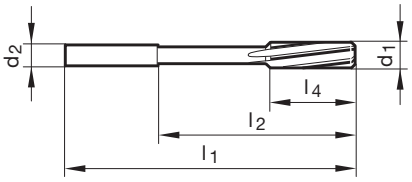
SL

P	•
M	•
K	•
N	
S	•
H	52

- Ø > 3.75 mm with extremely unequal flute spacing
- ≤ Ø 5.50 mm: 0.000/+0.004
- > Ø 5.50 mm: 0.000/+0.005

GÜHRINGNAVIGATOR

Cutting data page 252



Article no.	6018
Discount group	154

d1 mm	d2 h6 mm	l1 mm	l2 mm	l4 mm	Z	Code no.	Availability
0.980	4.000	50.000	20.500	6.000	3	0.980	●
0.990	4.000	50.000	20.500	6.000	3	0.990	●
1.000	4.000	50.000	20.500	6.000	3	1.000	●
1.010	4.000	50.000	20.500	6.000	3	1.010	●
1.020	4.000	50.000	20.500	6.000	3	1.020	●
1.030	4.000	50.000	20.500	9.000	3	1.030	●
1.480	4.000	50.000	20.700	9.000	3	1.480	●
1.490	4.000	50.000	20.700	9.000	3	1.490	●
1.500	4.000	50.000	20.700	9.000	3	1.500	●
1.510	4.000	50.000	20.700	9.000	3	1.510	●
1.520	4.000	50.000	20.700	9.000	3	1.520	●
1.530	4.000	50.000	20.700	9.000	3	1.530	●
1.980	4.000	50.000	20.900	12.000	4	1.980	●
1.990	4.000	50.000	20.900	12.000	4	1.990	●
2.000	4.000	50.000	20.900	12.000	4	2.000	●
2.010	4.000	50.000	20.900	12.000	4	2.010	●
2.020	4.000	50.000	20.900	12.000	4	2.020	●
2.030	4.000	50.000	20.900	12.000	4	2.030	●
2.480	4.000	60.000	31.200	16.000	4	2.480	●
2.490	4.000	60.000	31.200	16.000	4	2.490	●
2.500	4.000	60.000	31.200	16.000	4	2.500	●
2.510	4.000	60.000	31.200	16.000	4	2.510	●
2.520	4.000	60.000	31.200	16.000	4	2.520	●
2.530	4.000	60.000	31.200	16.000	4	2.530	●
2.970	4.000	64.000	35.400	17.000	6	2.970	●
2.980	4.000	64.000	35.400	17.000	6	2.980	●
2.990	4.000	64.000	35.400	17.000	6	2.990	●
3.000	4.000	64.000	35.400	17.000	6	3.000	●
3.010	4.000	64.000	35.400	17.000	6	3.010	●
3.020	4.000	64.000	35.400	17.000	6	3.020	●
3.030	4.000	64.000	35.400	17.000	6	3.030	●
3.970	4.000	77.000	45.000	21.000	6	3.970	●
3.980	4.000	77.000	45.000	21.000	6	3.980	●
3.990	4.000	77.000	45.000	21.000	6	3.990	●
4.000	4.000	77.000	45.000	21.000	6	4.000	●
4.010	4.000	77.000	45.000	21.000	6	4.010	●

						Article no.	6018
						Discount group	154
d1	d2 h6	l1	l2	l4	Z	Code no.	Availability
mm	mm	mm	mm	mm			
4.020	4.000	77.000	45.000	21.000	6	4.020	●
4.030	4.000	77.000	45.000	21.000	6	4.030	●
4.970	6.000	93.000	59.000	26.000	6	4.970	●
4.980	6.000	93.000	59.000	26.000	6	4.980	●
4.990	6.000	93.000	59.000	26.000	6	4.990	●
5.000	6.000	93.000	59.000	26.000	6	5.000	●
5.010	6.000	93.000	59.000	26.000	6	5.010	●
5.020	6.000	93.000	59.000	26.000	6	5.020	●
5.030	6.000	93.000	59.000	26.000	6	5.030	●
5.970	6.000	93.000	57.000	26.000	6	5.970	●
5.980	6.000	93.000	57.000	26.000	6	5.980	●
5.990	6.000	93.000	57.000	26.000	6	5.990	●
6.000	6.000	93.000	57.000	26.000	6	6.000	●
6.010	6.000	93.000	57.000	26.000	6	6.010	●
6.020	6.000	93.000	57.000	26.000	6	6.020	●
6.030	6.000	93.000	57.000	26.000	6	6.030	●
7.000	8.000	109.000	69.000	31.000	6	7.000	●
7.970	8.000	117.000	75.000	33.000	6	7.970	●
7.980	8.000	117.000	75.000	33.000	6	7.980	●
7.990	8.000	117.000	75.000	33.000	6	7.990	●
8.000	8.000	117.000	75.000	33.000	6	8.000	●
8.010	8.000	117.000	75.000	33.000	6	8.010	●
8.020	8.000	117.000	75.000	33.000	6	8.020	●
8.030	8.000	117.000	75.000	33.000	6	8.030	●
8.040	8.000	117.000	75.000	33.000	6	8.040	●
9.000	10.000	125.000	81.000	36.000	6	9.000	●
9.970	10.000	133.000	87.000	38.000	6	9.970	●
9.980	10.000	133.000	87.000	38.000	6	9.980	●
9.990	10.000	133.000	87.000	38.000	6	9.990	●
10.000	10.000	133.000	87.000	38.000	6	10.000	●
10.010	10.000	133.000	87.000	38.000	6	10.010	●
10.020	10.000	133.000	87.000	38.000	6	10.020	●
10.030	10.000	133.000	87.000	38.000	6	10.030	●
10.040	10.000	133.000	87.000	38.000	6	10.040	●
10.050	10.000	133.000	87.000	38.000	6	10.050	●
11.970	12.000	151.000	105.000	44.000	6	11.970	●
11.980	12.000	151.000	105.000	44.000	6	11.980	●
11.990	12.000	151.000	105.000	44.000	6	11.990	●
12.000	12.000	151.000	105.000	44.000	6	12.000	●
12.010	12.000	151.000	105.000	44.000	6	12.010	●
12.020	12.000	151.000	105.000	44.000	6	12.020	●
12.030	12.000	151.000	105.000	44.000	6	12.030	●
12.040	12.000	151.000	105.000	44.000	6	12.040	●
12.050	12.000	151.000	105.000	44.000	6	12.050	●

High-performance reamers

WN | HR 500 S | H7

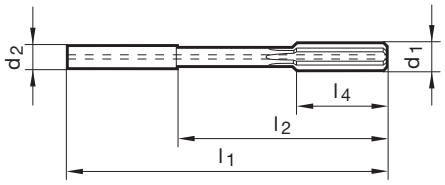
Tool material	Solid carbide
Surface	a
Form	
Shank form	HA

P	•
M	•
K	
N	
S	•
H	63

- with axial coolant duct
- for clamping in hydraulic chucks or shrink fit chucks

GÜHRINGNAVIGATOR

Cutting data page 252



Article no.	1685
Discount group	166

d1	d2 h6	l1	l2	l4	Z	Code no.	Availability
mm	mm	mm	mm	mm			
2.000	4.000	50.000	22.000	8.000	4	2.000	●
2.500	4.000	50.000	22.000	8.000	4	2.500	●
3.000	4.000	68.000	40.000	12.000	4	3.000	●
3.500	4.000	68.000	40.000	12.000	4	3.500	●
4.000	4.000	68.000	40.000	12.000	4	4.000	●
4.500	6.000	76.000	40.000	12.000	4	4.500	●
5.000	6.000	76.000	40.000	12.000	4	5.000	●
5.500	6.000	76.000	40.000	12.000	4	5.500	●
6.000	6.000	76.000	40.000	12.000	4	6.000	●
6.500	8.000	101.000	65.000	16.000	6	6.500	●
7.000	8.000	101.000	65.000	16.000	6	7.000	●
7.500	8.000	101.000	65.000	16.000	6	7.500	●
8.000	8.000	101.000	65.000	16.000	6	8.000	●
8.500	10.000	101.000	61.000	19.000	6	8.500	●
9.000	10.000	101.000	61.000	19.000	6	9.000	●
9.500	10.000	101.000	61.000	19.000	6	9.500	●
10.000	10.000	101.000	61.000	19.000	6	10.000	●
10.500	12.000	130.000	85.000	19.000	6	10.500	●
11.000	12.000	130.000	85.000	19.000	6	11.000	●
11.500	12.000	130.000	85.000	19.000	6	11.500	●
12.000	12.000	130.000	85.000	19.000	6	12.000	●
13.000	14.000	130.000	85.000	22.000	6	13.000	●
14.000	14.000	130.000	85.000	22.000	6	14.000	●
15.000	16.000	150.000	102.000	22.000	6	15.000	●
16.000	16.000	150.000	102.000	22.000	6	16.000	●
17.000	18.000	150.000	102.000	25.000	6	17.000	●
18.000	18.000	150.000	102.000	25.000	6	18.000	●
19.000	20.000	150.000	100.000	25.000	6	19.000	●
20.000	20.000	150.000	100.000	25.000	6	20.000	●

High-performance reamers

WN | HR 500 D | H7

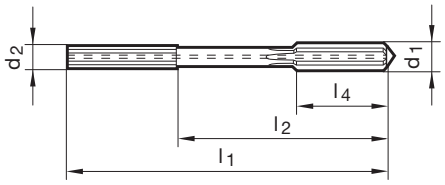
Tool material	Solid carbide
Surface	a
Form	
Shank form	HA

P	•
M	•
K	
N	
S	•
H	63

- < Ø 2.950 with axial, off-centre coolant ducts through the shank
- ≥ Ø 2.950 with longitudinal flutes on the shank for coolant supply
- for clamping in hydraulic chucks or shrink fit chucks

GÜHRINGNAVIGATOR

Cutting data page 252



Article no. **1686**

Discount group **166**

d1	d2 h6	l1	l2	l4	Z	Code no.	Availability
mm	mm	mm	mm	mm			
2.000	4.000	50.000	22.000	8.000	4	2.000	●
2.500	4.000	50.000	22.000	8.000	4	2.500	●
3.000	4.000	68.000	40.000	12.000	4	3.000	●
3.500	4.000	68.000	40.000	12.000	4	3.500	●
4.000	4.000	68.000	40.000	12.000	4	4.000	●
4.500	6.000	76.000	40.000	12.000	4	4.500	●
5.000	6.000	76.000	40.000	12.000	4	5.000	●
5.500	6.000	76.000	40.000	12.000	4	5.500	●
6.000	6.000	76.000	40.000	12.000	4	6.000	●
6.500	8.000	101.000	65.000	16.000	6	6.500	●
7.000	8.000	101.000	65.000	16.000	6	7.000	●
7.500	8.000	101.000	65.000	16.000	6	7.500	●
8.000	8.000	101.000	65.000	16.000	6	8.000	●
8.500	10.000	101.000	61.000	19.000	6	8.500	●
9.000	10.000	101.000	61.000	19.000	6	9.000	●
9.500	10.000	101.000	61.000	19.000	6	9.500	●
10.000	10.000	101.000	61.000	19.000	6	10.000	●
10.500	12.000	130.000	85.000	19.000	6	10.500	●
11.000	12.000	130.000	85.000	19.000	6	11.000	●
11.500	12.000	130.000	85.000	19.000	6	11.500	●
12.000	12.000	130.000	85.000	19.000	6	12.000	●
13.000	14.000	130.000	85.000	22.000	6	13.000	●
14.000	14.000	130.000	85.000	22.000	6	14.000	●
15.000	16.000	150.000	102.000	22.000	6	15.000	●
16.000	16.000	150.000	102.000	22.000	6	16.000	●
17.000	18.000	150.000	102.000	25.000	6	17.000	●
18.000	18.000	150.000	102.000	25.000	6	18.000	●
19.000	20.000	150.000	100.000	25.000	6	19.000	●
20.000	20.000	150.000	100.000	25.000	6	20.000	●

60° Countersinks, spiral-fluted

DIN 334 | 60° | C

Tool material	HSS
Surface	A
Shank form	cyl.

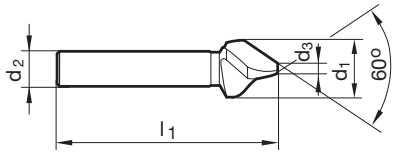
SL

P	•
M	•
K	•
N	○
S	○
H	

- 3 different convex cutting edges
- low-vibration cutting processes
- for round and chatter-free countersinking
- considerably lower feed force required
- for universal application

GÜHRINGNAVIGATOR

Cutting data page 254



Article no. 5670

Discount group 159

d1	d2	d3	l1	Z	Code no.	Availability
mm	mm	mm	mm			
6.300	5.000	1.600	45.000	3	6.300	●
8.000	6.000	2.000	50.000	3	8.000	●
10.000	6.000	3.200	56.000	3	10.000	●
12.500	8.000	3.200	56.000	3	12.500	●
16.000	10.000	4.000	63.000	3	16.000	●
20.000	10.000	5.000	67.000	3	20.000	●
25.000	10.000	6.300	71.000	3	25.000	●

60° Countersinks, spiral-fluted

DIN 334 | 60° | C

Tool material	HSS
Surface	A
Shank form	3-flats

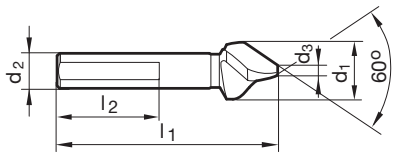
SL

P	•
M	•
K	•
N	○
S	○
H	

- 3-flats on shank prevents slipping in the chuck
- 3 different convex cutting edges
- perfect for hand drills
- low-vibration cutting processes
- for round and chatter-free countersinking
- considerably lower feed force required
- for universal application

GÜHRINGNAVIGATOR

Cutting data page 254



Article no.	5671
Discount group	159

d1	d2	d3	l1	l2	Z	Code no.	Availability
mm	mm	mm	mm	mm			
6.300	5.000	1.600	45.000	30.000	3	6.300	●
8.000	6.000	2.000	50.000	30.000	3	8.000	●
10.000	6.000	3.200	56.000	30.000	3	10.000	●
12.500	8.000	3.200	56.000	30.000	3	12.500	●
16.000	10.000	4.000	63.000	30.000	3	16.000	●
20.000	10.000	5.000	67.000	30.000	3	20.000	●
25.000	10.000	6.300	71.000	30.000	3	25.000	●

90° Countersinks, spiral-fluted

DIN 335 | 90° | C

Tool material	HSCO
Surface	A
Shank form	cyl.

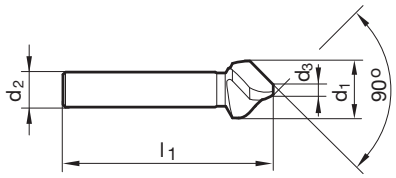
SL

P	●
M	●
K	●
N	○
S	○
H	

- 3 different convex cutting edges
- low-vibration cutting processes
- for round and chatter-free countersinking
- considerably lower feed force required
- for universal application

GÜHRINGNAVIGATOR

Cutting data page 254



Article no. 5500

Discount group 159

d1	d2	d3	l1	Z	Code no.	Availability
mm	mm	mm	mm			
6.300	5.000	1.500	45.000	3	6.300	●
8.000	6.000	2.000	50.000	3	8.000	●
8.300	6.000	2.000	50.000	3	8.300	●
10.000	6.000	2.500	50.000	3	10.000	●
10.400	6.000	2.500	50.000	3	10.400	●
11.500	8.000	2.800	56.000	3	11.500	●
12.400	8.000	2.800	56.000	3	12.400	●
15.000	10.000	3.200	60.000	3	15.000	●
16.500	10.000	3.200	60.000	3	16.500	●
19.000	10.000	3.500	63.000	3	19.000	●
20.500	10.000	3.500	63.000	3	20.500	●
23.000	10.000	3.800	67.000	3	23.000	●
25.000	10.000	3.800	67.000	3	25.000	●
31.000	12.000	4.200	71.000	3	31.000	●
40.000	12.000	10.000	75.000	3	40.000	●

90° Countersinks, spiral-fluted

DIN 335 | 90° | C

Tool material	HSCO
Surface	A
Shank form	3-flats

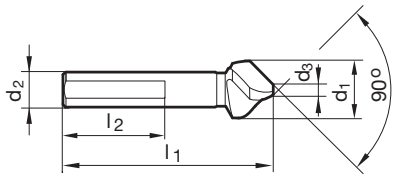
SL

P	●
M	●
K	●
N	○
S	○
H	

- 3 different convex cutting edges
- 3-flats on shank prevents slipping in the chuck
- perfect for hand drills
- low-vibration cutting processes
- for round and chatter-free countersinking
- considerably lower feed force required
- for universal application

GÜHRINGNAVIGATOR

Cutting data page 254



Article no.	5501
Discount group	159

d1	d2	d3	l1	l2	Z	Code no.	Availability
mm	mm	mm	mm	mm			
6.300	5.000	1.500	45.000	30.000	3	6.300	●
8.000	6.000	2.000	50.000	30.000	3	8.000	●
8.300	6.000	2.000	50.000	30.000	3	8.300	●
10.000	6.000	2.500	50.000	30.000	3	10.000	●
10.400	6.000	2.500	50.000	30.000	3	10.400	●
11.500	8.000	2.800	56.000	30.000	3	11.500	●
12.400	8.000	2.800	56.000	30.000	3	12.400	●
15.000	10.000	3.200	60.000	30.000	3	15.000	●
16.500	10.000	3.200	60.000	30.000	3	16.500	●
19.000	10.000	3.500	63.000	30.000	3	19.000	●
20.500	10.000	3.500	63.000	30.000	3	20.500	●
23.000	10.000	3.800	67.000	30.000	3	23.000	●
25.000	10.000	3.800	67.000	30.000	3	25.000	●
31.000	12.000	4.200	71.000	30.000	3	31.000	●
40.000	12.000	10.000	75.000	30.000	3	40.000	●

90° Countersinks, spiral-fluted

WN | 90° | C

Tool material	HSS
Surface	A
Shank form	cyl.

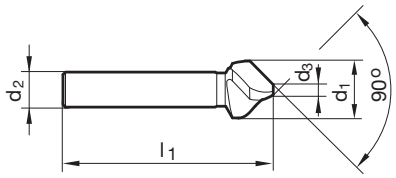
SL

P	●
M	○
K	●
N	○
S	○
H	

- long version for recessed machining points
- 3 different convex cutting edges
- low-vibration cutting processes
- for round and chatter-free countersinking
- considerably lower feed force countersinking
- for universal application

GÜHRINGNAVIGATOR

Cutting data page 254



Article no.	5503
Discount group	159

d1	d2	d3	l1	Z	Code no.	Availability
mm	mm	mm	mm			
6.300	5.000	1.500	104.000	3	6.300	●
8.300	6.000	2.000	105.000	3	8.300	●
10.400	6.000	2.500	107.000	3	10.400	●
12.400	8.000	2.800	108.000	3	12.400	●
16.500	10.000	3.200	111.000	3	16.500	●
20.500	10.000	3.500	114.000	3	20.500	●
25.000	10.000	3.800	118.000	3	25.000	●
31.000	12.000	4.200	140.000	3	31.000	●

60° Countersink sets, spiral-fluted

DIN 334 | 60° | C

Tool material	HSS
Surface	A
Shank form	cyl.

SL

P	•
M	•
K	•
N	○
S	○
H	

- consisting of art. no. 5670
- 3 different convex cutting edges
- low-vibration cutting processes
- for round and chatter-free countersinking
- considerably lower feed force required
- for universal application

GÜHRINGNAVIGATOR

Cutting data page 254

Article no. **5672**

Discount group **159**

Ø-range	Pieces/set	Code no.	Availability
mm			
6,3/8,0/10,0/12,5/16,0/20,0	6	1.000	●

60° Countersink sets, spiral-fluted

DIN 334 | 60° | C

Tool material	HSS
Surface	A
Shank form	3-flats

SL

P	•
M	•
K	•
N	○
S	○
H	

- consisting of art. no. 5671
- 3 different convex cutting edges
- 3-flats on shank prevents slipping in the chuck
- perfect for hand drills
- low-vibration cutting processes
- for round and chatter-free countersinking
- considerably lower feed force required
- for universal application

GÜHRINGNAVIGATOR

Cutting data page 254

Article no.	5673
Discount group	159

Ø-range	Pieces/set	Code no.	Availability
mm			
6,3/8,0/10,0/12,5/16,0/20,0	6	1.000	●

90° Countersink sets, spiral-fluted

DIN 335 | 90° | C

Tool material	HSCO
Surface	A
Shank form	cyl.

SL

P	●
M	●
K	●
N	○
S	○
H	

- consisting of art. no. 5500
- 3 different convex cutting edges
- low-vibration cutting processes
- for round and chatter-free countersinking
- considerably lower feed force required
- for universal application

GÜHRINGNAVIGATOR

Cutting data page 254

Article no.	5538
Discount group	159

Ø-range	Pieces/set	Code no.	Availability
mm			
6.3/8.3/10.4/12.4/16.5/20.5	6	1.000	●

90° Countersink sets, spiral-fluted

DIN 335 | 90° | C

Tool material	HSCO
Surface	A
Shank form	3-flats
	SL

P	•
M	•
K	•
N	○
S	○
H	

- consisting of art. no. 5501
- 3 different convex cutting edges
- 3-flats on shank prevents slipping in the chuck
- perfect for hand drills
- low-vibration cutting processes
- for round and chatter-free countersinking
- considerably lower feed force required
- for universal application

GÜHRINGNAVIGATOR

Cutting data page 254

Article no.	5539
Discount group	159

Ø-range	Pieces/set	Code no.	Availability
mm			
6.3/8.3/10.4/12.4/16.5/20.5	6	1.000	●

GÜHRINGNAVIGATOR

Tools with bold feed column no. are preferred choice.
For blind holes with close diameter tolerances choose straight-fluted reamers.

To select the optimal tool and the recommended machining parameters for your application, please also use the electronic version of the GühringNavigator on the internet: www.guehring.com.

Article no.
Standard/DIN
Tool material
Carbide grade
Surface finish
Form/Type
Cooling
Std. range page

Tool Ø mm	Feed column no. 71	72	73	74	75	76	77
	f (mm/rev.)						
< 4.00	0.080	0.100	0.125	0.300	0.500	0.800	1.000
4.00	0.100	0.125	0.160	0.300	0.500	1.000	1.200
5.00	0.100	0.125	0.160	0.400	0.600	1.000	1.400
6.30	0.125	0.160	0.200	0.400	0.700	1.200	1.600
8.00	0.160	0.200	0.250	0.600	1.000	1.800	2.400
10.00	0.200	0.250	0.315	0.600	1.200	1.800	2.400
12.50	0.200	0.250	0.315	0.800	1.200	2.000	2.500
16.00	0.250	0.315	0.400	0.800	1.400	2.200	2.600
20.00	0.315	0.400	0.500	0.800	1.400	2.200	2.600
25.00	0.400	0.500	0.630	1.000	1.600	2.500	3.000
31.50	0.400	0.500	0.630	1.000	2.000	3.000	3.600
40.00	0.500	0.630	0.800	1.200	2.000	3.000	3.600
50.00	0.630	0.800	1.000	1.400	2.200	3.200	3.600
> 50.00	0.800	1.000	1.250	1.600	2.200	3.200	3.600

Coolant:
○ Air
● Neat oil
● Soluble oil

Cutting direction:
® right-hand cutting

Material group	Material examples Figures in bold = material no. to DIN EN 10 027	Tensile strength MPa (N/mm²)	Hardness	Coolant
Common structural steels	**1.0035** S185(St33), **1.0486** P275N(StE285), **1.0345** P235GH(H1), **1.0425** P265GH(H2)	≤500		●
	1.0050 E295 (St50-2), **1.0070** E360 (St70-2), **1.8937** P500NH (WStE500)	≤1000		●
Free-cutting steels	**1.0718** 11SMnPb30 (9SMnPb28), **1.0736** 11SMn37 (9SMn36)	≤850		●
	1.0727 46S20 (45S20), **1.0728** (60S20), **1.0757** 46SPb20 (45SPb20)	≤1000		●
Unalloyed heat-treatable steels	**1.0402** C22, **1.1178** C30E (Ck30)	≤700		●
	1.0503 C45, **1.1191** C45E (Ck45)	≤850		●
	1.0601 C60, **1.1221** C60E (Ck60)	≤1000		●
Alloyed heat-treatable steels	**1.5131** 50MnSi4, **1.7003** 38Cr2, **1.7030** 28Cr4	≤1000		●
	1.5710 36NiCr6, **1.7035** 41Cr4, **1.7225** 42CrMo4	≤1400		●
Unalloyed case hardened steels	**1.0301** (C10), **1.1121** C10E (Ck10)	≤850		●
Alloyed case hardened steels	**1.7276** 10CrMo11, **1.5125** 11MnSi6	≤1000		●
	1.5752 15NiCr13, **1.7131** 16MnCr5, **1.7264** 20CrMo5	≤1400		●
Nitriding steels	**1.8504** 34CrAl6	≤1000		●
	1.8519 31CrMoV9, **1.8550** 34CrAlNi7	≤1400		●
Tool steels	**1.1750** C75W, **1.2067** 102Cr6, **1.2307** 29CrMoV9	≤850		●
	1.2080 X210Cr12, **1.2083** X42Cr13, **1.2419** 105WCr6, **1.2767** X45NiCrMo4	≤1400		●
High speed steels	**1.3243** S 6-5-2-5, **1.3343** S 6-5-2, **1.3344** S 6-5-3	≤1400		●
Spring steels	**1.5026** 55Si7, **1.7176** 55Cr3, **1.8159** 51CrV4 (51CrV4)		≤350 HB	●
Hardened steels	–		≤48 HRC	●
			≤66 HRC	●
Stainless steels, sulphured	**1.4005** X12CrS13, **1.4104** X14CrMoS17, **1.4105** X6CrMoS17, **1.4305** X8CrNiS18-9	≤900		●
austenitic	**1.4301** X5CrNi18-10 (V2A), **1.4541** X6CrNiTi18-10, **1.4571** X6CrNiMoTi 17-12-2 (V4A)	≤1100		●
martensitic	**1.4057** X20CrNi172 (X17CrNi16-2), **1.4122** X39CrMo17-1, **1.4521** X2CrMoTi18-2	≤1500		●
Cast iron	**0.6010** EN-GJL-100 (GG10), **0.6020** EN-GJL-200 (GG20)		≤240 HB	○ ○
	0.6025 EN-GJL-250 (GG25), **0.6035** EN-GJL-350 (GG35)		≤350 HB	○ ○
Spheroidal graphite iron and malleable cast iron	**0.7050** EN-GJS-500-7 (GGG50), **0.8035** EN-GJMW-350-4 (GTW35)		≤240 HB	●
	0.7070 EN-GJS-700-2 (GGG70), **0.8170** EN-GJMB-700-2 (GTS70)		≤350 HB	●
Chilled cast iron	–		≤350 HB	●
New cast materials GGV	**EN-GJV250** (GGV25), **EN-GJV350** (GGV35)		≤220 HB	○ ○
	EN-GJV400 (GGV40), **EN-GJV500** (GGV50), SiMo 6		≤300 HB	○ ○
New cast materials ADI	**EN-GJS-800-8** (ADI800), **EN-GJS-1000-5** (ADI1000)	≤1000		○ ○
	EN-GJS-1200-2 (ADI1200), **EN-GJS-1400-1** (ADI1400)	≤1400		○ ○
Special alloys	Nimonic, Inconel, Monel, Hastelloy	≤2000		●
Ti and Ti alloys	**3.7024** Ti99,5, **3.7114** TiAl5Sn2,5, **3.7124** TiCu2	≤850		●
	3.7154 TiAl6Zr5, **3.7165** TiAl6V4, **3.7184** TiAl4Mo4Sn2,5, - TiAl8Mo1V1	≤1400		●
Aluminium and Al alloys	**3.0255** Al99,5, **3.2315** AlMgSi1, **3.3515** AlMg1	≤400		●
Al wrought alloys	**3.0615** AlMgSiPb, **3.1325** AlCuMg1, **3.3245** AlMg3Si, **3.4365** AlZnMgCu1,5	≤650		●
Al cast alloys ≤ 10 % Si	**3.2131** G-AlSi5Cu1, **3.2153** G-AlSi7Cu3, **3.2573** G-AlSi9	≤600		●
≤ 24 % Si	**3.2581** G-AlSi12, **3.2583** G-AlSi12Cu, - G-AlSi12CuNiMg	≤600		●
Magnesium alloys	**3.5200** MgMn2, **3.5812.05** G-MgAl8Zn1, **3.5612.05** G-MgAl6Zn1	≤400		○
Copper, low-alloyed	**2.0070** SE-Cu, **2.1020** CuSn6, **2.1096** G-CuSn5ZnPb	≤500		●
Brass, short-chipping	**2.0380** CuZn39Pb2, **2.0401** CuZn39Pb3, **2.0410** CuZn43Pb2	≤600		●
long-chipping	**2.0250** CuZn20, **2.0280** CuZn33, **2.0332** CuZn37Pb0,5	≤600		●
Bronze, short-chipping	**2.1090** CuSn7ZnPb, **2.1170** CuPb5Sn5, **2.1176** CuPb10Sn	≤600		○ ●
	2.0790 CuNi18Zn19Pb	≤850		●
Bronze, long-chipping	**2.0916** CuAl5, **2.0960** CuAl9Mn, **2.1050** CuSn10	≤850		●
	2.0980 CuAl11Ni, **2.1247** CuBe2	≤1000		●
Duroplastics	Bakelit, Resopal, Pertinax, Moltopren	≤150		○
Thermoplastics	Plexiglass, Hostalen, Novodur, Makralon	≤100		○ ○
Kevlar	Kevlar	≤1000		○
Glass, carbon concentr. plastics	GFK/CFK	≤1000		○

NC machine reamers

6019	6020
212-3	212-3
HSS-E	HSS-E
○	○
B	B
232	233

6016	5527
Comp. std.	Comp. std.
Solid carb.	Solid carb.
K10	K10
○	○
B	B
235	237

6017	6018
Comp. std.	Comp. std.
Solid carb.	Solid carb.
K10/K20	K10/K20
a	a
B	B
236	239

High-performance reamers

1685	1686
Comp. std.	Comp. std.
Solid carb.	Solid carb.
K10/K20	K10/K20
a	a
HR 500 S	HR 500 D
axial	axial
241	242

v_c m/min	Feed col. no.	
16	72	72
12	72	72
12	72	72
10	71	71
14	72	72
12	71	71
10	71	71
10	71	71
8	71	71
16	72	72
10	71	71
8	71	71
10	71	71
8	71	71
14	72	72
10	71	71
10	71	71
6	72	72
6	72	72
4	72	72
14	71	71
12	71	71
12	71	71
10	71	71
8	71	71
8	71	71
4	71	71
6	71	71
4	71	71
18	73	73
18	73	73
20	72	72
18	72	72
20	72	72
18	72	72
18	72	72
16	72	72
20	72	72
18	72	72
18	72	72
14	72	72
12	73	73
14	73	73

v_c m/min	Feed col. no.	
18	72	72
16	72	72
18	72	72
16	72	72
18	71	71
16	72	72
14	71	71
14	71	71
12	71	71
18	71	71
14	71	71
12	71	71
14	71	71
12	71	71
12	71	71
10	71	71
10	71	71
6	71	71
8	71	71
6	71	71
6	71	71
20	71	71
18	71	71
20	71	71
18	71	71
16	71	71
16	71	71
12	71	71
12	71	71
6	71	71
10	71	71
10	71	71
30	73	73
30	73	73
40	72	72
30	72	72
25	72	72
25	72	72
35	72	72
30	72	72
35	72	72
30	72	72
30	72	72
25	72	72
20	73	73
20	73	73

v_c m/min	Feed col. no.	
20	73	73
18	73	73
20	73	73
18	73	73
20	72	72
18	72	72
15	72	72
15	72	72
13	71	71
20	73	73
15	72	72
13	72	72
15	71	71
13	71	71
13	71	71
11	71	71
11	71	71
11	71	71
9	71	71
7	71	71
7	71	71
22	73	73
20	73	73
22	73	73
20	73	73
4	71	71
16	71	71
16	71	71
7	71	71
11	71	71
11	71	71
28	73	73
28	73	73
39	73	73
33	73	73
39	73	73
33	73	73
33	73	73
28	73	73
22	73	73
22	73	73

v_c m/min	Feed col. no.	
120-250	75-76	75-76
120-250	75-76	75-76
120-250	75-76	75-76
120-250	75-76	75-76
120-250	75-76	75-76
120-250	75-76	75-76
120-250	75-76	75-76
120-250	75-76	75-76
120-250	75-76	75-76
120-250	75-76	75-76
120-250	75-76	75-76
120-250	75-76	75-76
120-250	75-76	75-76
120-250	75-76	75-76
120-250	75-76	75-76
60-120	75-76	75-76
30-60	73-74	73-74
40-60	73-74	73-74
30-60	73-74	73-74
60-120	74-75	74-75
40-80	74-75	74-75
60-120	74-75	74-75
60-140	75-76	75-76
60-140	75-76	75-76
120-250	74-75	74-75
60-120	74-75	74-75
30-50	74-75	74-75
80	75-76	75-76
80	75-76	75-76
40-60	74-75	74-75
40-60	74	74
40-60	74	74
80-160	75-76	75-76
100-250	75-76	75-76
100-250	75-76	75-76
100-250	75-76	75-76
80-200	75-76	75-76
80-200	75-76	75-76
80	71	71
80	71	71

GÜHRINGNAVIGATOR

Tools with bold feed column no. are preferred choice.
To select the optimal tool and the recommended machining parameters for your application, please also use the electronic version of the GühringNavigator on the internet: www.guehring.com.

Article no. ®
Standard/DIN
Tool material
Surface finish
Countersink angle
Shank form
Std. range page

Tool Ø mm	Feed column no. 81	82	83	84	85	86
	f (mm/rev.)					
2.00	0.03	0.04	0.06	0.08	0.10	0.13
2.50	0.03	0.05	0.07	0.10	0.13	0.16
3.15	0.03	0.05	0.08	0.11	0.15	0.20
4.00	0.04	0.06	0.09	0.13	0.17	0.22
5.00	0.04	0.07	0.10	0.14	0.18	0.23
6.30	0.04	0.07	0.12	0.15	0.19	0.24
8.00	0.05	0.08	0.13	0.16	0.20	0.25
10.00	0.06	0.09	0.14	0.17	0.22	0.26
12.50	0.06	0.10	0.15	0.19	0.23	0.28
16.00	0.07	0.11	0.17	0.21	0.26	0.31
20.00	0.08	0.13	0.18	0.23	0.28	0.33
25.00	0.09	0.15	0.21	0.26	0.30	0.38
31.50	0.12	0.17	0.24	0.30	0.36	0.42
40.00	0.14	0.21	0.28	0.34	0.40	0.46

Coolant:
○ Air
● Neat oil
● Soluble oil

Material group	Material examples Figures in bold = material no. to DIN EN 10 027	Tensile strength MPa (N/mm²)	Hardness	Coolant
Common structural steels	**1.0035** S185(St33), **1.0486** P275N(StE285), **1.0345** P235GH(H1), **1.0425** P265GH(H2)	≤500		●
	1.0050 E295 (St50-2), **1.0070** E360 (St70-2), **1.8937** P500NH (WStE500)	≤1000		●
Free-cutting steels	**1.0718** 11SMnPb30 (9SMnPb28), **1.0736** 11SMn37 (9SMn36)	≤850		●
	1.0727 46S20 (45S20), **1.0728** (60S20), **1.0757** 46SPb20 (45SPb20)	≤1000		●
Unalloyed heat-treatable steels	**1.0402** C22, **1.1178** C30E (Ck30)	≤700		●
	1.0503 C45, **1.1191** C45E (Ck45)	≤850		●
	1.0601 C60, **1.1221** C60E (Ck60)	≤1000		●
Alloyed heat-treatable steels	**1.5131** 50MnSi4, **1.7003** 38Cr2, **1.7030** 28Cr4	≤1000		●
	1.5710 36NiCr6, **1.7035** 41Cr4, **1.7225** 42CrMo4	≤1400		●
Unalloyed case hardened steels	**1.0301** (C10), **1.1121** C10E (Ck10)	≤850		●
Alloyed case hardened steels	**1.7276** 10CrMo11, **1.5125** 11MnSi6	≤1000		●
	1.5752 15NiCr13, **1.7131** 16MnCr5, **1.7264** 20CrMo5	≤1400		●
Nitriding steels	**1.8504** 34CrAl6	≤1000		●
	1.8519 31CrMoV9, **1.8550** 34CrAlNi7	≤1400		●
Tool steels	**1.1750** C75W, **1.2067** 102Cr6, **1.2307** 29CrMoV9	≤850		●
	1.2080 X210Cr12, **1.2083** X42Cr13, **1.2419** 105WCr6, **1.2767** X45NiCrMo4	≤1400		●
High speed steels	**1.3243** S 6-5-2-5, **1.3343** S 6-5-2, **1.3344** S 6-5-3	≤1400		●
Spring steels	**1.5026** 55Si7, **1.7176** 55Cr3, **1.8159** 51CrV4 (51CrV4)		≤350 HB	●
Hardened steels	–		≤48 HRC	●
			≤66 HRC	●
Stainless steels, sulphured	**1.4005** X12CrS13, **1.4104** X14CrMoS17, **1.4105** X6CrMoS17, **1.4305** X8CrNiS18-9	≤900		●
austenitic	**1.4301** X5CrNi18-10 (V2A), **1.4541** X6CrNiTi18-10, **1.4571** X6CrNiMoTi 17-12-2 (V4A)	≤1100		●
martensitic	**1.4057** X20CrNi172 (X17CrNi16-2), **1.4122** X39CrMo17-1, **1.4521** X2CrMoTi18-2	≤1500		●
Cast iron	**0.6010** EN-GJL-100 (GG10), **0.6020** EN-GJL-200 (GG20)		≤240 HB	○ ○
	0.6025 EN-GJL-250 (GG25), **0.6035** EN-GJL-350 (GG35)		≤350 HB	○ ○
Spheroidal graphite iron and malleable cast iron	**0.7050** EN-GJS-500-7 (GGG50), **0.8035** EN-GJMW-350-4 (GTW35)		≤240 HB	○
	0.7070 EN-GJS-700-2 (GGG70), **0.8170** EN-GJMB-700-2 (GTS70)		≤350 HB	○
Chilled cast iron	–		≤350 HB	○
New cast materials GGV	**EN-GJV250** (GGV25), **EN-GJV350** (GGV35)		≤220 HB	○ ○
	EN-GJV400 (GGV40), **EN-GJV500** (GGV50), SiMo 6		≤300 HB	○ ○
New cast materials ADI	**EN-GJS-800-8** (ADI800), **EN-GJS-1000-5** (ADI1000)	≤1000		○ ○
	EN-GJS-1200-2 (ADI1200), **EN-GJS-1400-1** (ADI1400)	≤1400		○ ○
Special alloys	Nimonic, Inconel, Monel, Hastelloy	≤2000		●
Ti and Ti alloys	**3.7024** Ti99,5, **3.7114** TiAl5Sn2,5, **3.7124** TiCu2	≤850		●
	3.7154 TiAl6Zr5, **3.7165** TiAl6V4, **3.7184** TiAl4Mo4Sn2,5, - TiAl8Mo1V1	≤1400		●
Aluminium and Al alloys	**3.0255** Al99,5, **3.2315** AlMgSi1, **3.3515** AlMg1	≤400		●
Al wrought alloys	**3.0615** AlMgSiPb, **3.1325** AlCuMg1, **3.3245** AlMg3Si, **3.4365** AlZnMgCu1,5	≤650		●
Al cast alloys ≤ 10 % Si	**3.2131** G-AlSi5Cu1, **3.2153** G-AlSi7Cu3, **3.2573** G-AlSi9	≤600		●
≤ 24 % Si	**3.2581** G-AlSi12, **3.2583** G-AlSi12Cu, - G-AlSi12CuNiMg	≤600		●
Magnesium alloys	**3.5200** MgMn2, **3.5812.05** G-MgAl8Zn1, **3.5612.05** G-MgAl6Zn1	≤400		○
Copper, low-alloyed	**2.0070** SE-Cu, **2.1020** CuSn6, **2.1096** G-CuSn5ZnPb	≤500		●
Brass, short-chipping	**2.0380** CuZn39Pb2, **2.0401** CuZn39Pb3, **2.0410** CuZn43Pb2	≤600		●
long-chipping	**2.0250** CuZn20, **2.0280** CuZn33, **2.0332** CuZn37Pb0,5	≤600		●
Bronze, short-chipping	**2.1090** CuSn7ZnPb, **2.1170** CuPb5Sn5, **2.1176** CuPb10Sn	≤600		○ ●
	2.0790 CuNi18Zn19Pb	≤850		●
Bronze, long-chipping	**2.0916** CuAl5, **2.0960** CuAl9Mn, **2.1050** CuSn10	≤850		●
	2.0980 CuAl11Ni, **2.1247** CuBe2	≤1000		●
Duroplastics	Bakelit, Resopal, Pertinax, Moltopren	≤150		○
Thermoplastics	Plexiglass, Hostalen, Novodur, Makralon	≤100		○ ○
Kevlar	Kevlar	≤1000		○
Glass, carbon concentr. plastics	GFK/CFK	≤1000		○

90° Countersinks, spiral-fluted

60° Countersinks, spiral-fluted

5500	5501	5503	5670	5671
DIN 335	DIN 335	Company standard	DIN 334	DIN 334
HSCO	HSCO	HSS	HSS	HSS
A	A	A	A	A
90°	90°	90°	60°	60°
cyl.	3-surface	cyl.	cyl.	3-surface
245	246	247	243	244





v_c m/min	Feed col. no.	v_c m/min	Feed col. no.	v_c m/min	Feed col. no.	v_c m/min	Feed col. no.	v_c m/min	Feed col. no.
41	83	41	83	37	83	37	83	37	83
39	82	39	82	35	82	35	82	35	82
41	83	41	83	37	83	37	83	37	83
39	82	39	82	35	82	35	82	35	82
41	83	41	83	37	83	37	83	37	83
39	83	39	83	35	83	35	83	35	83
25	82	25	82	23	82	23	82	23	82
19	83	19	83	17	83	17	83	17	83
15	82	15	82	14	82	14	82	14	82
32	83	32	83	29	83	29	83	29	83
19	83	19	83	17	83	17	83	17	83
13	82	13	82	12	82	12	82	12	82
19	82	19	82	17	82	17	82	17	82
15	81	15	81	14	81	14	81	14	81
22	82	22	82	20	82	20	82	20	82
19	81	19	81	17	81	17	81	17	81
19	81	19	81	17	81	17	81	17	81
13	81	13	81	12	81	12	81	12	81
20	82	20	82	18	82	18	82	18	82
15	81	15	81	14	81	14	81	14	81
18	81	18	81	16	81	16	81	16	81
32	83	32	83	29	83	29	83	29	83
20	83	20	83	18	83	18	83	18	83
28	83	28	83	25	83	25	83	25	83
25	83	25	83	23	83	23	83	23	83
10	81	10	81	9	81	9	81	9	81
28	83	28	83	25	83	25	83	25	83
18	83	18	83	16	83	16	83	16	83
10	81	10	81	9	81	9	81	9	81
19	82	19	82	17	82	17	82	17	82
13	81	13	81	12	81	12	81	12	81
114	84	114	84	104	84	104	84	104	84
89	84	89	84	81	84	81	84	81	84
51	83	51	83	46	83	46	83	46	83
39	83	39	83	35	83	35	83	35	83
127	84	127	84	115	84	115	84	115	84
76	84	76	84	69	84	69	84	69	84
101	84	101	84	92	84	92	84	92	84
64	84	64	84	58	84	58	84	58	84
39	84	39	84	35	84	35	84	35	84
33	84	33	84	30	84	30	84	30	84
31	84	31	84	28	84	28	84	28	84
25	84	25	84	23	84	23	84	23	84
39	84	39	84	35	84	35	84	35	84
51	84	51	84	46	84	46	84	46	84

TOOL HOLDERS

HSK-A hydraulic chucks

WN HSK-A

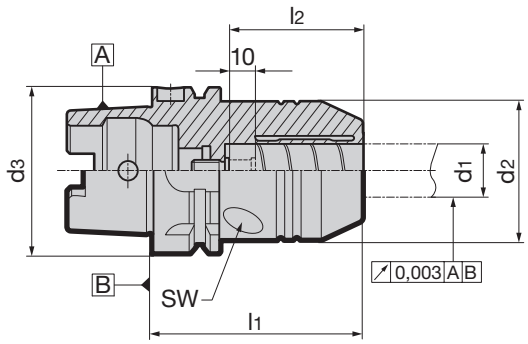
SL

Product information:

- HSK-A to ISO 12164-1 / DIN 69893-1
- axial length adjustment
- for tool shank tolerance h6
- Balance quality values G2.5 / 25.000 U/min or U < 1 gmm

Scope of delivery:

- incl. setting screw art. no. 4900
- incl. clamping key art. no. 4912
- order coolant supply set, article no. 4949, separately



	Article no.	4662
	Discount group	158

HSK-A	d1	d2	l1	l2		SW	Code no.	Availability
d3	mm	mm	mm	mm	kg	mm		
HSK-A 63	20.00	52.50	80.00	51.00	1.310	5.0	20.063	●

ISO taper hydraulic chucks

WN SK

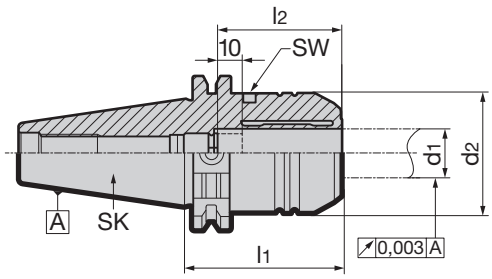
SL

Product information:

- SK to DIN ISO 7388-1 form AD/AF
- axial length adjustment
- for tool shank tolerance h6
- Balance quality values G2.5 / 25.000 U/min or U < 1 gmm

Scope of delivery:

- incl. setting screw art. no. 4900
- incl. clamping key art. no. 4912
- for SK order pull studs art. no. 4925, 4926 separately



							Article no.	4663
							Discount group	158
SK	d1	d2	l1	l2		SW	Code no.	Availability
	mm	mm	mm	mm	kg	mm		
SK 40	20.00	49.30	64.50	51.00	1.250	5.0	20.040	●

MAS/BT hydraulic chucks

WN | MAS-BT

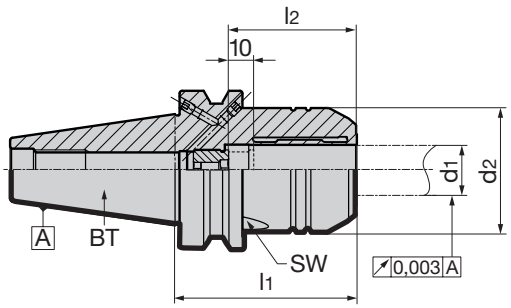
SL

Product information:

- MAS/BT to DIN ISO 7388-2 Form JD/JF
- axial length adjustment
- for tool shank tolerance h6
- Balance quality values G2.5/25.000 U/min or U < 1 gmm

Scope of delivery:

- incl. setting screw art. no. 4900
- incl. clamping key art. no. 4912
- for MAS/BT order pull studs art. no. 4927, 4928 separately



Article no.	**4664**
Discount group	**158**

BT	d1	d2	l1	l2		SW	Code no.	Availability
	mm	mm	mm	mm	kg	mm		
BT 40	20.00	49.30	72.50	51.00	1.250	5.0	20.040	●

HPC chucks

Hydraulic chucks

Art. no.	Clamping chucks		Description	Clamping diameter range
4299		★	HSK-A hydraulic chuck with increased clamping force	6 - 32 mm
4296		★	HSK-A hydraulic chuck with radial length setting	6 - 32 mm
4267		★	HSK-C hydraulic chuck with increased clamping force	6 - 32 mm
4295		★	HSK-C hydraulic chuck	6 - 32 mm
4213		★	ISO taper hydraulic chuck DIN 69871 AD/B with increased clamping force	6 - 32 mm
4221		★	MAS/BT hydraulic chuck with increased clamping force	6 - 32 mm
4368		★	Reduction bushes for hydraulic chucks without peripheral cooling	3 - 25 mm
4369		★	Reduction bushes for hydraulic chucks with peripheral cooling	3 - 25 mm

HPC chucks

4300		★	HSK precision clamping chuck	3 - 20 mm
4301		★	ISO taper clamping chuck DIN 69871 AD	3 - 20 mm
4302		★	Clamping sleeves for precision clamping chucks without peripheral cooling	3 - 20 mm
4235		★	Clamping sleeves for precision clamping chucks with peripheral cooling	3 - 20 mm

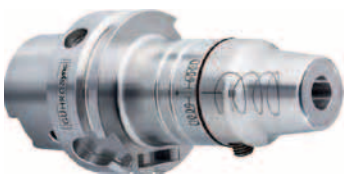
Shrink fit chucks

Art. no.	Clamping chucks		Description	Clamping diameter range
4755		★	**GÜHRO**Jet HSK-A shrink fit chuck with peripheral cooling	6 - 20 mm
4729		★	**GÜHRO**Jet ISO taper shrink fit chuck DIN 69871 AD/B	6 - 20 mm
4736		★	HSK-A shrink fit chuck	6 - 32 mm
4758		★	HSK-C shrink fit chuck	6 - 32 mm
4737		★	HSK-E shrink fit chuck	3 - 32 mm
4738		★	ISO taper shrink fit chuck DIN 69871 AD	3 - 32 mm
4739		★	MAS/BT shrink fit chuck	3 - 32 mm
4719		★	Shrink fit extension	3 - 20 mm

Tool holders

4232		★	**GÜHRO**Jet Side lock holder Weldon HSK-A	6 - 32 mm
4317		★	**GÜHRO**Jet Side lock holder Weldon SK	6 - 32 mm
4234		★	**GÜHRO**Jet Side lock holder Weldon MAS/BT	6 - 32 mm

Application-specific selection of tool holders

	Shrink fit chucks / shrink fit extensions	Hydraulic chucks / HMC 3000 / reduction bushes	GÜHROSYNC Hydraulic synchro tapping chucks
			
Main feature	For applications requiring slim interference contours and precision with good clamping force and rigidity at a moderate price.	Easy handling when stiffness and damping are required.	Combines the advantages of hydraulic expansion and synchro-clamping technology, compensates deviations of the machine optimally.
Main application	HSC – universal Drilling, countersinking, milling, reaming	Reaming and drilling Countersinking, HSC application, light milling	Synchronized thread cutting and thread forming
Characteristics	• highest concentricity accuracy thanks to patented damping screw • high stiffness and clamping force • modularly extendable	• high damping with high concentricity accuracy • simple handling • flexible use thanks to reducing bushes also with **GÜHRO**Jet	• perfect combination of hydraulic expansion chuck and synchro tapping chuck • simple handling • flexible use thanks to reducing bushes also with **GÜHRO**Jet • long-lasting axial and radial balancing
Interfaces	HSK-A, HSK-C, HSK-E, SK, MAS-BT, CAT, Cyl	HSK-A, HSK-C, SK, MAS-BT, CAT	HSK-A, SK, MAS-BT, Cyl
Clamping diameter range	3 - 32 mm	3 - 32 mm	Holder Ø 12: M2 - M12 (Mt max.: 26 Nm) Holder Ø 20: M4.5 - M20 (Mt max.: 90 Nm)
Concentricity	< 3 µm	< 3 µm	< 50 µm
Balance quality	G 2.5 with 25,000 1/min or U < 1 gmm	G 2.5 with 25,000 1/min or U < 1 gmm	G 6.3 with 15,000 1/min
Concentricity with 5xD	< 5 µm	< 5 µm	-
Clamping force	very high	very high	very high
Rigidity	very high	high	medium
Dampening	low	very high	very high
Interference contour	small / minimal	medium	medium
Handling	good	very good / very flexible	very good / very flexible
Actuation	Shrink fit device e. g. GSS 2000 article no. 4742	Hexagon key e. g. article no. 4912	Hexagon key e. g. article no. 4912

	HPC precision power chucks / clamping sleeves	Collet chucks ER	Straight shank holders “Weldon” / “Whistle-Notch”
			
Main feature	Provides extreme clamping force and rigidity to compensate lateral forces acting on the tool during HPC milling.	All-rounder for universal use in the low accuracy range.	Simple handling with safe clamping for applications involving large machining volumes.
Main application	HPC milling heavy HPC and fast, accurate HSC milling, drilling, universal application	Flexible – universal light machining, centering, chamfering, drilling, threading; intermediate shank dimensions	Roughing Milling, drilling
Characteristics	• extreme clamping force and stability thanks to mechanical clamping transmission • high precision and balancing quality • flexible use thanks to reducing bushes also with **GÜHRO**Jet	• flexible chuck for various shank dimensions and tolerances • for conventional machining operations	• robust, low cost chuck • for heavy machining in the lower speed and accuracy range
Interfaces	HSK-A, SK, MAS-BT, CAT, Cyl	HSK-A, HSK-C, HSK-E, SK, MAS-BT	HSK-A, HSK-C, SK, MAS-BT
Clamping diameter range	3 - 32 mm 1 - 6 mm (HPC extensions)	ER 11: 0.5 - 7.0 mm ER 16: 0.5 - 10.0 mm ER 20: 0.5 - 13.0 mm ER 25: 0.5 - 16.0 mm ER 32: 1.0 - 20.0 mm ER 40: 3.0 - 26.0 mm	6 - 40 mm
Concentricity	< 3 µm	< 10 µm	< 10 µm
Balance quality	G 2.5 with 20,000 1/min or U < 1.2 gmm	G 2.5 with 25,000 1/min or U < 1 gmm	G 6.3 with 15,000 1/min
Concentricity with 5xD	< 8 µm	< 20 µm	< 25 µm
Clamping force	extremely high	medium	very safe thanks to threaded pin
Rigidity	extremely high	medium	very high
Dampening	high	high	low
Interference contour	medium	large	large
Handling	very good / very flexible	good	good
Actuation	Hexagon key / torque wrench e. g. article no. 4987 + 4916 Type D	Hook spanner max. torque: information at GM 300 catalogue at clamping screw article no. 4903	Hexagon key max. torque: information at GM 300 catalogue at clamping screw article no. 4903


GÜHRING
GTMS
GÜHRING

TOOL DISPENSING SYSTEMS

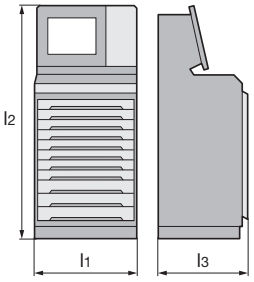
Tool dispensing systems

THE CORRECT SYSTEM **FOR ANY APPLICATION.**

Tool dispensing system TM 226

WN

- TM 226 a starter model with an excellent price-performance ratio
- 11 drawers: 8 x 75 mm (partition set) and 3 x 100 mm (partition set)
- electronically locked dispensing system
- partition material per drawer 75 mm height:
  18 transverse partitions 50 mm and 8 transverse partitions 100 mm, 9 longitudinal partitions
- partition material per drawer 100 mm height:
  18 transverse partitions 50 mm and 8 transverse partitions 100 mm, 9 longitudinal partitions
- standard colours Gühring, RAL 7016 (housing), RAL 9006 (drawers), RAL 1003 (G-Pad and power supply channel)
- manually operated drawers with full pull-out (load capacity per drawer max. 200 kg)
- 21.5” HD touchscreen monitor
- PC with current WIN version 10, 64 Bit
- Gühring TM-Software GTMS Basic
- delivery at short notice from stock (subject to prior sale)
- plus installation and transport
- illustration similar
- barcode scanner, card reader and additional accessories available on request



Article no. **506920**

l1	l2	l3		Availability
mm	mm	mm	kg	
800	1700	750	320	●

GTMS Gühring Tool Management Software

GTMS

Everything in view

Process optimisation in a whole new dimension

TM DISPENSING SYSTEM

TM Tool Management Powered by GÜHRING

GÜHRING

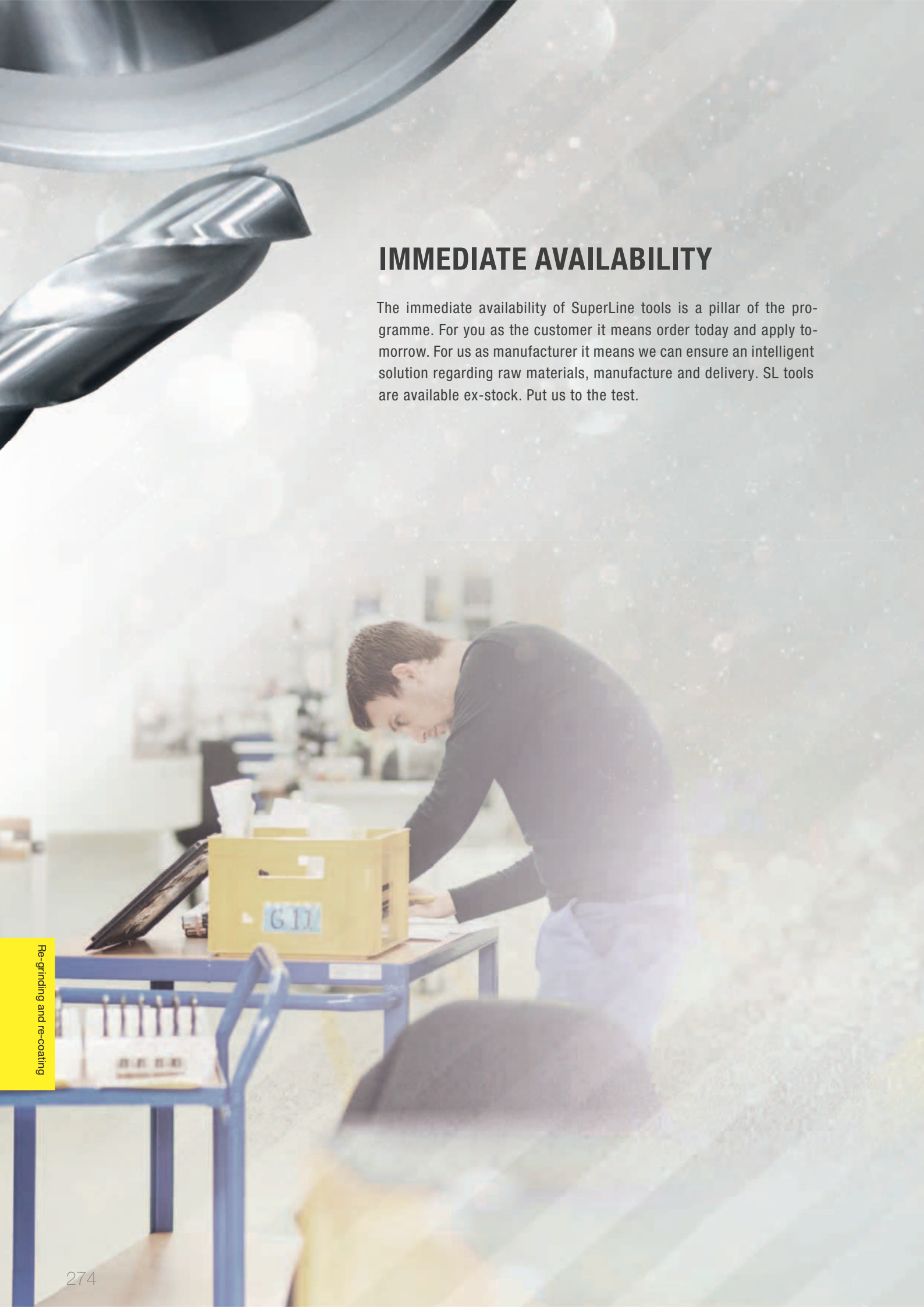
DIGITAL SERVICES

- Reduce costs
- Identify areas with improvement potential
- Perfect your tools and processes
- Transparency in real time

RE-GRINDING AND RE-COATING

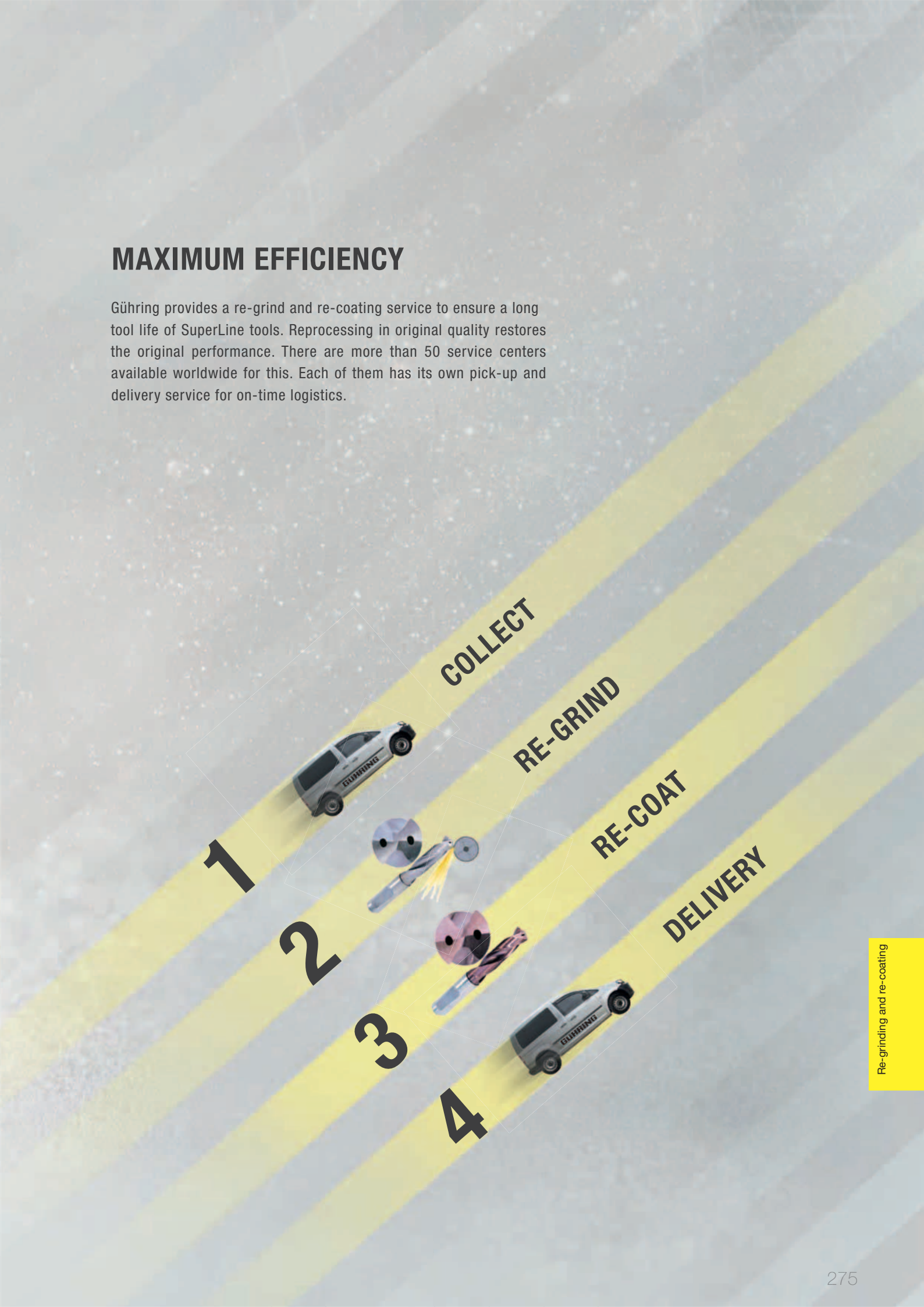
IMMEDIATE AVAILABILITY

The immediate availability of SuperLine tools is a pillar of the programme. For you as the customer it means order today and apply tomorrow. For us as manufacturer it means we can ensure an intelligent solution regarding raw materials, manufacture and delivery. SL tools are available ex-stock. Put us to the test.



MAXIMUM EFFICIENCY

Gühring provides a re-grind and re-coating service to ensure a long tool life of SuperLine tools. Reprocessing in original quality restores the original performance. There are more than 50 service centers available worldwide for this. Each of them has its own pick-up and delivery service for on-time logistics.



SL Re-grind service

	SL Drilling tools			SL Reamers		
	Carbide Bright finish	*Carbide Ratio drills up to 12xD	Carbide NC spotting drills	Carbide Bright finish	Carbide coated	HR 500 coated
Diameter	£ / piece	£ / piece	£ / piece	£ / piece	£ / piece	£ / piece
4 - 6	6.70	19.40	9.70	6.00	9.70	11.64
> 6 - 10	8.20	24.40	12.20	7.80	12.20	14.64
> 10 - 16	11.73	26.45	16.75	9.50	15.45	16.65
> 16 - 20	14.75	29.10	19.50	10.90	20.75	24.90

	SL Threading tools		
	HSS-E/ HSS-E-PM taps	Carbide taps	Thread milling cutters
Diameter	£ / piece	£ / piece	£ / piece
10	On request	9.50	9.50
> 10 - 14	On request	11.90	11.90
> 14 - 20	On request	15.80	15.80

* RT 100 U, RT 100 VA, RT 150 GG, FT 200 & solid carbide twist drills.
Prices include re-coating where applicable.
HSS-Prices on request.
Diameters above 20mm on request.

SL Re-grind service

	SL Milling tools									
	Carbide end mills Full regrind 2/3/4 flute	Carbide end mills Full regrind Multi Flute	Carbide RF 100 A Bright	Carbide end mills Ø or flute grind only 2/3/4 flutes	Carbide end mills Ø. or flute grind only Multi flute	Carbide end mill end grind only	Carbide ball nose cutters	Carbide chamfer cutters	Diver Cutters RF 100 Speed	Carbide Ripper cutters
Diameter	£ / piece	£ / piece	£ / piece	£ / piece	£ / piece	£ / piece	£ / piece	£ / piece	£ / piece	£ / piece
4 - 8	16.12	18.86	9.70	10.16	11.88	10.48	21.01	8.50	18.88	16.12
> 8 - 10	17.85	20.88	11.45	11.25	13.16	11.60	22.75	9.75	18.88	17.85
> 10 - 14	24.35	28.49	15.97	15.34	17.95	15.83	24.80	11.00	28.54	24.35
> 14 - 18	25.81	30.20	17.30	16.26	19.02	16.78	24.80	N/A	33.35	25.81
> 18 - 20	27.56	32.25	21.10	17.36	20.31	17.91	26.90	N/A	35.96	27.56
> 20 - 25	32.00	37.44	23.20	20.16	23.59	20.80	N/A	N/A	N/A	N/A

SL Re-coating service

	Coating Only				
	TiN	Fire Nano Fire	TiAlN Super A Nano A	Endurum Signum	Zenit Congressor
Diameter	£ / piece	£ / piece	£ / piece	£ / piece	£ / piece
up to 3	2.45	2.45	3.00	3.85	4.24
> 3 - 6	3.00	3.00	3.60	4.45	4.90
> 6 - 8	4.00	4.00	4.80	6.00	6.60
> 8 - 10	4.40	4.40	5.35	6.60	7.26
> 10 - 12	4.90	4.90	5.85	7.70	8.47
> 12 - 14	6.05	6.05	7.30	9.45	10.40
> 14 - 16	6.50	6.50	7.85	10.15	11.17
> 16 - 20	8.45	8.45	10.15	13.25	14.58

Diameters above 20mm price on request.
Other coatings price on request.
Prices based on lengths up to 150 mm (up to 300 mm in length - price on request).

Minimum order quantity 3 pcs. Below 3 pcs 50 % surcharge.

SUCCESS STORY

GUHRING – A UK MANUFACTURING SUCCESS STORY

In 2017, Guhring opened its new 'state-of-the-art' manufacturing facility in the heart of Birmingham. Since the opening, Guhring has invested heavily in the latest technology for producing solid carbide, HSS and PCD cutting tools at breakneck speeds. The new 60,000sq/ft facility is the only UK cutting tool manufacturing operation that encompasses everything from design and consultation through to tool production, polishing, coating, re-grinding and testing.

UK SERVICES

REGRIND / RECOAT AND 3D PRINTING SERVICE

Even the most resilient tool will wear over prolonged periods of use. With professional regrinding and recoating using the original geometries and coatings, Guhring reproduces the original tool and performance, so that the tools continue to satisfy all quality parameters.

Here at Guhring in Birmingham we offer a number of services. These include:

Decoating
A high tech process that completely and safely removes the coating which allows tools with tight tolerances to be recoated without losing tolerance – critical for precision tools such as reamers.

Regrinding
To offer customers the highest quality cutting tools at significantly reduced cost, our in-house regrinding division will return your used cutting tools to near new condition. To ensure our quality surpasses that of our rivals, we have even manufactured our own tool grinding machines.

Our regrinding service means you can save up to 70% on tool costs by using Guhring's precision regrinding service. Guhring will also regrind competitors tools.

3D Printing – Additive Manufacturing

The process of constructing a 3D object from a digital model. Contact our technical team to learn how this revolutionary process is solving problems.

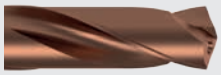
Coating
Thin film coatings, when properly applied, improve tool performance and tool life. They increase surface hardness, lower the friction coefficient and thermal conductivity and provide a chemically inert surface.

SIGNUM
Hard machining specialist

SIRUS
Stainless steel specialist

RAPTOR
Steel milling specialist

ZENIT
Titanium specialist

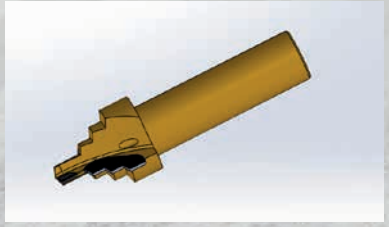


ENDURUM
Steel drilling specialist

CRISTALL
GFRP/CFRP specialist

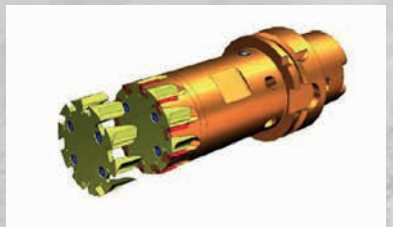
CARBO
Non-ferrous metal specialist

MODERN TECHNOLOGY PROVIDING INNOVATIVE SOLUTIONS



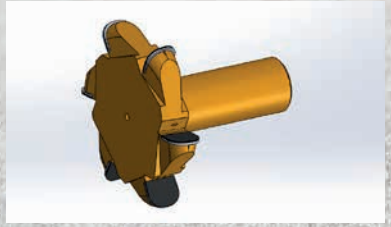
PCD Multi Step Drill

Solid carbide body with internal coolant supply. Combining multi diameter drilling and spot facing.



PCD Milling Cutter

Special tool using a steel body and a 3D printed 'Smart Cap' to safely evacuate chips from the workpiece.



PCD Slot Cutter

Tool body developed using 3D printing technology.
Enables strategically placed coolant holes for optimised cooling.

IN-HOUSE DESIGN & MANUFACTURE OF SPECIAL TOOLS

Why a Special Tool?

Do you…

require a specific tool for a job?	want to save money?	want shorter processing times?	want to reduce the number of tool changes and set-ups?	want improved machining accuracy?

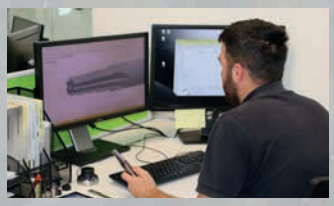
Once upon a time, a 'special tool' would be a variation of a standard product with a different flute length, overall length or maybe a diameter that wasn't printed in the 'standard' product catalogue whereas an 'engineered' solution was the epitome of application expertise with a lead-time that was somewhat justified by the consultation, design, manufacture and even testing of a 'tailored solution.'

Now, everybody wants a 'special' tool. When everybody wants a special, it's no longer a special – its an industry expectation. If you choose Guhring – you are selecting a manufacturer where 'Special' is the norm!

CONSISTENT QUALITY AT YOUR FINGERTIPS

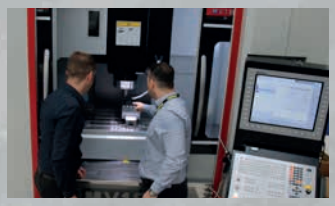
Stage 1: Project Scope

Our in-house experts can develop a cutting tool 'unique' to your requirements from a drawing, a part or even a concept.



Stage 2: Concept Design

Our engineers will implement a design aimed at achieving the desired outcomes of the customer. Maximising expectations on tool life, productivity and eliminating additional processes and the requirement for multiple tools.



Stage 3: Manufacture & Tool Testing

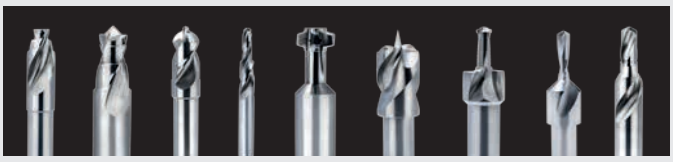
With our in-house test facility, we can trial the performance of special tools, ensuring Guhring special tools will fit straight into your production facility to deliver productivity gains from day one!

Stage 4: Project Approval

Upon meeting the performance criteria agreed, the customer can approve their tools with confidence.

Stage 5: Project Delivery

As one of the few UK manufacturers that can develop, design, manufacture, coat and test tools under one roof, Guhring will supply your special tools at remarkably fast turnaround times.



If you require more details on our special tooling services, contact our expert technical team on 0121 749 5544 or email specials@guhring.co.uk

ARTICLE NO. INDEX

Article no.	Page	Drilling depth	Standard	Description	Tool material	Type	Form
12	138	~5xD	DIN 338	Twist drill sets	HSCO	GU 500 DZ	
234	139	~5xD	DIN 338	Twist drill sets	HSS	N	
391	171		~DIN 371/~DIN 376	Taps for UNC threads	HSS-E	VA R45	C
392	173		~DIN 371/~DIN 374	Taps for UNF threads	HSS-E	VA R45	C
393	167	3xD	DIN 371/DIN 376	Taps for ISO metric threads	HSS-E	VA R45	C
394	169	3xD	DIN 374	Taps for ISO metric fine threads	HSS-E	VA R45	C
395	175	3xD	DIN 5156	Taps for BSP threads	HSS-E	VA R45	C
1685	241		Company std.	High-performance reamers	Solid carbide	HR 500 S	
1686	242		Company std.	High-performance reamers	Solid carbide	HR 500 D	
4002	181	2.5xD	Company std.	Micro thread milling cutters	Solid carbide	MTMH3-Z	
4107	72	3xD	Company std.	Tool holders for interchangeable inserts HT 800		HT 800 WP	
4108	75	5xD	Company std.	Tool holders for interchangeable inserts HT 800		HT 800 WP	
4109	78	7xD	Company std.	Tool holders for interchangeable inserts HT 800		HT 800 WP	
4112	80		Company std.	Interchangeable inserts HT 800	Solid carbide	HT 800 WP	
4113	83		Company std.	Interchangeable inserts HT 800	Solid carbide	HT 800 WP	
4115	86		Company std.	Interchangeable inserts HT 800	Solid carbide	HT 800 WP	
4218	168	3xD	DIN 371/DIN 376	Taps for ISO metric threads	HSS-E	VA	B
4219	170	1.5xD	DIN 374	Taps for ISO metric fine threads	HSS-E	VA	B
4220	176	1.5xD	DIN 5156	Taps for BSP threads	HSS-E	VA	B
4226	180	3xD	Company std.	Micro thread milling cutters	Solid carbide	MTM3 SP	
4487	179		~DIN 371/~DIN 376	Fluteless taps for ISO metric threads	HSS-E-PM	N	C
4642	172		~DIN 371/~DIN 376	Taps for UNC threads	HSS-E	VA	B
4643	174		~DIN 371/~DIN 374	Taps for UNF threads	HSS-E	VA	B
4662	258		DIN 69882-7	HSK-A hydraulic chucks			
4663	259		Company std.	ISO taper hydraulic chucks			
4664	260		Company std.	MAS/BT hydraulic chucks			
5498	40	5xD	DIN 6537L	Ratio drills with coolant ducts	Solid carbide	RT 100 XF	
5499	47	7xD	Company std.	Ratio drills with coolant ducts	Solid carbide	RT 100 XF	
5500	245		DIN 335	90° Countersinks, spiral-fluted	HSCO		C
5501	246		DIN 335	90° Countersinks, spiral-fluted	HSCO		C
5503	247		Company std.	90° Countersinks, spiral-fluted	HSS		C
5504	205		DIN 6527L	Roughing end mills GS 100 U (fine teeth)	Solid carbide	NRf	B
5505	202		DIN 6527K	Slot drills GH 100 U (3-fluted)	Solid carbide	NH	A
5506	203		DIN 6527L	Slot drills GH 100 U (3-fluted)	Solid carbide	NH	A
5507	212		DIN 6527L	Slot drills (3-fluted)	Solid carbide	N	A
5510	22	3xD	DIN 6537K	Ratio drills with coolant ducts	Solid carbide	RT 100 U	
5511	32	5xD	DIN 6537L	Ratio drills with coolant ducts	Solid carbide	RT 100 U	
5512	44	7xD	Company std.	Ratio drills with coolant ducts	Solid carbide	RT 100 U	
5513	51	10xD	Company std.	Ratio drills with coolant ducts	Solid carbide	RT 150 GG	
5514	66	3xD	DIN 6537K	Ratio drills without coolant ducts	Solid carbide	RT 100 U	
5515	69	5xD	DIN 6537L	Ratio drills without coolant ducts	Solid carbide	RT 100 U	
5516	109	~3xD	DIN 6539	Stub drills	Solid carbide	N	
5517	117	~5xD	Company std.	Jobber drills	Solid carbide	N	
5518	99	5xD	DIN 6537L	3-flute Ratio drills	Solid carbide	FT 200	
5519	119	~5xD	DIN 338	Jobber drills	HSCO	GU 500 DZ	
5520	111	~3xD	DIN 1897	Stub drills	HSCO	GU 500 DZ	
5521	114	~3xD	DIN 1897	Stub drills	HSS-E-PM	GT 500 DZ	
5522	122	~5xD	DIN 338	Jobber drills	HSS-E-PM	GT 500 DZ	
5523	119	~5xD	DIN 338	Jobber drills	HSCO	GU 500 DZ	
5524	111	~3xD	DIN 1897	Stub drills	HSCO	GU 500 DZ	
5525	53	12xD	Company std.	Ratio drills with coolant ducts	Solid carbide	RT 100 U	
5526	25	3xD	DIN 6537K	Ratio drills with coolant ducts	Solid carbide	RT 100 VA	
5527	237		Company std.	NC machine reamers	Solid carbide		B
5528	25	3xD	DIN 6537K	Ratio drills with coolant ducts	Solid carbide	RT 100 VA	
5530	209		DIN 6527L	Slot drills (2-fluted)	Solid carbide	N	B
5531	212		DIN 6527L	Slot drills (3-fluted)	Solid carbide	N	B
5532	214		DIN 6527L	End mills (4-fluted)	Solid carbide	N	B
5533	216		DIN 6527L	Ball nose slot drills (2-fluted)	Solid carbide	N	B
5534	192		DIN 6527K	Standard Ratio end mills RF 100 U	Solid carbide	N	B
5535	193		DIN 6527L	Standard Ratio end mills RF 100 U	Solid carbide	N	B
5536	129	~10xD	DIN 340	Long series twist drills	HSCO	GU 500 DZ	
5537	129	~10xD	DIN 340	Long series twist drills	HSCO	GU 500 DZ	
5538	250		DIN 335	90° Countersink sets, spiral-fluted	HSCO		C
5539	251		DIN 335	90° Countersink sets, spiral-fluted	HSCO		C
5543	211		DIN 6527L	Al slot drills (2-fluted)	Solid carbide	W	B
5545	207		Company std.	Multi-tooth end mills GH 100 U	Solid carbide	NH	B
5546	203		DIN 6527L	Slot drills GH 100 U (3-fluted)	Solid carbide	NH	B
5547	182	2xD	Company std.	Thread milling cutters without chamfer for ISO metric threads	Solid carbide	TM SP	
5548	182	2xD	Company std.	Thread milling cutters without chamfer for ISO metric threads	Solid carbide	TM SP	
5549	210		Company std.	XL slot drills (2-fluted)	Solid carbide	N	A
5550	166	3xD	DIN 371/DIN 376	Taps for ISO metric threads	HSS-E	GG	C
5551	159	3xD	DIN 371/DIN 376	Taps for ISO metric threads	HSS-E	Al R45	C

Article no.	Page	Drilling depth	Standard	Description	Tool material	Type	Form
5552	157	3xD	DIN 371/DIN 376	Taps for ISO metric threads	HSS-E	H R40	C
5553	158	3xD	DIN 371/DIN 376	Taps for ISO metric threads	HSS-E	VA R40	C
5555	156	3xD	DIN 371/DIN 376	Taps for ISO metric threads	HSS-E	N R40	C
5556	215		Company std.	XL end mills (4-fluted)	Solid carbide	N	A
5557	165	3xD	DIN 371/DIN 376	Taps for ISO metric threads	HSS-E	Al	B
5558	162	3xD	DIN 371/DIN 376	Taps for ISO metric threads	HSS-E	H	B
5559	164	3xD	DIN 371	Taps for ISO metric threads	HSS-E-PM	VA	B
5561	161	3xD	DIN 371/DIN 376	Taps for ISO metric threads	HSS-E	N	B
5573	213		Company std.	Mini slot drills (3-fluted)	Solid carbide	N	
5574	204		Company std.	Mini slot drills (3-fluted)	Solid carbide	NH	
5578	219		Company std.	Chamfering milling cutters 90°	Solid carbide	N	
5579	219		Company std.	Chamfering milling cutters 90°	Solid carbide	N	
5580	36	5xD	DIN 6537L	Ratio drills with coolant ducts	Solid carbide	RT 100 VA	
5581	36	5xD	DIN 6537L	Ratio drills with coolant ducts	Solid carbide	RT 100 VA	
5582	194		Company std.	Standard Ratio end mills RF 100 U	Solid carbide	NH	
5583	206		DIN 6527L	Hard roughing end mills GS 100 H (fine teeth)	Solid carbide	HR	B
5584	217		DIN 6527L	Ball nose end mills (4-fluted)	Solid carbide	N	B
5585	216		DIN 6527L	Ball nose slot drills (2-fluted)	Solid carbide	N	A
5586	161	3xD	DIN 371/DIN 376	Taps for ISO metric threads	HSS-E	N	B
5587	162	3xD	DIN 371/DIN 376	Taps for ISO metric threads	HSS-E	H	B
5588	163	3xD	DIN 371/DIN 376	Taps for ISO metric threads	HSS-E	VA	B
5591	157	3xD	DIN 371/DIN 376	Taps for ISO metric threads	HSS-E	H R40	C
5593	160	3xD	DIN 371/DIN 376	Taps for ISO metric threads	Solid carbide	H	C
5594	156	3xD	DIN 371/DIN 376	Taps for ISO metric threads	HSS-E	N R40	C
5595	166	3xD	DIN 371/DIN 376	Taps for ISO metric threads	HSS-E	GG	C
5596	158	3xD	DIN 371/DIN 376	Taps for ISO metric threads	HSS-E	VA R40	C
5597	163		DIN 371/DIN 376	Taps for ISO metric threads	HSS-E	VA	B
5598	177	3xD	~DIN 371	Fluteless taps for ISO metric threads	HSS-E	N	C
5599	178	3xD	~DIN 376	Fluteless taps for ISO metric threads	HSS-E	N	C
5610	22	3xD	DIN 6537K	Ratio drills with coolant ducts	Solid carbide	RT 100 U	
5611	32	5xD	DIN 6537L	Ratio drills with coolant ducts	Solid carbide	RT 100 U	
5612	44	7xD	Company std.	Ratio drills with coolant ducts	Solid carbide	RT 100 U	
5614	66	3xD	DIN 6537K	Ratio drills without coolant ducts	Solid carbide	RT 100 U	
5615	69	5xD	DIN 6537L	Ratio drills without coolant ducts	Solid carbide	RT 100 U	
5635	222		DIN 6527L	Ratio end mill sets RF 100 U	Solid carbide	N	B
5650	32	5xD	DIN 6537L	Ratio drills with coolant ducts	Solid carbide	RT 100 U	
5651	69	5xD	DIN 6537L	Ratio drills without coolant ducts	Solid carbide	RT 100 U	
5652	89		Company std.	Solid carbide micro-precision drills without coolant ducts	Solid carbide	N	
5653	200		DIN 6527L	Ratio end mills RF 100 VA	Solid carbide	N	A
5654	200		DIN 6527L	Ratio end mills RF 100 VA	Solid carbide	N	B
5655	201		Company std.	Ratio end mills Alu RF 100 A	Solid carbide	W	
5670	243		DIN 334	60° Countersinks, spiral-fluted	HSS		C
5671	244		DIN 334	60° Countersinks, spiral-fluted	HSS		C
5672	248		DIN 334	60° Countersink sets, spiral-fluted	HSS		C
5673	249		DIN 334	60° Countersink sets, spiral-fluted	HSS		C
5678	132		Company std.	90° NC spotting drills	HSCO	N	
5679	134		Company std.	120° NC spotting drills	HSCO	N	
5680	137		DIN 333	Centre drills without flat	HSCO	N	A
5729	208		Company std.	Multi-tooth end mills GH 100 U	Solid carbide	NH	
5730	209		DIN 6527L	Slot drills (2-fluted)	Solid carbide	N	A
5735	193		DIN 6527L	Standard Ratio end mills RF 100 U	Solid carbide	N	A
5745	207		Company std.	Multi-tooth end mills GH 100 U	Solid carbide	NH	
5768	28	5xD	DIN 6537L	Ratio drills with coolant ducts	Solid carbide	RT 100 Al	
6005	101	~3xD	Company std.	Twist drills with reinforced straight shank	HSS-E-PM	GU 500 PM	
6006	105	~5xD	Company std.	Twist drills with reinforced straight shank	HSS-E-PM	GU 500 PM	
6010	201		Company std.	Ratio end mills Alu RF 100 A	Solid carbide	W	
6011	218		Company std.	Chamfering milling cutters 60°	Solid carbide	N	
6012	218		Company std.	Chamfering milling cutters 60°	Solid carbide	N	
6013	221		Company std.	Front/back deburrer 90°, sets	Solid carbide	EW 100 VR	
6014	220		Company std.	Chamfering milling cutters 120°	Solid carbide	N	
6015	220		Company std.	Chamfering milling cutters 120°	Solid carbide	N	
6016	235		Company std.	NC machine reamers	Solid carbide		B
6017	236		Company std.	NC machine reamers	Solid carbide		B
6018	239		Company std.	NC machine reamers	Solid carbide		B
6019	232		DIN 212-3	NC machine reamers	HSS-E		B
6020	233		DIN 212-3	NC machine reamers	HSS-E		B
6023	22	3xD	DIN 6537K	Ratio drills with coolant ducts	Solid carbide	RT 100 U	
6024	25	3xD	DIN 6537K	Ratio drills with coolant ducts	Solid carbide	RT 100 VA	
6025	36	5xD	DIN 6537L	Ratio drills with coolant ducts	Solid carbide	RT 100 VA	
6026	66	3xD	DIN 6537K	Ratio drills without coolant ducts	Solid carbide	RT 100 U	
6027	133		Company std.	90° NC spotting drills	Solid carbide	N	
6028	135		Company std.	120° NC spotting drills	Solid carbide	N	

Article no.	Page	Drilling depth	Standard	Description	Tool material	Type	Form
6029	136		Company std.	142° NC spotting drills	Solid carbide	N	
6400	90	4xD	Company std.	ExclusiveLine micro-precision drills without coolant ducts	Solid carbide	N	
6401	92	7xD	Company std.	ExclusiveLine micro-precision drills without coolant ducts	Solid carbide	N	
6405	94	5xD	Company std.	ExclusiveLine micro-precision drills with coolant ducts	Solid carbide	N	
6408	96	8xD	Company std.	ExclusiveLine micro-precision drills with coolant ducts	Solid carbide	N	
6412	98	15xD	Company std.	ExclusiveLine micro-precision drills with coolant ducts	Solid carbide	N	
6509	56	15xD	Company std.	Ratio drills with coolant ducts	Solid carbide	RT 100 T	
6511	58	20xD	Company std.	Ratio drills with coolant ducts	Solid carbide	RT 100 T	
6512	60	25xD	Company std.	Ratio drills with coolant ducts	Solid carbide	RT 100 T	
6513	62	30xD	Company std.	Ratio drills with coolant ducts	Solid carbide	RT 100 T	
6736	197		DIN 6527L	Ratio end mills RF 100 DIVER	Solid carbide	NH	B
6737	197		DIN 6527L	Ratio end mills RF 100 DIVER	Solid carbide	NH	A
6761	195		Company std.	Ratio end mills RF 100 Speed M	Solid carbide	NH	B
6803	196		DIN 6527K	Ratio end mills RF 100 DIVER	Solid carbide	N	
6804	196		DIN 6527K	Ratio end mills RF 100 DIVER	Solid carbide	N	
6964	198		DIN 6527L	Ratio end mills RF 100 iMill	Solid carbide	N	
6965	198		DIN 6527L	Ratio end mills RF 100 iMill	Solid carbide	N	B
9651	125	~5xD	DIN 338	Jobber drills	HSS	N	
506920	269		Company std.	Tool dispensing system TM 226			

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ISO codes

P	Steel, high-alloyed steel
M	Stainless steel
K	Grey cast iron, spheroidal graphite iron and malleable cast iron
N	Aluminium and other non-ferrous metals
S	Special, super and titanium alloys
H	Hardened steel and chilled cast iron

On the programme pages you will find for every tool recommendations regarding suitability for the application groups and details of max. tensile strength and hardness.

● optimal suitability
○ limited suitability

Surfaces

○ bright
Cb Carbo
steam tempered
F FIRE/nanoFIRE
nitrided
Y Signum
S Sirius
A TiAlN
a TiAlN nanoA
A TiAlN SuperA
C TiCN
TiSiN
S TiN
Ni nickel-plated

Pictograms

Tool material

HSS | HSS-E | HSCO | HSS-E-PM — High-speed steel

VHM — Solid carbide

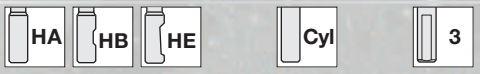
Machining depth

3xD | 4xD | 5xD | 7xD | 8xD | 10xD | 12xD | 15xD | 20xD | 25xD | 30xD | ~3xD | ~5xD | ~10xD

Tolerance on Ø

m7 | h6 | h7 | H7 | h8 | 6HX | ISO2/6H | ≤Ø5,5=+0,004 >Ø5,5=+0,005

Shank form



HA, HB, HE — to DIN 6535

Cyl — cylindrical

3 — 3-flats on shank

Standard

DIN 333 | DIN 338 | DIN 340 | DIN 371 | DIN 376 | DIN 371/376 | DIN 1897 | DIN 6527 K | DIN 6527 L | DIN 6537 K | DIN 6537 L | DIN 6539 | ~DIN 371 ...

to DIN

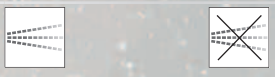
WN — to Gühring Standard

Type

N | H | W | Al | NH | RT 100 U | RT 100 T | RT 100 VA | RT 100 XF | RT 150 GG | FT 200 | GU 500 DZ | GT 500 DZ | HT 800 WP

N R40 | Al R45 | H R40 | VA R40 | TM SP | GG | NRf | HR | HR 500 S | HR 500 D ...

Internal coolant



with internal coolant — without internal coolant

Cutting direction

right-hand

Hole type

Through-hole threads — Blind-hole threads — Through-hole and blind-hole threads

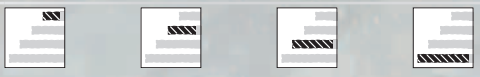
Form

B | C

Application

Slotting — Roughing — Ramping — Helix — Drilling — Finishing — Copying

Length



short (DIN) — long (DIN) — medium length — extra length

No. of cutting edges

No. of major cutting edges

Helix angle

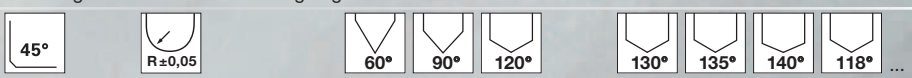
0° | 8° | 20° | 30° | 45° | 35° 38° | 36° 38° | 39° 40° 41° ...

Size of helix angle/no. of different helix angles

Rake angle

Rake angle of circumference cutting edges

Cutting edge form



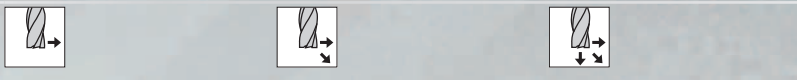
45° — Corner chamfer

R±0,05 — Radius with tolerance

60° | 90° | 120° — Chamfer end mill angles

130° | 135° | 140° | 118° ... — Point angle

Feed



for lateral feed

for lateral feed and oblique plunging

for lateral feed, oblique plunging and drilling

Hardness

48 HRC | 55 HRC

workable material hardness in HRC

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