



GUHRING

Perfect Reaming

HR 500 - high-performance reamers
for first-class results
in no time at all

REAMERS

Reamers





GUHRING














High speed steel reamers

Standard	Form	Tool illustration	Tool material	Surface	d1	Guhring no.	Discount group	Standard range page
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NC machine reamers

DIN 212-3	B		HSS-E	○	1,000 - 12,020	455	105	1280
DIN 212-3	B		HSS-E	○	1,500 - 20,000	490	105	1280

Machine reamers

DIN 208	A		HSS-E	○	3,000 - 40,000	404	105	1284
DIN 208	B		HSS-E	○	3,000 - 50,000	405	105	1284
DIN 208	B		HSS-E	Ⓢ	8,000 - 20,000	642	105	1284
DIN 212	A		HSS-E	○	1,000 - 5,500	401	105	1286
DIN 212	B		HSS-E	○	1,000 - 3,700	402	105	1286
DIN 212	A		HSS-E	○	1,000 - 6,000	457	105	1286
DIN 212-2	A		HSS-E	○	4,000 - 20,000	440	105	1287
DIN 212-2	B		HSS-E	○	3,800 - 20,000	468	105	1287
DIN 212-2	B		HSS-E	Ⓢ	4,000 - 20,000	641	105	1287
DIN 212-2	A		HSS-E	○	4,500 - 10,000	467	105	1287
DIN 212	B		HSS-E	○	0,950 - 12,050	496	105	1289

High speed steel reamers

○ bright	◐ steam tempered	◑ nitrided lands	● nitrided	● golden brown	Ⓐ TiAIN	ⓐ TiAIN nanoA	Ⓐ TiAIN SuperA
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Standard	Form	Tool illustration	Tool material	Surface	d1	Guhring no.	Discount group	Standard range page
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Machine reamers with coolant duct

DIN 212-2	A		HSS-E	○	5,000 - 20,000	1431	105	1291
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Machine reamers with coolant duct

DIN 8089	A		HSS-E	○	5,000 - 18,000	1432	105	1292
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Machine reamers

DIN 8089	A		HSS-E	○	4,000 - 20,000	488	105	1293
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DIN 8089	B		HSS-E	○	4,000 - 20,000	489	105	1293
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DIN 8089	B		HSS-E	○	3,760 - 12,040	497	105	1294
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High speed steel reamers

Machine reamer sets

DIN 8089	B		HSS-E	○	-	458	105	1295
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Quick spiral reamers

DIN 212	C		HSS-E	○	1,000 - 5,500	403	105	1296
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DIN 212-2	C		HSS-E	○	4,000 - 20,000	469	105	1296
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DIN 208	C		HSS-E	○	3,000 - 30,000	406	105	1297
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Machine bridge reamers





DIN 311			HSS	●	6,400 - 40,000	414	105	1298
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High speed steel reamers

Standard	Form	Tool illustration	Tool material	Surface	d1	Gühring no.	Discount group	Standard range page
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Machine bottoming reamers

Gühring std.	A		HSS-E		3,000 - 12,000	419	105	1299
Gühring std.	A		HSS-E		3,000 - 25,000	420	105	1300







Expanding machine reamers

Gühring std.	A		HSS-E		10,000 - 20,000	430	105	1301
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Stepped machine reamers

Gühring std.			HSS-E		5,000 - 38,000	431	105	1302
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Shell reamers

DIN 219	A		HSS-E		29,000 - 98,000	407	105	1303
DIN 219	B		HSS-E		25,000 - 75,000	408	105	1303
DIN 219	C		HSS-E		29,000 - 98,000	409	105	1304









High speed steel reamers

	bright		steam tempered		nitrided lands		nitrided		golden brown		TiAIN		TiAIN nanoA		TiAIN SuperA
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Standard	Type	Tool illustration	Tool material	Surface	d1	Guhring no.	Discount group	Standard range page
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Carbide high performance reamers

Guhring std.	HR 500 S		Solid carbide	a	3,000 - 20,000	1685	166	1305
Guhring std.	HR 500 D		Solid carbide	a	3,000 - 20,000	1686	166	1305
Guhring std.	HR 500 Alu	 <i>NEW</i>	Solid carbide	Cb	4,000 - 20,000	1678	166	1306
Guhring std.	HR 500 Alu	 <i>NEW</i>	Solid carbide	Cb	4,000 - 20,000	1679	166	1306
Guhring std.	HR 500 S	 <i>NEW</i>	Solid carbide	a	2,970 - 12,030	1675	166	1307
Guhring std.	HR 500 D	 <i>NEW</i>	Solid carbide	a	2,970 - 12,030	1676	166	1307
Guhring std.	HR 500 GS	 <i>NEW</i>	Carbide	a	22,000 - 40,000	1680	166	1309
Guhring std.	HR 500 GD	 <i>NEW</i>	Carbide	a	22,000 - 40,000	1681	166	1309

High performance reamers

Cermet high performance reamers



Guhring std.	HR 500 GS	 <i>NEW</i>	Cermet tipped	○	22,000 - 40,000	1682	166	1310
Guhring std.	HR 500 GD	 <i>NEW</i>	Cermet tipped	○	22,000 - 40,000	1683	166	1310



Carbide reamers








Standard	Form	Tool illustration	Tool material	Surface	d1	Guhring no.	Discount group	Standard range page
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NC machine reamers

Guhring std.	B		Solid carbide	○	0,980 - 12,050	1427	120	1311
Guhring std.	B		Solid carbide	○	3,000 - 12,000	1449	120	1311

Machine reamers

Carbide reamers

~ DIN 8050	A		Carbide	○	5,000 - 20,000	717	120	1316
~ DIN 8050	B		Carbide	○	5,000 - 20,000	718	120	1316
~ DIN 8093	A		Carbide	○	1,000 - 20,000	1408	120	1317
~ DIN 8093	A		Carbide	ⓐ	2,000 - 20,000	1428	120	1317
~ DIN 8093	B		Carbide	○	1,000 - 20,000	1409	120	1317
~ DIN 8093	B		Carbide	ⓐ	1,800 - 20,000	1429	120	1317
~ DIN 8051	A		Carbide	○	5,000 - 40,000	719	120	1319
~ DIN 8051	B		Carbide	○	6,000 - 32,000	720	120	1319
~ DIN 8094	A		Carbide	○	6,000 - 28,000	1410	120	1320
~ DIN 8094	B		Carbide	○	5,000 - 40,000	1411	120	1320

Machine reamers







~ DIN 8090	A		Carbide	○	4,000 - 15,000	674	120	1321
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○ bright	◐ steam tempered	◑ nitrided lands	● nitrided	● golden brown	ⓐ TiAIN	ⓐ TiAIN nanoA	ⓐ TiAIN SuperA
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Standard	Form	Tool illustration	Tool material	Surface	d1	Guhring no.	Discount group	Standard range page
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Machine reamers

~ DIN 8090	A		Carbide		3,500 - 14,000	1430	120	1321
~ DIN 8090	B		Carbide		3,000 - 16,000	1407	120	1321
~ DIN 8090	C		Carbide		4,000 - 14,000	737	120	1321

Expanding machine reamers

Guhring std.	A		Carbide		8,000 - 18,000	749	120	1322
Guhring std.	A		Carbide		8,000 - 30,000	740	120	1323

Stepped machine reamers

Guhring std.			Carbide		8,000 - 25,000	743	120	1324
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Shell reamers

DIN 8054			Carbide		25,000 - 55,000	727	120	1325
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Carbide reamers



Taper reamers

Standard	Form	Tool illustration	Tool material	Surface	d1	Guhring no.	Discount group	Standard range page
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Hand taper reamers

DIN 9	A		HSS		1,000 - 30,000	428	105	1326
DIN 9	B		HSS		1,500 - 30,000	429	105	1326
Guhring std.			HSS		3,000 - 23,000	1433	105	1327

Machine taper reamers

DIN 2179			HSS-E		1,000 - 30,000	410	105	1328
DIN 2180			HSS-E		5,000 - 50,000	411	105	1329

Taper reamers

Hand reamers

DIN 206	A		HSS		2,000 - 49,000	412	105	1330
DIN 206	B		HSS		1,400 - 43,000	413	105	1330

Adjustable hand reamers

DIN 859	B		HSS		4,000 - 59,000	415	105	1332
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Expanding hand reamers

Guhring std.			HSS		6,400 - 67,000	416	105	1334
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Replacement blades for expanding hand reamers

Guhring std.			HSS		6,400 - 80,000	417	105	1335
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bright
 steam tempered
 nitrided lands
 nitrided
 golden brown
 TiAlN
 TiAlN nanoA
 TiAlN SuperA



Standard	Type	Tool illustration	Tool material	Surface	d1	Guhring no.	Discount group	Standard range page
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Arbors, complete

DIN 217



-

1438

105

1336

Arbors without accessories

Guhring std.



-

1434

105

1337

Draw-off nuts

Guhring std.



-

1435

105

1338

Driving collars

Guhring std.



-

1436

105

1339

Woodruff keys

DIN 6888



-

1437

105

1340

Reamers



Reaming

Tools with bold feed column no. are preferred choice.

For blind holes with close diameter tolerances choose straight-fluted reamers.

For exact definition of tools please refer to the "Standard range and technical data" pages.

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

Guhring no. **R**

Guhring no. **L**

Standard/DIN

Tool material

Surface finish

Form

Cooling

Std. range page

Counter-sink 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
- left-hand cutting

Reamers

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

- bright
- steam tempered
- nitrided lands
- nitrided
- golden brown
- TiAlN
- TiAlN nanoA
- TiAlN SuperA



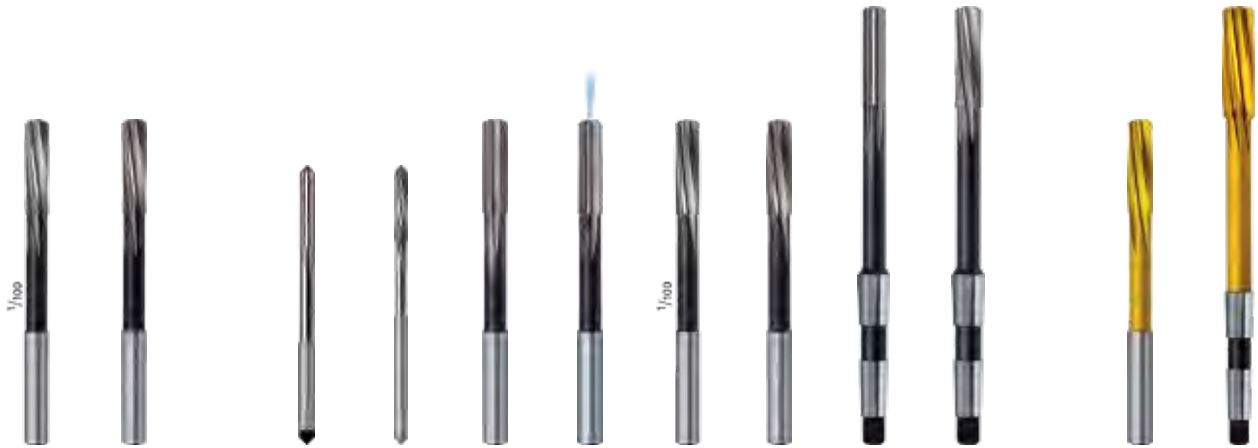
NC reamers

455	490
212-3	212-3
HSS-E	HSS-E
B	B
1280	1280

Machine reamers

401	402	440	1431	496	468	404	405
457		467					
212	212	212-2	212-2	212	212-2	208	208
HSS-E	HSS-E	HSS-E	HSS-E	HSS-E	HSS-E	HSS-E	HSS-E
A	B	A	A	B	B	A	B
axial							
1286	1286	1287	1291	1289	1287	1284	1284

641	642
212-2	208
HSS-E	HSS-E
B	B
1287	1284



Vc m/min	Feed column 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
10	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

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

Vc m/min	Feed column no.	
20	71	71
16	71	71
16	71	71
12	71	71
18	71	71
16	71	71
12	71	71
12	71	71
10	71	71
18	71	71
12	71	71
10	71	71
12	71	71
10	71	71
16	71	71
12	71	71
12	71	71
8	71	71
8	71	71
6	71	71
16	71	71
14	71	71
16	71	71
14	71	71
6	71	71
4	71	71
22	73	73
22	73	73
22	72	72
22	72	72
22	72	72
20	72	72
22	72	72
18	72	72
22	72	72
20	72	72
18	72	72
12	73	73
14	73	73

Reamers



Tools with bold feed column no. are preferred choice.

For blind holes with close diameter tolerances choose straight-fluted reamers.

For exact definition of tools please refer to the "Standard range and technical data" pages.

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

Guhring no.
Standard/DIN
Tool material
Surface finish
Form
Cooling
Std. range page

Counter-sink 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:

- R right-hand cutting
- L left-hand cutting

Reamers

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

- bright
- steam tempered
- nitrided lands
- nitrided
- golden brown
- TiAlN
- TiAlN nanoA
- TiAlN SuperA



Machine reamers

488	1432	489	497
8089	8089	8089	8089
HSS-E	HSS-E	HSS-E	HSS-E
A	A	B	B
axial			
1293	1292	1293	1294

Quick spiral reamers

469	403	406
212-2	212	208
HSS-E	HSS-E	HSS-E
C	C	C
1296	1296	1297

Bottoming reamers

419	420
G.S.	G.S.
HSS-E	HSS-E
A	A
1299	1300



V _c m/min	Feed column no.			
16	71	71	71	71
12	71	71	71	71
12	71	71	71	71
10	71	71	71	71
14	71	71	71	71
12	71	71	71	71
10	71	71	71	71
10	71	71	71	71
8	71	71	71	71
16	71	71	71	71
10	71	71	71	71
8	71	71	71	71
10	71	71	71	71
8	71	71	71	71
14	71	71	71	71
10	71	71	71	71
10	71	71	71	71
6	71	71	71	71
6	71	71	71	71
4	71	71	71	71
14	71	71	71	71
12	71	71	71	71
12	71	71	71	71
12	71	71	71	71
6	71	71	71	71
4	71	71	71	71
18	73	73	73	73
18	73	73	73	73
20	72	72	72	72
18	72	72	72	72
20	72	72	72	72
18	72	72	72	72
18	72	72	72	72
16	72	72	72	72
20	72	72	72	72
18	72	72	72	72
18	72	72	72	72
14	72	72	72	72
12	73	73	73	73
14	73	73	73	73

V _c m/min	Feed column no.		
16	73	73	73
12	73	73	73
12	73	73	73
14	73	73	73
12	73	73	73
16	73	73	73
10	73	73	73
5	71	71	71
22	73	73	73
22	73	73	73
20	73	73	73
16	73	73	73
18	73	73	73
12	73	73	73
14	73	73	73

V _c m/min	Feed column no.	
10	71	71
8	71	71
14	71	71
12	71	71
10	71	71
10	71	71
10	71	71
8	71	71
8	71	71
12	71	71
10	71	71
8	71	71
10	71	71
8	71	71
8	71	71
8	71	71
6	71	71
4	71	71
4	71	71
12	71	71
10	71	71
12	71	71
10	71	71
4	71	71
3	71	71
20	72	72
20	72	72
20	71	71
18	71	71
14	71	71
14	71	71
18	71	71
16	71	71
16	71	71
14	71	71
14	71	71
16	71	71
14	71	71
12	73	73
10	73	73

Reamers



Tools with bold feed column no. are preferred choice.

For blind holes with close diameter tolerances choose straight-fluted reamers.

For exact definition of tools please refer to the "Standard range and technical data" pages.

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

Guhring no.
Standard/DIN
Tool material
Surface finish
Typ
Cooling
Std. range page

Counter-sink 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:
- R right-hand cutting
 - L left-hand cutting

Reamers

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

- bright
- steam tempered
- nitrided lands
- nitrided
- golden brown
- TiAlN
- TiAlN nanoA
- TiAlN SuperA



High performance reamers

1685	1686	1675	1676
G.S.	G.S.	G.S.	G.S.
Sol. carb.	Sol. carb.	Sol. carb.	Sol. carb.
a	a	a	a
HR 500 S	HR 500 D	HR 500 S	HR 500 D
axial	axial	axial	axial
1305	1305	1307	1307

1678	1679
G.S.	G.S.
Sol. carb.	Sol. carb.
Cb	Cb
HR 500 Alu	HR 500 Alu
axial	axial
1306	1306

1680	1681
G.S.	G.S.
Carbide	Carbide
a	a
HR 500 GS	HR 500 GD
axial	axial
1309	1309

1682	1683
G.S.	G.S.
Cermet tipped	Cermet tipped
HR 500 GS	HR 500 GD
axial	axial
1310	1310



V _c m/min	Feed column no.			
185	75-76	75-76	75-76	75-76
185	75-76	75-76	75-76	75-76
185	75-76	75-76	75-76	75-76
185	75-76	75-76	75-76	75-76
185	75-76	75-76	75-76	75-76
185	75-76	75-76	75-76	75-76
185	75-76	75-76	75-76	75-76
185	75-76	75-76	75-76	75-76
185	75-76	75-76	75-76	75-76
185	75-76	75-76	75-76	75-76
185	75-76	75-76	75-76	75-76
185	75-76	75-76	75-76	75-76
185	75-76	75-76	75-76	75-76
185	75-76	75-76	75-76	75-76
185	75-76	75-76	75-76	75-76
185	75-76	75-76	75-76	75-76
185	75-76	75-76	75-76	75-76
90	75-76	75-76	75-76	75-76
45	73-74	73-74	73-74	73-74
90	74-75	74-75	74-75	74-75
60	74-75	74-75	74-75	74-75
90	74-75	74-75	74-75	74-75
50	73-74	73-74	73-74	73-74
45	73-74	73-74	73-74	73-74
100	75-76	75-76	75-76	75-76
100	75-76	75-76	75-76	75-76
185	75-76	75-76	75-76	75-76
90	75-76	75-76	75-76	75-76
40	74-75	74-75	74-75	74-75
60	74-75	74-75	74-75	74-75
60	74-75	74-75	74-75	74-75
300	76-77	76-77	76-77	76-77
300	76-77	76-77	76-77	76-77
300	76-77	76-77	76-77	76-77
300	76-77	76-77	76-77	76-77
120	75-76	75-76	75-76	75-76
175	75-76	75-76	75-76	75-76
175	75-76	75-76	75-76	75-76
175	75-76	75-76	75-76	75-76
140	75-76	75-76	75-76	75-76
140	75-76	75-76	75-76	75-76

V _c m/min	Feed column no.	
300	76-77	76-77
300	76-77	76-77
300	76-77	76-77
300	76-77	76-77

V _c m/min	Feed column no.	
33	74-75	74-75
33	74-75	74-75
33	74-75	74-75
33	74-75	74-75
33	74-75	74-75
33	74-75	74-75
33	74-75	74-75
33	74-75	74-75
33	74-75	74-75
33	74-75	74-75
33	74-75	74-75
33	74-75	74-75
33	74-75	74-75
33	74-75	74-75
33	74-75	74-75
33	74-75	74-75
33	74-75	74-75
33	74-75	74-75
33	74-75	74-75
33	74-75	74-75
25	74-75	74-75
25	74-75	74-75
45	74-75	74-75
25	74-75	74-75
25	74-75	74-75
15	72-73	72-73
70	75-76	75-76
70	75-76	75-76
85	75-76	75-76
75	75-76	75-76
30	74-75	74-75
30	73-74	73-74
30	73-74	73-74
120	75-76	75-76
80	74-75	74-75
80	74-75	74-75
85	74-75	74-75
85	74-75	74-75
85	74-75	74-75
85	74-75	74-75
80	74-75	74-75
80	74-75	74-75

V _c m/min	Feed column no.	
140	75-76	75-76
140	75-76	75-76
140	75-76	75-76
140	75-76	75-76
140	75-76	75-76
140	75-76	75-76
140	75-76	75-76
140	75-76	75-76
140	75-76	75-76
140	75-76	75-76
140	75-76	75-76
140	75-76	75-76
140	75-76	75-76
140	75-76	75-76
140	75-76	75-76
140	75-76	75-76
140	75-76	75-76
140	75-76	75-76
140	75-76	75-76
140	75-76	75-76
120	74-75	74-75
115	75-76	75-76



Tools with bold feed column no. are preferred choice.

For blind holes with close diameter tolerances choose straight-fluted reamers.

For exact definition of tools please refer to the "Standard range and technical data" pages.

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

Guhring no.
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Tool material
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Counter-sink 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:

- R right-hand cutting
- L left-hand cutting

Reamers

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

- bright
- steam tempered
- nitrided lands
- nitrided
- golden brown
- TiAlN
- TiAlN nanoA
- TiAlN SuperA



NC reamers

1427	1449
G.S.	G.S.
Sol. carb.	Sol. carb.
B	B
1311	1311

Machine reamers

1408	1409	1410	1411	717	718	719	720
~8093	~8093	~8094	~8094	~8050	~8050	~8051	~8051
Carbide	Carbide	Carbide	Carbide	Carbide	Carbide	Carbide	Carbide
A	B	A	B	A	B	A	B
1317	1317	1320	1320	1316	1316	1319	1319

1428	1429
~8093	~8093
Carbide	Carbide
A	B
1317	1317



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

V _c m/min	Feed column 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
11	71	71
11	71	71
33	73	73
33	73	73
44	73	73
33	73	73
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

Reamers



Tools with bold feed column no. are preferred choice.

For blind holes with close diameter tolerances choose straight-fluted reamers.

For exact definition of tools please refer to the "Standard range and technical data" pages.

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Guhring no.
Standard/DIN
Tool material
Surface finish
Form
Cooling
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Counter-sink 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
- Ⓛ left-hand cutting

Reamers

Material group	Material examples, new description (old description in brackets) Figures in bold = material no. to DIN EN	Tensile strength MPa (N/mm ²)	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	○
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		○
Hardened steels	-		≤48 HRC ≤66 HRC	○
Special alloys	Nimonic, Inconel, Monel, Hastelloy	≤2000		○
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	○
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		○
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		○
Kevlar	Kevlar	≤1000		○
Glass, carbon concentrated plastics	GFK/CFK	≤1000		○

- bright
- ◐ steam tempered
- ◑ nitrided lands
- nitrided
- ◐ golden brown
- Ⓜ TiAlN
- Ⓛ TiAlN nanoA
- Ⓛ TiAlN SuperA



Expand. reamers

stepped

Machine reamers

stepped

749	740
G.S.	G.S.
Carbide	Carbide
A	A
1322	1323

743
G.S.
Carbide
1324

674	1407	737
~8090	~8090	~8090
Carbide	Carbide	Carbide
A	B	C
1321	1321	1321

1430
~8090
Carbide
A
1321

727
8054
Carbide
1325



V _c m/min	Feed column no.		V _c m/min	Feed column no.	V _c m/min	Feed column no.			V _c m/min	Feed column no.	V _c m/min	Feed column no.
16	71	71	18	72	20	72	72	72	22	72	20	72
14	71	71	16	72	18	72	72	72	20	72	20	72
14	71	71	18	72	20	72	72	72	22	72	20	72
12	71	71	16	72	18	72	72	72	20	72	20	72
14	71	71	18	71	20	71	71	71	22	71	20	71
12	71	71	16	72	18	71	71	71	20	71	20	71
12	71	71	14	71	16	71	71	71	18	71	16	71
12	71	71	14	71	16	71	71	71	18	71	18	71
10	71	71	12	71	14	71	71	71	13	71	14	71
14	71	71	18	71	20	71	71	71	22	71	20	72
12	71	71	14	71	16	71	71	71	18	71	18	71
10	71	71	12	71	14	71	71	71	15	71	14	71
14	71	71	18	71	20	71	71	71	18	71	18	71
12	71	71	14	71	16	71	71	71	15	71	14	71
10	71	71	12	71	14	71	71	71	15	71	18	71
10	71	71	10	71	12	71	71	71	13	71	12	71
8	71	71	10	71	12	71	71	71	13	71	14	71
8	71	71	10	71	12	71	71	71	13	71	8	71
8	71	71			8	71	71	71	9	71	14	71
6	71	71			6	71	71	71	7	71	12	71
6	71	71			6	71	71	71	7	71	10	71
20	71	71	20	71	20	71	71	71	22	71	22	71
18	71	71	18	71	18	71	71	71	20	71	18	71
20	71	71	20	71	20	71	71	71	22	71	20	71
20	71	71	18	71	20	71	71	71	22	71	18	71
4	71	71										
8	71	71	10	71	10	71	71	71	11	71	10	71
8	71	71	10	71	10	71	71	71	11	71	10	71
25	72	72	30	73	30	73	73	73	33	73	30	73
25	72	72	30	73	30	73	73	73	33	73	30	73
35	72	72	40	72	40	72	72	72	44	72	35	73
30	72	72	30	72	30	72	72	72	33	72	25	73
20	72	72	25	72	25	72	72	72	28	72	25	73
20	72	72	25	72	35	72	72	72	39	72	25	73
30	72	72	35	72	35	72	72	72	33	72	35	73
25	72	72	30	72	30	72	72	72	33	72	30	73
30	72	72	35	72	30	72	72	72	33	72	30	73
25	72	72	30	72	25	72	72	72	28	72	25	73
25	72	72	30	72	30	72	72	72	33	72	30	73
20	72	72	25	72	25	72	72	72	28	72	25	73
16	73	73	20	73	12	73	73	73	12	73	20	72
16	73	73	20	73	14	73	73	73	14	73	20	73

Reamers



Tools with bold feed column no. are preferred choice.

For blind holes with close diameter tolerances choose straight-fluted reamers.

For exact definition of tools please refer to the "Standard range and technical data" pages.

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

Guhring no.
Standard/DIN
Tool material
Surface finish
Form
Cooling
Std. range page

Counter-sink 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:

- [R] right-hand cutting
- [L] left-hand cutting

Reamers

Material group	Material examples, new description (old description in brackets) Figures in bold = material no. to DIN EN	Tensile strength MPa (N/mm ²)	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	○
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		○
Hardened steels	-		≤48 HRC ≤66 HRC	○
Special alloys	Nimonic, Inconel, Monel, Hastelloy	≤2000		○
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	○
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		○
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		○
Kevlar	Kevlar	≤1000		○
Glass, carbon concentrated plastics	GFK/CFK	≤1000		○

- bright
- ◐ steam tempered
- ◑ nitrided lands
- nitrided
- ◓ golden brown
- Ⓐ TiAlN
- Ⓐ TiAlN nanoA
- Ⓐ TiAlN SuperA



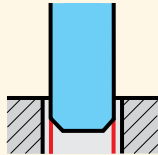
Typical reaming errors

Low cutting speed, high feed rates as well as the use of good cooling and lubricating agents provide the basis for good reaming practice.

A further point to be considered is that a reamer – an exception is the machine bottoming reamer – always follows the direction of the pre-drilled hole. Subsequently, reamers do not correct alignment errors of pre-drilled holes. Errors between the spindle axis and the axis of the pre-drilled hole can be adjusted with the aid of floating holders.

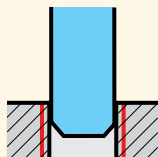
The following fault finding chart will be found useful in tracing the cause of some common reaming problems.

1 Hole too large



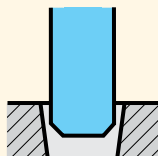
- Tool diameter too large
- Cutting speed/feed rate too high
- Concentricity error of machine spindle
- Bevel lead of tool too short/uneven
- Cutting edge build up
- Lubricating agent unsuitable, holes too large due to lubrication
- Axis shifting between tool and pre-drilled hole. Application of floating holders

2 Hole too small



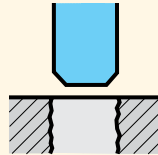
- Reamer blunt. Does not cut, only scrapes
- Cutting speed/feed rate too low
- Component is thin-walled, springs back
- Insufficient stock removal allowance, tool seizes in hole

3 Conical hole malformation



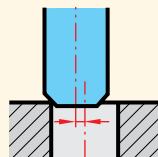
- Tool knocks in spindle
- Bevel lead incorrect
- Axis shifting between tool and pre-drilled hole. Application of floating holders
- Pre-machining inaccurate
- Feed rate too low

4 Unsatisfactory surface finish



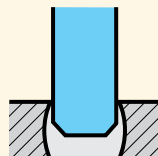
- No/insufficient lubrication. Cutting edge build-up.
- Tool damaged, i. e. broken cutting edge
- Material has a tendency to cause build up on cutting edges.
- Surface finish of pre-drilled hole unsatisfactory
- Concentricity bevel lead incorrect
- Chip evacuation restricted
- Cutting speed too low

5 Misalignment of hole



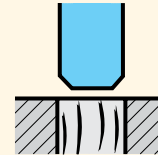
- Pre-drilled hole misaligned
- Concentricity bevel lead incorrect

6 Hole crowned or oval



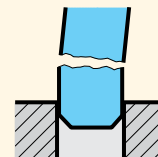
- Workpiece clamped incorrectly
- Chip congestion

7 Hole has chatter marks



- Cutting edge build-up
- Grease content in coolant too low
- Stock removal allowance insufficient
- Tool incorrectly clamped in tool holder
- Machine spindle not concentric
- Feed rate too low
- Axis shifting

8 Tool seizes and breaks



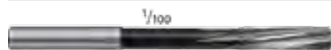
- Back taper incorrect
- Circular lands too wide
- Pre-drilled hole is too small
- Bevel lead blunt/ground unevenly
- Feed rate too high
- Chip congestion
- Axis shifting

nom. size

bright
 steam tempered
 nitrided lands
 nitrided
 golden brown
 TiAIN
 TiAIN nanoA
 AiTiN SuperA



NC machine reamers



left hand spiral flutes
 $\leq \varnothing 3.75$ mm with external centres on both ends
 $> \varnothing 3.75$ mm with internal centres on both ends
 Tolerance:
 $\leq \varnothing 5.50$ mm: 0.000/+0.004
 $> \varnothing 5.50$ mm: 0.000/+0.005

NC machine chucking reamers are similar to DIN 212 with straight shank (h6) for standardised tool clamping in hydraulic or shrink fit chucks. The combination of NC machine chucking reamer and hydraulic, high precision clamping or shrink fit chuck respectively offers highest concentricity and process reliability for the production of holes to required tolerances. Short delivery for intermediate sizes.

Guhring no. 455

Standard	DIN 212-3
Tool material	HSS-E
Surface	○
Type	
Cutting direction	right-hand
Form	B
Tolerance	+0,004/+0,005
Discount group	105
Standard range page	1280

NC machine reamers



left hand spiral flutes
 $\leq \varnothing 3.75$ mm with external centres on both ends
 $> \varnothing 3.75$ mm with internal centres on both ends

NC machine chucking reamers are similar to DIN 212 with straight shank (h6) for standardised tool clamping in hydraulic or shrink fit chucks. The combination of NC machine chucking reamer and hydraulic or shrink fit chuck respectively offers highest concentricity and process reliability for the production of holes to required tolerances.

Guhring no. 490

Standard	DIN 212-3
Tool material	HSS-E
Surface	○
Type	
Cutting direction	right-hand
Form	B
Tolerance	H7
Discount group	105
Standard range page	1280

Machine reamers



straight-fluted
 $\varnothing 3.00$ mm with external centre on cutting end, with internal centre on shank end
 $> \varnothing 3.00$ mm with internal centres on both ends
 $\leq \varnothing 4.00$ mm to Guhring Standard

Guhring no. 404

Standard	DIN 208
Tool material	HSS-E
Surface	○
Type	
Cutting direction	right-hand
Form	A
Tolerance	H7
Discount group	105
Standard range page	1284

Machine reamers



left hand spiral flutes
 $\varnothing 3.00$ mm with external centre on cutting end, with internal centre on shank end
 $> \varnothing 3.00$ mm with internal centres on both ends
 $\leq \varnothing 4.00$ mm to Guhring Standard

Guhring no. 405

Standard	DIN 208
Tool material	HSS-E
Surface	○
Type	
Cutting direction	right-hand
Form	B
Tolerance	H7
Discount group	105
Standard range page	1284

Machine reamers



left hand spiral flutes
 $\varnothing 3.00$ mm with external centre on cutting end, with internal centre on shank end
 $> \varnothing 3.00$ mm with internal centres on both ends
 $\leq \varnothing 4.00$ mm to Guhring Standard

Guhring no. 642

Standard	DIN 208
Tool material	HSS-E
Surface	S
Type	
Cutting direction	right-hand
Form	B
Tolerance	H7
Discount group	105
Standard range page	1284

High speed steel reamers



High speed steel reamers

Machine reamers



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

Guhring no. 401

Standard	DIN 212
Tool material	HSS-E
Surface	○
Type	
Cutting direction	right-hand
Form	A
Tolerance	H7
Discount group	105
Standard range page	1286

Machine reamers



left hand spiral flutes
 > Ø 3.75 mm with internal centres on both ends
 ≤ Ø 3.75 mm with external centres on both ends

Guhring no. 402

Standard	DIN 212
Tool material	HSS-E
Surface	○
Type	
Cutting direction	right-hand
Form	B
Tolerance	H7
Discount group	105
Standard range page	1286

Machine reamers



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

Guhring no. 457

Standard	DIN 212
Tool material	HSS-E
Surface	○
Type	
Cutting direction	left-hand
Form	A
Tolerance	H7
Discount group	105
Standard range page	1286

High speed steel reamers

Machine reamers



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

Guhring no. 440

Standard	DIN 212-2
Tool material	HSS-E
Surface	○
Type	
Cutting direction	right-hand
Form	A
Tolerance	H7
Discount group	105
Standard range page	1287

Machine reamers



left hand spiral flutes
 ≤ Ø 3.75 mm with external centres on both ends
 > Ø 3.75 mm with internal centres on both ends

Guhring no. 468

Standard	DIN 212-2
Tool material	HSS-E
Surface	○
Type	
Cutting direction	right-hand
Form	B
Tolerance	H7
Discount group	105
Standard range page	1287

○ bright ○ steam tempered ● nitrided lands ● nitrided ● golden brown Ⓐ TiAlN Ⓜ TiAlN nanoA Ⓐ TiAlN SuperA



Machine reamers



left hand spiral flutes
 $\leq \varnothing 3.75$ mm with external centres on both ends
 $> \varnothing 3.75$ mm with internal centres on both ends

Guhring no. 641

Standard	DIN 212-2
Tool material	HSS-E
Surface	S
Type	
Cutting direction	right-hand
Form	B
Tolerance	H7
Discount group	105
Standard range page	1287

Machine reamers

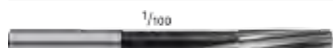


straight-fluted
 $\leq \varnothing 3.75$ mm with external centres on both ends
 $> \varnothing 3.75$ mm with internal centres on both ends

Guhring no. 467

Standard	DIN 212-2
Tool material	HSS-E
Surface	○
Type	
Cutting direction	left-hand
Form	A
Tolerance	H7
Discount group	105
Standard range page	1287

Machine reamers



left hand spiral flutes
 $\leq \varnothing 3.75$ mm with external centres on both ends
 $> \varnothing 3.75$ mm with internal centres on both ends
 \varnothing in increments of 0.01 mm
 Tolerance:
 $\varnothing 0.95 - 5.50$ mm: 0.000/+0.004
 $\varnothing 5.51 - 12.05$ mm: 0.000/+0.005

Guhring no. 496

Standard	DIN 212
Tool material	HSS-E
Surface	○
Type	
Cutting direction	right-hand
Form	B
Tolerance	+0,004/+0,005
Discount group	105
Standard range page	1289

Machine reamers with coolant duct



straight-fluted
 $\leq \varnothing 3.75$ mm with external centres on both ends
 $> \varnothing 3.75$ mm with internal centres on both ends
 with axial coolant duct for the machining of blind holes

Guhring no. 1431

Standard	DIN 212-2
Tool material	HSS-E
Surface	○
Type	
Cutting direction	right-hand
Form	A
Tolerance	H7
Discount group	105
Standard range page	1291

Machine reamers with coolant duct



straight-fluted
 $\leq \varnothing 3.75$ mm with external centres on both ends
 $> \varnothing 3.75$ mm with internal centres on both ends
 with axial coolant duct for the machining of blind holes

Guhring no. 1432

Standard	DIN 8089
Tool material	HSS-E
Surface	○
Type	
Cutting direction	right-hand
Form	A
Tolerance	H7
Discount group	105
Standard range page	1292

High speed steel reamers



High speed steel reamers

Machine reamers



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

Guhring no. 488

Standard	DIN 8089
Tool material	HSS-E
Surface	○
Type	
Cutting direction	right-hand
Form	A
Tolerance	H7
Discount group	105
Standard range page	1293

Machine reamers



left hand spiral flutes
 ≤ Ø 3.75 mm with external centres on both ends
 > Ø 3.75 mm with internal centres on both ends

Guhring no. 489

Standard	DIN 8089
Tool material	HSS-E
Surface	○
Type	
Cutting direction	right-hand
Form	B
Tolerance	H7
Discount group	105
Standard range page	1293

Machine reamers



left hand spiral flutes
 Ø in increments of 0.01 mm
 ≤ Ø 3.75 mm with external centres on both ends
 > Ø 3.75 mm with internal centres on both ends
 Tolerance:
 ≤ Ø 5.50 mm: 0.000/+0.004
 > Ø 5.50 mm: 0.000/+0.005

Guhring no. 497

Standard	DIN 8089
Tool material	HSS-E
Surface	○
Type	
Cutting direction	right-hand
Form	B
Tolerance	+0,004/+0,005
Discount group	105
Standard range page	1294

High speed steel reamers

Machine reamer sets



left hand spiral flutes
 ≤ Ø 3.75 mm with external centres on both ends
 > Ø 3.75 mm with internal centres on both ends
 Tolerance:
 ≤ Ø 5.50 mm: 0.000/+0.004
 > Ø 5.50 mm: 0.000/+0.005

Guhring no. 458

Standard	DIN 8089
Tool material	HSS-E
Surface	○
Type	
Cutting direction	right-hand
Form	B
Tolerance	+0,004/+0,005
Discount group	105
Standard range page	1295

Quick spiral reamers



left hand spiral flutes 45°
 ≤ Ø 3.75 mm with external centres on both ends
 > Ø 3.75 mm with internal centres on both ends

Guhring no. 403

Standard	DIN 212
Tool material	HSS-E
Surface	○
Type	
Cutting direction	right-hand
Form	C
Tolerance	H7
Discount group	105
Standard range page	1296

○ bright ○ steam tempered ● nitrided lands ● nitrided ● golden brown Ⓐ TiAIN ⓐ TiAIN nanoA Ⓐ TiAIN SuperA



Quick spiral reamers



left hand spiral flutes 45°
 ≤ Ø 3.75 mm with external centres on both ends
 > Ø 3.75 mm with internal centres on both ends

Guhring no. 469

Standard	DIN 212-2
Tool material	HSS-E
Surface	○
Type	
Cutting direction	right-hand
Form	C
Tolerance	H7
Discount group	105
Standard range page	1296

Quick spiral reamers



left hand spiral flutes 45°
 Ø 3.00 mm with external centre on cutting end,
 with internal centre on shank end
 ≤ Ø 4.00 mm to Guhring Standard

Guhring no. 406

Standard	DIN 208
Tool material	HSS-E
Surface	○
Type	
Cutting direction	right-hand
Form	C
Tolerance	H7
Discount group	105
Standard range page	1297

Machine bridge reamers



left hand spiral flutes 25°
 with internal centres on both ends
 1:10 on taper lead length
 Manufacturing tolerance k11

Guhring no. 414

Standard	DIN 311
Tool material	HSS
Surface	●
Type	
Cutting direction	right-hand
Form	
Tolerance	
Discount group	105
Standard range page	1298

High speed steel reamers

Machine bottoming reamers



straight-fluted

Guhring no. 419

Standard	Guhring std.
Tool material	HSS-E
Surface	○
Type	
Cutting direction	right-hand
Form	A
Tolerance	H7
Discount group	105
Standard range page	1299

Machine bottoming reamers



straight-fluted

Guhring no. 420

Standard	Guhring std.
Tool material	HSS-E
Surface	○
Type	
Cutting direction	right-hand
Form	A
Tolerance	H7
Discount group	105
Standard range page	1300



High speed steel reamers

Expanding machine reamers



straight-fluted
 max. possible adjustability
 ≤ Ø 12.00 mm approx. 0.015 mm
 ≤ Ø 17.00 mm approx. 0.020 mm
 ≤ Ø 24.00 mm approx. 0.025 mm
 ≤ Ø 32.00 mm approx. 0.030 mm

Attention: Only expand reamer! Because of risk of breakage the pre-tension should never be relieved by turning the set screw anti-clockwise!

Guhring no. 430

Standard	Guhring std.
Tool material	HSS-E
Surface	○
Type	
Cutting direction	right-hand
Form	A
Tolerance	H7
Discount group	105
Standard range page	1301

Stepped machine reamers



left hand spiral flutes
 with internal centres on both ends

Thanks to the large guide length, these reamers offer high quality and alignment accuracy for pre-machining and finishing operations.

Guhring no. 431

Standard	Guhring std.
Tool material	HSS-E
Surface	○
Type	
Cutting direction	right-hand
Form	
Tolerance	H7
Discount group	105
Standard range page	1302

Shell reamers



straight-fluted

The shell reamers have a taper bore with a taper 1 : 30 and a driving slot to DIN 138.

Guhring no. 407

Standard	DIN 219
Tool material	HSS-E
Surface	●
Type	
Cutting direction	right-hand
Form	A
Tolerance	H7
Discount group	105
Standard range page	1303

Shell reamers



left hand spiral flutes

The shell reamers have a taper bore with a taper 1 : 30 and a driving slot to DIN 138.

Guhring no. 408

Standard	DIN 219
Tool material	HSS-E
Surface	●
Type	
Cutting direction	right-hand
Form	B
Tolerance	H7
Discount group	105
Standard range page	1303

Shell reamers



left hand spiral flutes 45°

The shell reamers have a taper bore with a taper 1 : 30 and a driving slot to DIN 138.

Guhring no. 409

Standard	DIN 219
Tool material	HSS-E
Surface	●
Type	
Cutting direction	right-hand
Form	C
Tolerance	H7
Discount group	105
Standard range page	1304

High speed steel reamers

○ bright

● steam tempered

● nitrided lands

● nitrided

● golden brown

Ⓐ TiAIN

Ⓐ TiAIN nanoA

Ⓐ TiAIN SuperA



Carbide high performance reamers



for the machining of blind holes with axial coolant duct extremely unequal flute spacing straight-fluted
Straight shank tol. h6 for clamping in hydraulic chucks and shrink fit chucks

The solid carbide HPC reamer HR 500 S operates with highest cutting rates and produces extremely high-quality holes. Therefore, it often enables considerable savings in the process costs. In addition, it provides very high process reliability.

Guhring no. 1685

Standard	Guhring std.
Tool material	Solid carbide
Surface	a
Type	HR 500 S
Cutting direction	right-hand
Form	
Tolerance	H7
Discount group	166
Standard range page	1305

Carbide high performance reamers



for machining of through holes with longitudinal flutes on the shank for coolant supply extremely unequal flute spacing straight-fluted
Straight shank tol. h6 for clamping in hydraulic chucks and shrink fit chucks

The solid carbide HPC reamer HR 500 D operates with highest cutting rates (see Guhringguide) and produces extremely high-quality holes. Therefore, it often enables considerable savings in the process costs. In addition, it provides very high process reliability. The special coolant supply ensures an optimal chip evacuation and an optimal cooling.

Guhring no. 1686

Standard	Guhring std.
Tool material	Solid carbide
Surface	a
Type	HR 500 D
Cutting direction	right-hand
Form	
Tolerance	H7
Discount group	166
Standard range page	1305

Carbide high performance reamers



for the machining of blind holes with axial coolant duct extremely unequal flute spacing straight-fluted
Straight shank tol. h6 for clamping in hydraulic chucks and shrink fit chucks

The solid carbide HPC reamer HR 500 S ALU operates with highest cutting rates and produces extremely high-quality holes. Therefore, it often enables considerable savings in the process costs. In addition, it provides very high process reliability.

Guhring no. 1678

Standard	Guhring std.
Tool material	Solid carbide
Surface	Cb
Type	HR 500 Alu
Cutting direction	right-hand
Form	
Tolerance	H7
Discount group	166
Standard range page	1306

Carbide high performance reamers



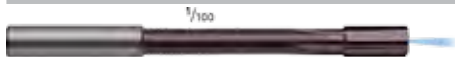
for machining of through holes with longitudinal flutes on the shank for coolant supply extremely unequal flute spacing straight-fluted
Straight shank tol. h6 for clamping in hydraulic chucks and shrink fit chucks

The solid carbide HPC reamer HR 500 D ALU operates with highest cutting rates (see Guhringguide) and produces extremely high-quality holes. Therefore, it often enables considerable savings in the process costs. In addition, it provides very high process reliability. The special coolant supply ensures an optimal chip evacuation and an optimal cooling.

Guhring no. 1679

Standard	Guhring std.
Tool material	Solid carbide
Surface	Cb
Type	HR 500 Alu
Cutting direction	right-hand
Form	
Tolerance	H7
Discount group	166
Standard range page	1306

Carbide high performance reamers



for the machining of blind holes with axial coolant duct extremely unequal flute spacing straight-fluted
Straight shank tol. h6 for clamping in hydraulic chucks and shrink fit chucks

The solid carbide HPC reamer HR 500 S operates with highest cutting rates and produces extremely high-quality holes. Therefore, it often enables considerable savings in the process costs. In addition, it provides very high process reliability.

Guhring no. 1675

Standard	Guhring std.
Tool material	Solid carbide
Surface	a
Type	HR 500 S
Cutting direction	right-hand
Form	
Tolerance	+0,005
Discount group	166
Standard range page	1307



High performance reamers

Carbide high performance reamers



for machining of through holes with longitudinal flutes on the shank for coolant supply
extremely unequal flute spacing
straight-fluted
Straight shank tol. h6 for clamping in hydraulic chucks and shrink fit chucks

The solid carbide HPC reamer HR 500 D operates with highest cutting rates (see Guhringguide) and produces extremely high-quality holes. Therefore, it often enables considerable savings in the process costs. In addition, it provides very high process reliability. The special coolant supply ensures an optimal chip evacuation and an optimal cooling.

Guhring no. 1676

Standard	Guhring std.
Tool material	Solid carbide
Surface	
Type	HR 500 D
Cutting direction	right-hand
Form	
Tolerance	+0,005
Discount group	166
Standard range page	1307

Carbide high performance reamers



for the machining of blind holes with axial coolant duct
extremely unequal flute spacing
straight-fluted
Straight shank tol. h6 for clamping in hydraulic chucks and shrink fit chucks

The solid carbide HPC reamer HR 500 GS operates with highest cutting rates and produces extremely high-quality holes. Therefore, it often enables considerable savings in the process costs. In addition, it provides very high process reliability.

Guhring no. 1680

Standard	Guhring std.
Tool material	Carbide
Surface	
Type	HR 500 GS
Cutting direction	right-hand
Form	
Tolerance	H7
Discount group	166
Standard range page	1309

Carbide high performance reamers



for machining of through holes with longitudinal flutes on the shank for coolant supply
extremely unequal flute spacing
straight-fluted
Straight shank tol. h6 for clamping in hydraulic chucks and shrink fit chucks

The solid carbide HPC reamer HR 500 GD operates with highest cutting rates (see Guhringguide) and produces extremely high-quality holes. Therefore, it often enables considerable savings in the process costs. In addition, it provides very high process reliability. The special coolant supply ensures an optimal chip evacuation and an optimal cooling.

Guhring no. 1681

Standard	Guhring std.
Tool material	Carbide
Surface	
Type	HR 500 GD
Cutting direction	right-hand
Form	
Tolerance	H7
Discount group	166
Standard range page	1309

Cermet high performance reamers



for the machining of blind holes with axial coolant duct
extremely unequal flute spacing
straight-fluted
Straight shank tol. h6 for clamping in hydraulic chucks and shrink fit chucks

The Cermet HPC reamer HR 500 GS operates with highest cutting rates and produces extremely high-quality holes. Therefore, it often enables considerable savings in the process costs. In addition, it provides very high process reliability.

Guhring no. 1682

Standard	Guhring std.
Tool material	Cermet tipped
Surface	
Type	HR 500 GS
Cutting direction	right-hand
Form	
Tolerance	H7
Discount group	166
Standard range page	1310

Cermet high performance reamers



for machining of through holes with longitudinal flutes on the shank for coolant supply
extremely unequal flute spacing
straight-fluted
Straight shank tol. h6 for clamping in hydraulic chucks and shrink fit chucks

The Cermet HPC reamer HR 500 GD operates with highest cutting rates and produces extremely high-quality holes. Therefore, it often enables considerable savings in the process costs. In addition, it provides very high process reliability. The special coolant supply ensures an optimal chip evacuation and an optimal cooling.

Guhring no. 1683

Standard	Guhring std.
Tool material	Cermet tipped
Surface	
Type	HR 500 GD
Cutting direction	right-hand
Form	
Tolerance	H7
Discount group	166
Standard range page	1310



NC machine reamers



$\varnothing > 3.75$ mm with extremely unequal flute spacing
 left hand spiral flutes
 Tolerance:
 $\leq \varnothing 5.50$ mm: 0.000/+0.004
 $> \varnothing 5.50$ mm: 0.000/+0.005

NC machine chucking reamers similar to DIN 8093 with straight shank (h6) for standardised tool clamping in hydraulic or shrink fit chucks offer highest concentricity and process reliability for the production of holes to required tolerances.

Guhring no. 1427

Standard	Guhring std.
Tool material	Solid carbide
Surface	
Type	
Cutting direction	right-hand
Form	B
Tolerance	+0,004/+0,005
Discount group	120
Standard range page	1311

NC machine reamers



$\varnothing > 3.75$ mm with extremely unequal flute spacing
 left hand spiral flutes

NC machine chucking reamers similar to DIN 8093 with straight shank (h6) for standardised tool clamping in hydraulic or shrink fit chucks offer highest concentricity and process reliability for the production of holes to required tolerances.

Guhring no. 1449

Standard	Guhring std.
Tool material	Solid carbide
Surface	
Type	
Cutting direction	right-hand
Form	B
Tolerance	H7
Discount group	120
Standard range page	1311

Machine reamers



extremely unequal flute spacing
 straight-fluted
 $\leq \varnothing 9,50$ mm: solid carbide
 $> \varnothing 9.50$ mm: Carb. head
 allocation to Guhring standard
 $\leq \varnothing 9.50$ mm with external centres on both ends
 $> \varnothing 9.50$ mm with internal centres on both ends

Guhring no. 717

Standard	~ DIN 8050
Tool material	Carbide
Surface	
Type	
Cutting direction	right-hand
Form	A
Tolerance	H7
Discount group	120
Standard range page	1316

Machine reamers



extremely unequal flute spacing
 left hand spiral flutes
 $\leq \varnothing 9,50$ mm: solid carbide
 $> \varnothing 9.50$ mm: Carb. head
 allocation to Guhring standard
 $\leq \varnothing 9.50$ mm with external centres on both ends
 $> \varnothing 9.50$ mm with internal centres on both ends

Guhring no. 718

Standard	~ DIN 8050
Tool material	Carbide
Surface	
Type	
Cutting direction	right-hand
Form	B
Tolerance	H7
Discount group	120
Standard range page	1316

Machine reamers



$\geq \varnothing 3.0$ mm with extrem unequal flute spacing
 straight-fluted
 $\leq \varnothing 9,50$ mm: solid carbide
 $> \varnothing 9.50$ mm: Carb. head
 $\leq \varnothing 9.50$ mm with external centres on both ends
 $> \varnothing 9.50$ mm with internal centres on both ends

Guhring no. 1408

Standard	~ DIN 8093
Tool material	Carbide
Surface	
Type	
Cutting direction	right-hand
Form	A
Tolerance	H7
Discount group	120
Standard range page	1317

Carbide reamers



Carbide reamers

Machine reamers



≥ Ø 3.0 mm with extrem unequal flute spacing
straight-fluted
≤ Ø 9.50 mm: solid carbide
> Ø 9.50 mm: Carb. head
allocation to Guhring standard
≤ Ø 9.50 mm with external centres on both
ends
> Ø 9.50 mm with internal centres on both ends

Guhring no. 1428

Standard	~ DIN 8093
Tool material	Carbide
Surface	
Type	
Cutting direction	right-hand
Form	A
Tolerance	H7
Discount group	120
Standard range page	1317

Machine reamers



≥ Ø 3.0 mm with extrem unequal flute spacing
left hand spiral flutes
≤ Ø 9.50 mm: solid carbide
> Ø 9.50 mm: Carb. head
allocation to Guhring standard
≤ Ø 9.50 mm with external centres on both
ends
> Ø 9.50 mm with internal centres on both ends

Guhring no. 1409

Standard	~ DIN 8093
Tool material	Carbide
Surface	
Type	
Cutting direction	right-hand
Form	B
Tolerance	H7
Discount group	120
Standard range page	1317

Machine reamers



≥ Ø 3.0 mm with extrem unequal flute spacing
left hand spiral flutes
≤ Ø 9.50 mm: solid carbide
> Ø 9.50 mm: Carb. head
allocation to Guhring standard
≤ Ø 9.50 mm with external centres on both
ends
> Ø 9.50 mm with internal centres on both ends

Guhring no. 1429

Standard	~ DIN 8093
Tool material	Carbide
Surface	
Type	
Cutting direction	right-hand
Form	B
Tolerance	H7
Discount group	120
Standard range page	1317

Machine reamers



with extremely unequal flute spacing
straight-fluted
≤ Ø 9.50 mm: solid carbide
> Ø 9.50 mm: Carb. head
allocation to Guhring standard
≤ Ø 9.50 mm with external centre on cutting
end
internal centre on shank end
> Ø 9.50 mm with internal centres on both ends

Guhring no. 719

Standard	~ DIN 8051
Tool material	Carbide
Surface	
Type	
Cutting direction	right-hand
Form	A
Tolerance	H7
Discount group	120
Standard range page	1319

Machine reamers



with extremely unequal flute spacing
left hand spiral flutes
≤ Ø 9.50 mm: solid carbide
> Ø 9.50 mm: Carb. head
allocation to Guhring standard
≤ Ø 9.50 mm with external centre on cutting
end
internal centre on shank end
> Ø 9.50 mm with internal centres on both ends

Guhring no. 720

Standard	~ DIN 8051
Tool material	Carbide
Surface	
Type	
Cutting direction	right-hand
Form	B
Tolerance	H7
Discount group	120
Standard range page	1319

Carbide reamers

bright

steam tempered

nitrided lands

nitrided

golden brown

TiAIN

TiAIN nanoA

TiAIN SuperA



Machine reamers



with extremely unequal flute spacing
straight-fluted
≤ Ø 9,50 mm: solid carbide
> Ø 9.50 mm: Carb. head
allocation to Guhring standard
≤ Ø 9.50 mm with external centre on cutting end
internal centre on shank end
> Ø 9.50 mm with internal centres on both ends

Guhring no. 1410

Standard	~ DIN 8094
Tool material	Carbide
Surface	○
Type	
Cutting direction	right-hand
Form	A
Tolerance	H7
Discount group	120
Standard range page	1320

Machine reamers



with extremely unequal flute spacing
left hand spiral flutes
≤ Ø 9,50 mm: solid carbide
> Ø 9.50 mm: Carb. head
allocation to Guhring standard
≤ Ø 9.50 mm with external centre on cutting end
internal centre on shank end
> Ø 9.50 mm with internal centres on both ends

Guhring no. 1411

Standard	~ DIN 8094
Tool material	Carbide
Surface	○
Type	
Cutting direction	right-hand
Form	B
Tolerance	H7
Discount group	120
Standard range page	1320

Machine reamers



with extremely unequal flute spacing
straight-fluted
≤ Ø 9,50 mm: solid carbide
> Ø 9.50 mm: Carb. head
allocation to Guhring standard
≤ Ø 9.50 mm with external centres on both ends
> Ø 9.50 mm with internal centres on both ends

Guhring no. 674

Standard	~ DIN 8090
Tool material	Carbide
Surface	○
Type	
Cutting direction	right-hand
Form	A
Tolerance	H7
Discount group	120
Standard range page	1321

Machine reamers



with extremely unequal flute spacing
straight-fluted
≤ Ø 9,50 mm: solid carbide
> Ø 9.50 mm: Carb. head
allocation to Guhring standard
≤ Ø 9.50 mm with external centres on both ends
> Ø 9.50 mm with internal centres on both ends

Guhring no. 1430

Standard	~ DIN 8090
Tool material	Carbide
Surface	ⓐ
Type	
Cutting direction	right-hand
Form	A
Tolerance	H7
Discount group	120
Standard range page	1321

Machine reamers



with extremely unequal flute spacing
left hand spiral flutes
≤ Ø 9,50 mm: solid carbide
> Ø 9.50 mm: Carb. head
allocation to Guhring standard
≤ Ø 9.50 mm with external centres on both ends
> Ø 9.50 mm with internal centres on both ends

Guhring no. 1407

Standard	~ DIN 8090
Tool material	Carbide
Surface	○
Type	
Cutting direction	right-hand
Form	B
Tolerance	H7
Discount group	120
Standard range page	1321

Carbide reamers



Carbide reamers

Machine reamers



with extremely unequal flute spacing
right hand spiral flutes
≤ Ø 9,50 mm: solid carbide
> Ø 9.50 mm: Carb. head
allocation to Guhring standard
≤ Ø 9.50 mm with external centres on both ends
> Ø 9.50 mm with internal centres on both ends

Guhring no. 737

Standard	~ DIN 8090
Tool material	Carbide
Surface	○
Type	
Cutting direction	right-hand
Form	C
Tolerance	H7
Discount group	120
Standard range page	1321

Expanding machine reamers



straight-fluted
with carbide inserts
with internal centres on both ends

Expanding machine reamers similar to DIN 8050 have an adjustment range of approx. 0.03 mm via tapered screw setting.

Guhring no. 749

Standard	Guhring std.
Tool material	Carbide
Surface	○
Type	
Cutting direction	right-hand
Form	A
Tolerance	H7
Discount group	120
Standard range page	1322

Expanding machine reamers



straight-fluted
with carbide inserts
with internal centres on both ends

Expanding machine reamers similar to DIN 8050 have an adjustment range of approx. 0.03 mm via tapered screw setting.

Guhring no. 740

Standard	Guhring std.
Tool material	Carbide
Surface	○
Type	
Cutting direction	right-hand
Form	A
Tolerance	H7
Discount group	120
Standard range page	1323

Stepped machine reamers



left hand spiral flutes
≤ Ø 9,50 mm: solid carbide
> Ø 9.50 mm: Carb. head
≤ Ø 9.50 mm with external centre on cutting end
internal centre on shank end
> Ø 9.50 mm with internal centres on both ends

Guhring no. 743

Standard	Guhring std.
Tool material	Carbide
Surface	○
Type	
Cutting direction	right-hand
Form	
Tolerance	H7
Discount group	120
Standard range page	1324

Shell reamers



straight-fluted
with carbide inserts
Ø 30.00 mm to Guhring standard

The shell reamers have a taper bore with a taper 1 : 30 and a driving slot to DIN 138.

Guhring no. 727

Standard	DIN 8054
Tool material	Carbide
Surface	○
Type	
Cutting direction	right-hand
Form	
Tolerance	H7
Discount group	120
Standard range page	1325

Carbide reamers

○ bright

○ steam tempered

● nitrided lands

● nitrided

● golden brown

Ⓐ TiAIN

Ⓐ TiAIN nanoA

Ⓐ TiAIN SuperA



Hand taper reamers



straight-fluted
with taper 1:50 for the reaming of holes to suit taper pins
with square to DIN 10
Ø 3.50; 5.50; 6.50; 7.00; 9.00; 13.00 und 14.00 mm to Guhring standard

Guhring no. 428

Standard	DIN 9
Tool material	HSS
Surface	○
Type	
Cutting direction	right-hand
Form	A
Tolerance	
Discount group	105
Standard range page	1326

Hand taper reamers



left hand spiral flutes
with taper 1:50 for the reaming of holes to suit taper pins
with square to DIN 10
Ø 3.50; 5.50; 6.50; 7.00; 9.00; 13.00 und 14.00 mm to Guhring standard

Guhring no. 429

Standard	DIN 9
Tool material	HSS
Surface	○
Type	
Cutting direction	right-hand
Form	B
Tolerance	
Discount group	105
Standard range page	1326

Hand taper reamers



left hand spiral flutes
with taper 1 : 10 for reaming of conical pre-machined holes
with square to DIN 10

Guhring no. 1433

Standard	Guhring std.
Tool material	HSS
Surface	○
Type	
Cutting direction	right-hand
Form	
Tolerance	
Discount group	105
Standard range page	1327

Machine taper reamers



left hand spiral flutes approx. 45°
with taper 1:50 for the reaming of holes to suit taper pins to DIN 1, 258, 7977 and 7978
≤ Ø 4.00 mm with external centres on both ends
> Ø 4.00 mm with internal centres on both ends
≤ Ø 1.50 mm to Guhring Standard
With tang to DIN 1809

For pre-machining we recommend taper pin drills Guhring no. 531 and 532. However, the pre-drilled hole can also be cylindrical.

Guhring no. 410

Standard	DIN 2179
Tool material	HSS-E
Surface	○
Type	
Cutting direction	right-hand
Form	
Tolerance	
Discount group	105
Standard range page	1328

Machine taper reamers



left hand spiral flutes approx. 45°
with taper 1:50 for the reaming of holes to suit taper pins to DIN 1, 258, 7977 and 7978
with internal centres on both ends
Ø 13.00 und 14.00 mm to Guhring standard

For pre-machining we recommend taper pin drills Guhring no. 531 and 532. However, the pre-drilled hole can also be cylindrical.

Guhring no. 411

Standard	DIN 2180
Tool material	HSS-E
Surface	○
Type	
Cutting direction	right-hand
Form	
Tolerance	
Discount group	105
Standard range page	1329



High speed steel hand reamers

Hand reamers



straight-fluted
with square to DIN 10
≤ Ø 3.75 mm with external centres on both ends
> Ø 3.75 mm with internal centres on both ends
≤ 1.75 mm to Guhring standard

Guhring no. 412

Standard	DIN 206
Tool material	HSS
Surface	○
Type	
Cutting direction	right-hand
Form	A
Tolerance	H7
Discount group	105
Standard range page	1330

Hand reamers



left hand spiral flutes
with square to DIN 10
≤ Ø 3.75 mm with external centres on both ends
> Ø 3.75 mm with internal centres on both ends
≤ 1.75 mm to Guhring standard

Guhring no. 413

Standard	DIN 206
Tool material	HSS
Surface	○
Type	
Cutting direction	right-hand
Form	B
Tolerance	H7
Discount group	105
Standard range page	1330

Adjustable hand reamers



left hand spiral flutes
with square to DIN 10
with internal centres on both ends

The hand reamers are ground to nom. size and not for hole tolerance zone H7. The adjustment range is 1/100 of the nom. diameter, i. e. for Ø 10.00 mm approx. 0.1 mm. From Ø 6.50 mm the adjustment is via a lock nut.

Guhring no. 415

Standard	DIN 859
Tool material	HSS
Surface	○
Type	
Cutting direction	right-hand
Form	B
Tolerance	
Discount group	105
Standard range page	1332

Expanding hand reamers



with wide adjustment range
with square to DIN 10
with internal centres on both ends

The quickly adjustable hand reamers are especially suitable for maintenance and repairs. Total length, cutting edge length and number of flutes only apply to Guhring no. 416.

Guhring no. 416

Standard	Guhring std.
Tool material	HSS
Surface	○
Type	
Cutting direction	right-hand
Form	
Tolerance	
Discount group	105
Standard range page	1334

Replacement blades for expanding hand reamers



Guhring no. 417

Standard	Guhring std.
Tool material	HSS
Surface	○
Type	
Cutting direction	right-hand
Form	
Tolerance	
Discount group	105
Standard range page	1335

High speed steel hand reamers

○ bright

◐ steam tempered

◑ nitrided lands

● nitrided

● golden brown

Ⓐ TiAIN

Ⓐ TiAIN nanoA

Ⓐ TiAIN SuperA



Arbors, complete



Arbors complete
Mandrel: short
for shell-core drills Art. no. 728

Guhring no. 1438

Standard **DIN 217**

Tool material

Surface

Type

Cutting direction

Form

Tolerance

Discount group 105

Standard range page 1336

Arbors without accessories



without accessories

Guhring no. 1434

Standard **Guhring std.**

Tool material

Surface

Type

Cutting direction

Form

Tolerance

Discount group 105

Standard range page 1337

Draw-off nuts



Guhring no. 1435

Standard **Guhring std.**

Tool material

Surface

Type

Cutting direction

Form

Tolerance

Discount group 105

Standard range page 1338

Driving collars



Guhring no. 1436

Standard **Guhring std.**

Tool material

Surface

Type

Cutting direction

Form

Tolerance

Discount group 105

Standard range page 1339

Woodruff keys



Guhring no. 1437

Standard **DIN 6888**

Tool material

Surface

Type

Cutting direction

Form

Tolerance

Discount group 105

Standard range page 1340

C TiCN

Cb Carbo

D Cristall

F FIRE/nanoFIRE

P AlCrN

S TiN

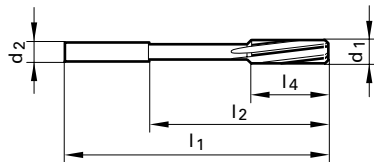
S+ TiN+

M MolyGlide

Y Signum



Guhring no.	455	490
Standard	DIN 212-3	
Tool material	HSS-E	
Surface	○	○
Type		
Form	B	B
Cutting direction	right-hand	right-hand
Tolerance	+0,004/+0,005	H7
Discount group	105	105
Techn. data page	1265	1265



High speed steel reamers

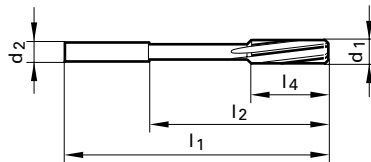
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mm	mm	mm	mm	mm	
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1.010	1.000	34.00	15.00	5.50	3
1.500	2.000	40.00	18.00	8.00	3
1.510	2.000	43.00	20.00	9.00	3
1.530	2.000	43.00	20.00	9.00	3
1.600	2.000	43.00	20.00	9.00	3
1.700	2.000	43.00	20.00	9.00	3
1.800	2.000	46.00	22.00	10.00	4
1.970	2.000	49.00	24.00	11.00	4
1.980	2.000	49.00	24.00	11.00	4
1.990	2.000	49.00	24.00	11.00	4
2.000	2.000	49.00	24.00	11.00	4
2.010	2.000	49.00	24.00	11.00	4
2.020	2.000	49.00	24.00	11.00	4
2.030	2.000	49.00	24.00	11.00	4
2.100	2.000	49.00	24.00	11.00	4
2.200	3.000	53.00	25.00	12.00	4
2.300	3.000	53.00	25.00	12.00	4
2.400	3.000	57.00	29.00	14.00	4
2.470	3.000	57.00	29.00	14.00	4
2.490	3.000	57.00	29.00	14.00	4
2.500	3.000	57.00	29.00	14.00	4
2.510	3.000	57.00	29.00	14.00	4
2.520	3.000	57.00	29.00	14.00	4
2.530	3.000	57.00	29.00	14.00	4
2.600	3.000	57.00	29.00	14.00	4
2.700	3.000	61.00	33.00	15.00	6
2.800	3.000	61.00	33.00	15.00	6
2.900	3.000	61.00	33.00	15.00	6
2.970	3.000	61.00	33.00	15.00	6
2.980	3.000	61.00	33.00	15.00	6
2.990	3.000	61.00	33.00	15.00	6
3.000	3.000	61.00	33.00	15.00	6
3.010	4.000	65.00	37.00	16.00	6
3.020	4.000	65.00	37.00	16.00	6
3.030	4.000	65.00	37.00	16.00	6

Availability	
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○ bright ◐ steam tempered ◑ nitrided lands ● nitrided ● golden brown A TiAlN a TiAlN nanoA A TiAlN SuperA



Guhring no.	455	490
Standard	DIN 212-3	
Tool material	HSS-E	
Surface		
Type		
Form	B	B
Cutting direction	right-hand	right-hand
Tolerance	+0,004/+0,005	H7
Discount group	105	105
Techn. data page	1265	1265



High speed steel reamers

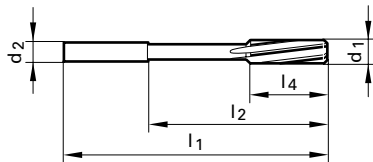
d1	d2 h6	l1	l2	l4	Z
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5.990	6.000	93.00	57.00	26.00	6
6.000	6.000	93.00	57.00	26.00	6
6.010	6.000	101.00	65.00	28.00	6
6.020	6.000	101.00	65.00	28.00	6
6.030	6.000	101.00	65.00	28.00	6
6.100	6.000	101.00	65.00	28.00	6
6.200	6.000	101.00	65.00	28.00	6
6.300	6.000	101.00	65.00	28.00	6
6.400	6.000	101.00	65.00	28.00	6
6.500	6.000	101.00	65.00	28.00	6
6.600	6.000	101.00	65.00	28.00	6
6.800	8.000	109.00	73.00	31.00	6
6.900	8.000	109.00	73.00	31.00	6
7.000	8.000	109.00	73.00	31.00	6
7.100	8.000	109.00	73.00	31.00	6
7.300	8.000	109.00	73.00	31.00	6
7.400	8.000	109.00	73.00	31.00	6
7.500	8.000	109.00	73.00	31.00	6
7.600	8.000	117.00	81.00	33.00	6
7.700	8.000	117.00	81.00	33.00	6
7.800	8.000	117.00	81.00	33.00	6
7.900	8.000	117.00	81.00	33.00	6
7.970	8.000	117.00	81.00	33.00	6
7.980	8.000	117.00	81.00	33.00	6
7.990	8.000	117.00	81.00	33.00	6
8.000	8.000	117.00	81.00	33.00	6
8.010	8.000	117.00	81.00	33.00	6
8.020	8.000	117.00	81.00	33.00	6
8.030	8.000	117.00	81.00	33.00	6
8.100	8.000	117.00	81.00	33.00	6
8.200	8.000	117.00	81.00	33.00	6
8.300	8.000	117.00	81.00	33.00	6
8.500	8.000	117.00	81.00	33.00	6
8.600	10.000	125.00	85.00	36.00	6
8.700	10.000	125.00	85.00	36.00	6

Availability	

bright
 steam tempered
 nitrided lands
 nitrided
 golden brown
 TiAlN
 TiAlN nanoA
 TiAlN SuperA



Guhring no.	455	490
Standard	DIN 212-3	
Tool material	HSS-E	
Surface	○	○
Type		
Form	B	B
Cutting direction	right-hand	right-hand
Tolerance	+0,004/+0,005	H7
Discount group	105	105
Techn. data page	1265	1265



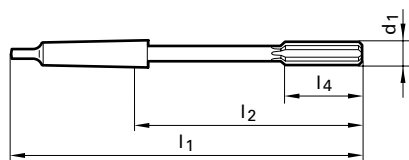
d1	d2 h6	l1	l2	l4	Z
mm	mm	mm	mm	mm	
8.800	10.000	125.00	85.00	36.00	6
9.000	10.000	125.00	85.00	36.00	6
9.010	10.000	125.00	85.00	36.00	6
9.100	10.000	125.00	85.00	36.00	6
9.200	10.000	125.00	85.00	36.00	6
9.300	10.000	125.00	85.00	36.00	6
9.500	10.000	125.00	85.00	36.00	6
9.700	10.000	133.00	93.00	38.00	6
9.970	10.000	133.00	93.00	38.00	6
9.980	10.000	133.00	93.00	38.00	6
9.990	10.000	133.00	93.00	38.00	6
10.000	10.000	133.00	93.00	38.00	6
10.010	10.000	133.00	93.00	38.00	6
10.020	10.000	133.00	93.00	38.00	6
10.030	10.000	133.00	93.00	38.00	6
11.000	10.000	142.00	102.00	41.00	6
11.980	10.000	151.00	111.00	44.00	6
11.990	10.000	151.00	111.00	44.00	6
12.000	10.000	151.00	111.00	44.00	6
12.010	10.000	151.00	111.00	44.00	6
12.020	10.000	151.00	111.00	44.00	6
13.000	10.000	151.00	111.00	44.00	6
14.000	14.000	160.00	115.00	47.00	8
15.000	14.000	162.00	117.00	50.00	8
16.000	14.000	170.00	125.00	52.00	8
17.000	14.000	175.00	130.00	54.00	8
18.000	14.000	182.00	137.00	56.00	8
19.000	16.000	189.00	141.00	58.00	8
20.000	16.000	195.00	147.00	60.00	8

Availability	
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High speed steel
reamers



Guhring no.	404	405	642
Standard	DIN 208		
Tool material	HSS-E		
Surface	○	○	Ⓢ
Type			
Form	A	B	B
Cutting direction	right-hand	right-hand	right-hand
Tolerance	H7	H7	H7
Discount group	105	105	105
Techn. data page	1265	1265	1265



High speed steel reamers

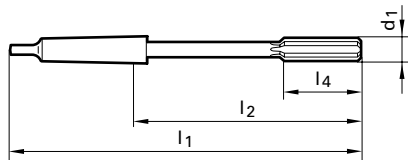
d1	MK	l1	l2	l4	Z
mm		mm	mm	mm	
3.000	1	115.00	53.00	15.00	6
4.000	1	125.00	63.00	19.00	6
5.000	1	133.00	71.00	23.00	6
5.100	1	133.00	71.00	23.00	6
5.500	1	138.00	76.00	26.00	6
6.000	1	138.00	76.00	26.00	6
6.100	1	144.00	82.00	28.00	6
6.200	1	144.00	82.00	28.00	6
6.500	1	144.00	82.00	28.00	6
7.000	1	150.00	88.00	31.00	6
7.500	1	150.00	88.00	31.00	6
8.000	1	156.00	94.00	33.00	6
8.500	1	156.00	94.00	33.00	6
9.000	1	162.00	100.00	36.00	6
9.500	1	162.00	100.00	36.00	6
9.800	1	168.00	106.00	38.00	6
10.000	1	168.00	106.00	38.00	6
10.100	1	168.00	106.00	38.00	6
11.000	1	175.00	113.00	41.00	6
12.000	1	182.00	120.00	44.00	6
13.000	1	182.00	120.00	44.00	6
14.000	1	189.00	127.00	47.00	8
15.000	2	204.00	129.00	50.00	8
15.700	2	210.00	135.00	52.00	8
16.000	2	210.00	135.00	52.00	8
17.000	2	214.00	139.00	54.00	8
18.000	2	219.00	144.00	56.00	8
19.000	2	223.00	148.00	58.00	8
19.500	2	228.00	153.00	60.00	8
20.000	2	228.00	153.00	60.00	8
21.000	2	232.00	157.00	62.00	8
22.000	2	237.00	162.00	64.00	8
23.000	2	241.00	166.00	66.00	8
24.000	3	268.00	174.00	68.00	8
25.000	3	268.00	174.00	68.00	8
26.000	3	273.00	179.00	70.00	8

Availability		
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○ bright ○ steam tempered ● nitrided lands ● nitrided ● golden brown ● TiAN ● TiAN nanoA ● TiAN SuperA



Guhring no.	404	405	642
Standard	DIN 208		
Tool material	HSS-E		
Surface	○	○	Ⓢ
Type			
Form	A	B	B
Cutting direction	right-hand	right-hand	right-hand
Tolerance	H7	H7	H7
Discount group	105	105	105
Techn. data page	1265	1265	1265



d1	MK	l1	l2	l4	Z
mm		mm	mm	mm	
27.000	3	277.00	183.00	71.00	10
28.000	3	277.00	183.00	71.00	10
29.000	3	281.00	187.00	73.00	10
30.000	3	281.00	187.00	73.00	10
31.000	3	285.00	191.00	75.00	10
32.000	4	317.00	199.50	77.00	10
33.000	4	317.00	199.50	77.00	10
34.000	4	321.00	203.50	78.00	10
35.000	4	321.00	203.50	78.00	10
36.000	4	325.00	207.50	79.00	10
38.000	4	329.00	211.50	81.00	10
40.000	4	329.00	211.50	81.00	10
42.000	4	333.00	215.50	82.00	12
44.000	4	336.00	218.50	83.00	12
45.000	4	336.00	218.50	83.00	12
46.000	4	340.00	222.50	84.00	12
48.000	4	344.00	226.50	86.00	12
50.000	4	344.00	226.50	86.00	12

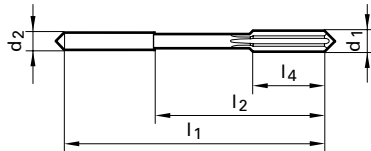
Availability	
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High speed steel reamers



Machine reamers

Guhring no.	401	402	457
Standard	DIN 212		
Tool material	HSS-E		
Surface	○	○	○
Type			
Form	A	B	A
Cutting direction	right-hand	right-hand	left-hand
Tolerance	H7	H7	H7
Discount group	105	105	105
Techn. data page	1266	1266	1266



High speed steel reamers

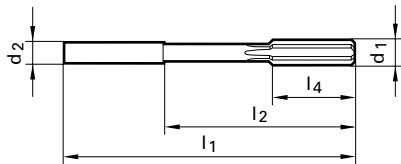
d1	d2 h9	l1	l2	l4	Z
mm	mm	mm	mm	mm	
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1.200	1.200	38.00	16.50	7.50	3
1.300	1.300	38.00	16.50	7.50	3
1.400	1.400	40.00	18.00	8.00	3
1.500	1.500	40.00	18.00	8.00	3
1.600	1.600	43.00	20.00	9.00	3
1.800	1.800	46.00	22.00	10.00	4
1.900	1.900	46.00	22.00	10.00	4
2.000	2.000	49.00	24.00	11.00	4
2.200	2.200	53.00	25.00	12.00	4
2.300	2.300	53.00	25.00	12.00	4
2.500	2.500	57.00	29.00	14.00	4
2.700	2.800	61.00	33.00	15.00	6
2.800	2.800	61.00	33.00	15.00	6
2.900	3.000	61.00	33.00	15.00	6
3.000	3.000	61.00	33.00	15.00	6
3.200	3.200	65.00	37.00	16.00	6
3.500	3.500	70.00	42.00	18.00	6
3.700	3.500	70.00	42.00	18.00	6
4.000	4.000	75.00	47.00	19.00	6
4.500	4.500	80.00	52.00	21.00	6
5.000	5.000	86.00	58.00	23.00	6
5.500	5.600	93.00	57.00	26.00	6
6.000	5.600	93.00	57.00	26.00	6

Availability		
●	●	○
●	●	
	●	
●	●	○
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		○
○		○
		○

○ bright ◐ steam tempered ◑ nitrided lands ● nitrided ◓ golden brown Ⓐ TiAIN ⓐ TiAIN nanoA Ⓐ TiAIN SuperA



Guhring no.	440	468	641	467
Standard	DIN 212-2			
Tool material	HSS-E			
Surface	○	○	Ⓢ	○
Type				
Form	A	B	B	A
Cutting direction	right-hand	right-hand	right-hand	left-hand
Tolerance	H7	H7	H7	H7
Discount group	105	105	105	105
Techn. data page	1266	1266	1267	1267

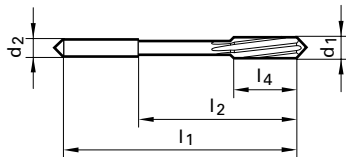


d1	d2 h9	l1	l2	l4	Z	Availability			
mm	mm	mm	mm	mm					
3.800	4.000	75.00	47.00	19.00	6		●		
4.000	4.000	75.00	47.00	19.00	6	●	●	●	
4.400	4.500	80.00	52.00	21.00	6		○		
4.500	4.500	80.00	52.00	21.00	6	●	●		○
4.700	4.500	80.00	52.00	21.00	6		●		
4.900	5.000	86.00	58.00	23.00	6		○		
5.000	5.000	86.00	58.00	23.00	6	●	●	●	○
5.100	5.000	86.00	58.00	23.00	6		●		
5.500	5.600	93.00	57.00	26.00	6	●	●		○
6.000	5.600	93.00	57.00	26.00	6	●	●	●	○
6.100	6.300	101.00	65.00	28.00	6		●		
6.200	6.300	101.00	65.00	28.00	6		●		
6.500	6.300	101.00	65.00	28.00	6		●		○
6.900	7.100	109.00	73.00	31.00	6		○		
7.000	7.100	109.00	73.00	31.00	6	●	○	●	○
7.100	7.100	109.00	73.00	31.00	6		○		
7.200	7.100	109.00	73.00	31.00	6		●		
7.400	7.100	109.00	73.00	31.00	6		○		
7.500	7.100	109.00	73.00	31.00	6		○		
8.000	8.000	117.00	81.00	33.00	6	●	●	●	○
8.100	8.000	117.00	81.00	33.00	6		●		
8.300	8.000	117.00	81.00	33.00	6		○		
8.500	8.000	117.00	81.00	33.00	6	○	●		
9.000	9.000	125.00	85.00	36.00	6	●	●	○	○
9.200	9.000	125.00	85.00	36.00	6		○		
9.400	9.000	125.00	85.00	36.00	6		○		
9.500	9.000	125.00	85.00	36.00	6	○	●		
9.800	10.000	133.00	93.00	38.00	6		●		
9.900	10.000	133.00	93.00	38.00	6		○		
10.000	10.000	133.00	93.00	38.00	6	●	●	●	○
10.100	10.000	133.00	93.00	38.00	6		●		
10.500	10.000	133.00	93.00	38.00	6	○			
10.700	10.000	142.00	102.00	41.00	6		○		
11.000	10.000	142.00	102.00	41.00	6	●	●	●	
11.500	10.000	142.00	102.00	41.00	6	○	●		
12.000	10.000	151.00	111.00	44.00	6	●	●	●	

High speed steel reamers



Guhring no.	496
Standard	DIN 212
Tool material	HSS-E
Surface finish	○
Form	B
Cutting direction	right-hand
Tolerance	0.004/0.005
Discount group	105
Techn. data page	1267



HSS-E Machine reamers

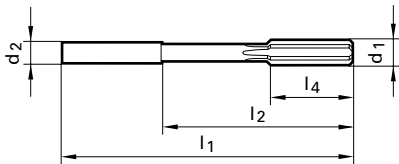
from d1	to d1	d2 h9	l1	l2	l4	Z
mm	mm	mm	mm	mm	mm	
8.510	9.500	9.000	125.00	85.00	36.00	6
9.510	10.200	10.000	133.00	93.00	38.00	6
10.210	10.600	10.000	133.00	93.00	38.00	6
10.610	11.200	10.000	142.00	102.00	41.00	6
11.210	11.800	10.000	142.00	102.00	41.00	6
11.810	12.000	10.000	151.00	111.00	44.00	6
12.010	12.050	10.000	151.00	151.00	44.00	6

Availability

-
-
-
-
-
-



Guhring no.	1431
Standard	DIN 212-2
Tool material	HSS-E
Surface	○
Type	
Form	A
Cutting direction	right-hand
Tolerance	H7
Discount group	105
Techn. data page	1267




d1	d2 h9	l1	l2	l4	Z
mm	mm	mm	mm	mm	
5.000	5.000	86.00	58.00	23.00	6
5.500	5.600	93.00	57.00	26.00	6
6.000	5.600	93.00	57.00	26.00	6
6.500	6.300	101.00	65.00	28.00	6
8.000	8.000	117.00	81.00	33.00	6
9.500	9.000	125.00	85.00	36.00	6
10.000	10.000	133.00	93.00	38.00	6
11.500	10.000	142.00	102.00	41.00	6
12.000	10.000	151.00	111.00	44.00	6
14.000	12.500	160.00	115.00	47.00	8
16.000	12.500	170.00	125.00	52.00	8
17.000	14.000	175.00	130.00	54.00	8
19.000	16.000	189.00	141.00	58.00	8
20.000	16.000	195.00	147.00	60.00	8

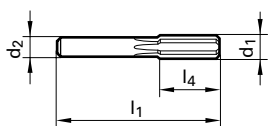
Availability	
●	
○	
●	
○	
●	
○	
●	
○	
●	
○	
●	
○	
●	

High speed steel reamers



Machine reamers with coolant duct

Guhring no.	1432
Standard	DIN 8089
Tool material	HSS-E
Surface	
Type	
Form	A
Cutting direction	right-hand
Tolerance	H7
Discount group	105
Techn. data page	1267



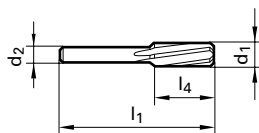
High speed steel reamers

d1	d2 h8	l1	l4	Z	Availability
mm	mm	mm	mm		
5.000	4.000	63.00	22.00	6	●
5.500	5.000	63.00	22.00	6	○
6.500	5.000	63.00	22.00	6	○
7.000	6.300	71.00	25.00	6	○
8.500	6.300	71.00	25.00	6	●
9.000	8.000	71.00	25.00	6	●
9.500	8.000	71.00	25.00	6	○
10.500	8.000	71.00	25.00	6	○
11.000	10.000	80.00	28.00	6	●
11.500	10.000	80.00	28.00	6	○
12.000	10.000	80.00	28.00	6	○
15.000	12.500	90.00	32.00	8	○
16.000	12.500	90.00	32.00	8	○
17.000	12.500	90.00	32.00	8	○
18.000	16.000	100.00	36.00	8	○

bright
 steam tempered
 nitrided lands
 nitrided
 golden brown
 TiAlN
 TiAlN nanoA
 TiAlN SuperA



Guhring no.	488	489
Standard	DIN 8089	
Tool material	HSS-E	
Surface	○	○
Type		
Form	A	B
Cutting direction	right-hand	right-hand
Tolerance	H7	H7
Discount group	105	105
Techn. data page	1268	1268



d1	d2 h8	l1	l4	Z
mm	mm	mm	mm	
4.000	3.550	56.00	20.00	6
4.500	4.000	63.00	22.00	6
5.000	4.000	63.00	22.00	6
6.000	5.000	63.00	22.00	6
6.500	5.000	63.00	22.00	6
7.000	6.300	71.00	25.00	6
7.500	6.300	71.00	25.00	6
8.000	6.300	71.00	25.00	6
8.500	6.300	71.00	25.00	6
9.000	8.000	71.00	25.00	6
10.000	8.000	71.00	25.00	6
10.500	8.000	71.00	25.00	6
11.000	10.000	80.00	28.00	6
11.500	10.000	80.00	28.00	6
12.000	10.000	80.00	28.00	6
13.000	10.000	80.00	28.00	6
14.000	12.500	90.00	32.00	8
15.000	12.500	90.00	32.00	8
16.000	12.500	90.00	32.00	8
17.000	12.500	90.00	32.00	8
18.000	16.000	100.00	36.00	8
19.000	16.000	100.00	36.00	8
20.000	16.000	100.00	36.00	8

Availability	
●	●
○	●
●	●
●	●
○	●
●	●
●	●
●	●
●	●
●	●
○	●
●	●
○	○
●	●
●	●
○	●
●	○
●	●
○	●
●	●

High speed steel reamers



Guhring no.

497

Standard

DIN 8089

Tool material

HSS-E

Surface finish



Form

B

Cutting direction

right-hand

Tolerance

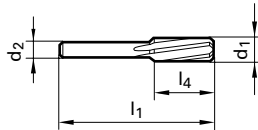
0.004/0.005

Discount group

105

Techn. data page

1268



HSS-E Machine reamers

from d1	to d1	d2 h8	l1	l4	Z
mm	mm	mm	mm	mm	
3.760	3.810	3.550	56.00	20.00	6
3.830	4.200	3.550	56.00	20.00	6
4.210	4.250	3.550	56.00	20.00	6
4.260	5.300	4.000	63.00	22.00	6
4.760	5.200	4.000	63.00	22.00	6
5.310	6.110	5.000	63.00	22.00	6
6.120	6.700	5.000	63.00	22.00	6
6.710	8.200	6.300	71.00	25.00	6
8.210	8.500	6.300	71.00	25.00	6
8.510	10.200	8.000	71.00	25.00	6
10.210	10.600	8.000	71.00	25.00	6
10.610	11.200	10.000	80.00	28.00	6
11.210	12.040	10.000	80.00	28.00	6

Availability





Guhring no.	458
Standard	DIN 8089
Tool material	HSS-E
Surface	<input type="radio"/>
Type	
Form	B
Cutting direction	right-hand
Tolerance	+0,004/+0,005
Discount group	105
Techn. data page	1268



from d1	to d1	no. per set	Code no.
mm	mm		
8.810	9.400	60.00	9.400
10.010	10.500	50.00	10.500
10.510	11.000	50.00	11.000
11.510	12.000	50.00	12.000

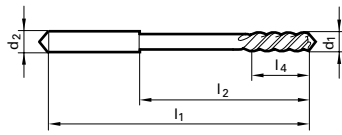
Availability
<input type="radio"/>
<input type="radio"/>
<input type="radio"/>
<input type="radio"/>

High speed steel
reamers



Quick spiral reamers

Guhring no.	403	469
Standard	DIN 212	DIN 212-2
Tool material	HSS-E	
Surface		
Type		
Form	C	C
Cutting direction	right-hand	right-hand
Tolerance	H7	H7
Discount group	105	105
Techn. data page	1268	1269



High speed steel reamers


d1	d2 h9	l1	l2	l4	Z
mm	mm	mm	mm	mm	
1.000	1.000	34.00	15.00	5.50	2
1.200	1.200	38.00	16.50	7.50	2
1.400	1.400	40.00	18.00	8.00	2
1.500	1.500	40.00	18.00	8.00	2
1.600	1.600	43.00	20.00	9.00	2
1.800	1.800	46.00	22.00	10.00	2
2.000	2.000	49.00	24.00	11.00	3
2.200	2.200	53.00	25.00	12.00	3
2.500	2.500	57.00	29.00	14.00	3
2.800	2.800	61.00	33.00	15.00	3
3.000	3.000	61.00	33.00	15.00	3
3.200	3.200	65.00	37.00	16.00	3
3.500	3.500	70.00	42.00	18.00	3
4.000	4.000	75.00	47.00	19.00	3
4.500	4.500	80.00	52.00	21.00	3
5.000	5.000	86.00	52.00	23.00	3
5.500	5.600	93.00	57.00	26.00	3
6.000	5.600	93.00	57.00	26.00	3
6.500	6.300	101.00	65.00	28.00	3
7.000	7.100	109.00	73.00	31.00	3
8.000	8.000	117.00	81.00	33.00	3
8.500	8.000	117.00	81.00	33.00	3
9.000	9.000	125.00	85.00	36.00	3
10.000	10.000	133.00	93.00	38.00	3
11.000	10.000	142.00	102.00	41.00	3
12.000	10.000	151.00	111.00	44.00	3
13.000	10.000	151.00	111.00	44.00	3
14.000	12.500	160.00	115.00	47.00	3
15.000	12.500	162.00	117.00	50.00	3
16.000	12.500	170.00	125.00	52.00	3
18.000	14.000	182.00	137.00	56.00	3
20.000	16.000	195.00	147.00	60.00	3

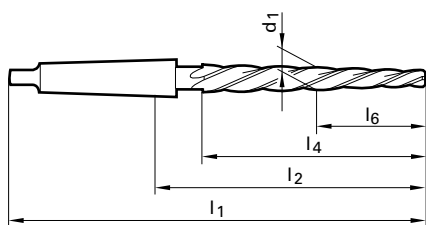
Availability	

bright
 steam tempered
 nitrided lands
 nitrided
 golden brown
 TiAlN
 TiAlN nanoA
 TiAlN SuperA































Machine bridge reamers






Guhring no.	414
Standard	DIN 311
Tool material	HSS
Surface	
Type	
Form	
Cutting direction	right-hand
Tolerance	
Discount group	105
Techn. data page	1269



High speed steel
reamers

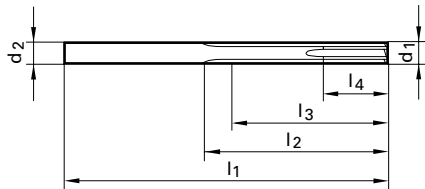
d1	MK	l1	l2	l4	l6	Z
mm		mm	mm	mm	mm	
6.400	1	151.00	89.00	75.00	19.00	4
8.400	1	161.00	99.00	85.00	25.00	4
9.500	1	166.00	104.00	90.00	27.00	4
10.000	1	171.00	109.00	95.00	30.00	4
11.000	1	176.00	114.00	100.00	33.00	4
12.000	2	199.00	124.00	105.00	39.00	4
13.000	2	199.00	124.00	105.00	39.00	4
14.000	2	209.00	134.00	115.00	42.00	5
15.000	2	219.00	144.00	125.00	45.00	5
16.000	2	229.00	154.00	135.00	48.00	5
17.000	3	251.00	157.00	135.00	51.00	5
18.000	3	261.00	167.00	145.00	58.00	5
19.000	3	261.00	167.00	145.00	58.00	5
20.000	3	271.00	177.00	155.00	62.00	5
21.000	3	271.00	177.00	155.00	62.00	5
22.000	3	281.00	187.00	165.00	66.00	5
23.000	3	281.00	187.00	165.00	66.00	5
24.000	3	296.00	202.00	180.00	72.00	5
25.000	3	296.00	202.00	180.00	72.00	5
26.000	3	296.00	202.00	180.00	72.00	5
27.000	3	311.00	217.00	195.00	78.00	5
28.000	3	311.00	217.00	195.00	78.00	5
30.000	3	311.00	217.00	195.00	78.00	5
31.000	3	326.00	232.00	210.00	84.00	5
32.000	4	354.00	236.50	210.00	84.00	5
37.000	4	364.00	246.50	220.00	88.00	5
40.000	4	374.00	256.50	230.00	92.00	5

Availability





























 bright
  steam tempered
  nitrided lands
  nitrided
  golden brown
  TiAlN
  TiAlN nanoA
  TiAlN SuperA



Guhring no.	419
Standard	Guhring std.
Tool material	HSS-E
Surface	
Type	
Form	A
Cutting direction	right-hand
Tolerance	H7
Discount group	105
Techn. data page	1269



d1	d2	int. Ø	l1	l2	l3	l4	Z
mm	mm	mm	mm	mm	mm	mm	
3.000	3.000	1.500	61.00	37.00	33.00	12.00	6
4.000	4.000	1.600	75.00	48.00	44.00	16.00	6
4.500	4.500	1.800	80.00	52.00	48.00	16.00	6
5.000	5.000	2.000	86.00	59.00	53.00	20.00	6
6.000	6.000	2.500	93.00	65.00	59.00	20.00	6
7.000	7.000	3.000	109.00	75.00	69.00	22.00	6
8.000	8.000	3.000	117.00	81.00	71.00	24.00	6
10.000	10.000	3.000	133.00	94.00	84.00	26.00	6
12.000	12.000	3.000	151.00	106.00	96.00	26.00	6

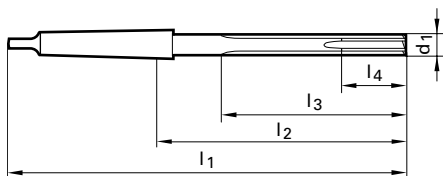
Availability
●
●
○
●
●
●
●
●
●
○

High speed steel reamers



Machine bottoming reamers

Guhring no.	420
Standard	Guhring std.
Tool material	HSS-E
Surface	
Type	
Form	A
Cutting direction	right-hand
Tolerance	H7
Discount group	105
Techn. data page	1269



High speed steel reamers

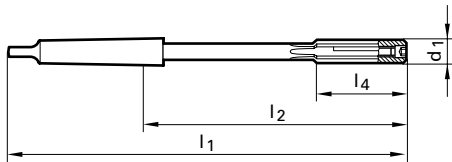
d1	MK	int. Ø	l1	l2	l3	l4	Z
mm		mm	mm	mm	mm	mm	
3.000	1	1.500	114.00	52.00	37.00	12.00	6
3.500	1	1.500	120.00	58.00	44.00	12.00	6
7.000	1	3.000	150.00	88.00	75.00	22.00	6
10.000	1	3.000	168.00	106.00	94.00	26.00	6
12.000	1	3.000	182.00	120.00	106.00	26.00	6
16.000	2	6.000	210.00	135.00	123.00	30.00	8
18.000	2	8.000	219.00	144.00	132.00	30.00	8
20.000	2	8.000	228.00	153.00	139.00	32.00	8
25.000	3	12.000	268.00	174.00	159.00	36.00	8

Availability	

bright
 steam tempered
 nitrided lands
 nitrided
 golden brown
 TiAlN
 TiAlN nanoA
 TiAlN SuperA



Guhring no.	430
Standard	Guhring std.
Tool material	HSS-E
Surface	<input type="radio"/>
Type	
Form	A
Cutting direction	right-hand
Tolerance	H7
Discount group	105
Techn. data page	1270



d1	MK	l1	l2	l4	Z
mm		mm	mm	mm	
10.000	1	168.00	106.00	38.00	9
12.000	1	182.00	120.00	44.00	9
14.000	1	189.00	127.00	47.00	9
15.000	2	204.00	129.00	50.00	9
16.000	2	210.00	135.00	52.00	9
17.000	2	214.00	139.00	54.00	9
18.000	2	219.00	144.00	56.00	9
20.000	2	228.00	153.00	60.00	9

Availability

<input type="radio"/>
<input type="radio"/>
<input type="radio"/>
<input type="radio"/>
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<input type="radio"/>
<input type="radio"/>
<input type="radio"/>
<input type="radio"/>

High speed steel reamers



Stepped machine reamers

Guhring no.

431

Standard

Guhring std.

Tool material

HSS-E

Surface



Type

Form

Cutting direction

right-hand

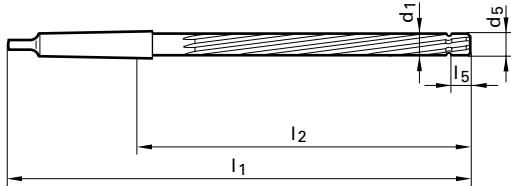
Tolerance

Discount group

105

Techn. data page

1270



High speed steel reamers

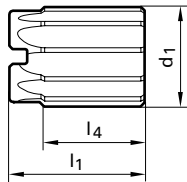
d1	MK	d5	l1	l2	l5	Z
mm		mm	mm	mm	mm	
5.000	1	4.920	165.00	103.00	10.00	6
6.000	1	5.920	165.00	103.00	10.00	6
8.000	1	7.920	205.00	143.00	10.00	6
10.000	1	9.900	230.00	168.00	12.00	6
12.000	1	11.900	230.00	168.00	12.00	6
14.000	1	13.900	230.00	168.00	12.00	8
16.000	2	15.900	250.00	175.00	12.00	8
20.000	2	19.900	260.00	185.00	15.00	8
25.000	3	24.850	285.00	191.00	15.00	8
32.000	4	31.850	330.00	212.50	15.00	10
38.000	4	37.850	345.00	227.50	15.00	10

Availability
●
●
●
●
●
●
●
○
○
○

○ bright ◐ steam tempered ◑ nitrided lands ● nitrided ● golden brown Ⓐ TiAlN ⓐ TiAlN nanoA Ⓐ TiAlN SuperA



Guhring no.	407	408
Standard	DIN 219	
Tool material	HSS-E	
Surface		
Type		
Form	A	B
Cutting direction	right-hand	right-hand
Tolerance	H7	H7
Discount group	105	105
Techn. data page	1270	1270



d1	int. Ø	l1	l4	Z
mm	mm	mm	mm	
25.000	13.000	45.00	32.00	8
29.000	13.000	45.00	32.00	8
30.000	13.000	45.00	32.00	8
32.000	16.000	50.00	36.00	10
33.000	16.000	50.00	36.00	10
34.000	16.000	50.00	36.00	10
35.000	16.000	50.00	36.00	10
36.000	19.000	56.00	40.00	10
38.000	19.000	56.00	40.00	10
40.000	19.000	56.00	40.00	10
42.000	19.000	56.00	40.00	10
44.000	22.000	63.00	45.00	12
45.000	22.000	63.00	45.00	12
46.000	22.000	63.00	45.00	12
50.000	22.000	63.00	45.00	12
52.000	27.000	71.00	50.00	12
55.000	27.000	71.00	50.00	12
58.000	27.000	71.00	50.00	12
60.000	27.000	71.00	50.00	12
62.000	32.000	80.00	56.00	14
65.000	32.000	80.00	56.00	14
70.000	32.000	80.00	56.00	14
75.000	40.000	90.00	63.00	14
90.000	50.000	100.00	71.00	16
98.000	50.000	100.00	71.00	16

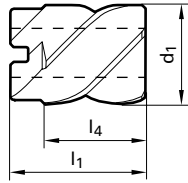
Availability	

High speed steel reamers



Shell reamers

Guhring no.	409
Standard	DIN 219
Tool material	HSS-E
Surface	
Type	
Form	C
Cutting direction	right-hand
Tolerance	H7
Discount group	105
Techn. data page	1270



High speed steel reamers

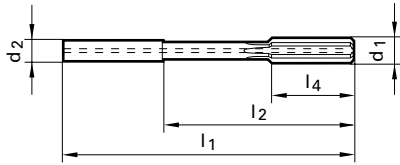
d1	int. Ø	l1	l4	Z
mm	mm	mm	mm	
29.000	13.000	45.00	32.00	3
30.000	13.000	45.00	32.00	3
34.000	16.000	50.00	36.00	3
35.000	16.000	50.00	36.00	3
40.000	19.000	56.00	40.00	5
42.000	19.000	56.00	40.00	5
50.000	22.000	63.00	45.00	5
60.000	27.000	71.00	50.00	5
88.000	50.000	100.00	71.00	7
92.000	50.000	100.00	71.00	7
95.000	50.000	100.00	71.00	7
98.000	50.000	100.00	71.00	7

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bright
 steam tempered
 nitrided lands
 nitrided
 golden brown
 TiAIN
 TiAIN nanoA
 TiAIN SuperA



Guhring no.	1685	1686
Standard	Guhring std.	
Tool material	Solid carbide	
Carbide grade	K10	K10
Surface	a	a
Type	HR 500 S	HR 500 D
Form		
Cutting direction	right-hand	right-hand
Tolerance	H7	H7
Discount group	166	166
Techn. data page	1271	1271



d1	d2 h6	l1	l2	l4	Z
mm	mm	mm	mm	mm	
3.000	4.000	68.00	40.00	12.00	4
3.500	4.000	68.00	40.00	12.00	4
4.000	4.000	68.00	40.00	12.00	4
4.500	6.000	76.00	40.00	12.00	4
5.000	6.000	76.00	40.00	12.00	4
5.500	6.000	76.00	40.00	12.00	4
6.000	6.000	76.00	40.00	12.00	4
6.500	8.000	101.00	65.00	16.00	6
7.000	8.000	101.00	65.00	16.00	6
7.500	8.000	101.00	65.00	16.00	6
8.000	8.000	101.00	65.00	16.00	6
8.500	10.000	101.00	61.00	19.00	6
9.000	10.000	101.00	61.00	19.00	6
9.500	10.000	101.00	61.00	19.00	6
10.000	10.000	101.00	61.00	19.00	6
10.500	12.000	130.00	85.00	19.00	6
11.000	12.000	130.00	85.00	19.00	6
11.500	12.000	130.00	85.00	19.00	6
12.000	12.000	130.00	85.00	19.00	6
13.000	14.000	130.00	85.00	22.00	6
14.000	14.000	130.00	85.00	22.00	6
15.000	16.000	150.00	102.00	22.00	6
16.000	16.000	150.00	102.00	22.00	6
17.000	18.000	150.00	102.00	25.00	6
18.000	18.000	150.00	102.00	25.00	6
19.000	20.000	150.00	100.00	25.00	6
20.000	20.000	150.00	100.00	25.00	6

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High performance reamers

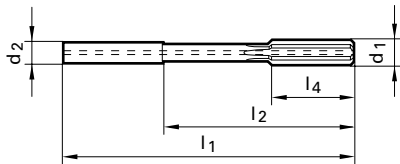


Carbide high performance reamers

Guhring no.	1678	1679
Standard	Guhring std.	
Tool material	Solid carbide	
Carbide grade	K6	K6
Surface	ⓐ	ⓐ
Type	HR 500 Alu	HR 500 Alu
Form		
Cutting direction	right-hand	right-hand
Tolerance	H7	H7
Discount group	166	166
Techn. data page	1271	1271

NEW

NEW



High performance reamers

d1	d2 h6	l1	l2	l4	Z
mm	mm	mm	mm	mm	
4.000	4.000	68.00	40.00	12.00	4
5.000	6.000	76.00	40.00	12.00	4
6.000	6.000	76.00	40.00	12.00	4
7.000	8.000	101.00	65.00	16.00	6
8.000	8.000	101.00	65.00	16.00	6
10.000	10.000	101.00	61.00	19.00	6
12.000	12.000	130.00	85.00	19.00	6
14.000	14.000	130.00	85.00	22.00	6
16.000	16.000	150.00	102.00	22.00	6
18.000	18.000	150.00	102.00	25.00	6
20.000	20.000	150.00	100.00	25.00	6

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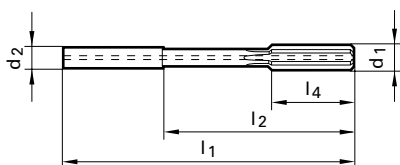
○ bright ● steam tempered ● nitrided lands ● nitrided ● golden brown ● A TiAlN ● a TiAlN nanoA ● A TiAlN SuperA



Guhring no.	1675	1676
Standard	Guhring std.	
Tool material	Solid carbide	
Carbide grade	K10	K10
Surface		
Type	HR 500 S	HR 500 D
Form		
Cutting direction	right-hand	right-hand
Tolerance	+0,005	+0,005
Discount group	166	166
Techn. data page	1271	1272

NEW

NEW



d1	d2 h6	l1	l2	l4	Z
mm	mm	mm	mm	mm	
2.970	4.000	68.00	40.00	12.00	4
2.980	4.000	68.00	40.00	12.00	4
2.990	4.000	68.00	40.00	12.00	4
3.000	4.000	68.00	40.00	12.00	4
3.010	4.000	68.00	40.00	12.00	4
3.020	4.000	68.00	40.00	12.00	4
3.030	4.000	68.00	40.00	12.00	4
3.970	4.000	68.00	40.00	12.00	4
3.980	4.000	68.00	40.00	12.00	4
3.990	4.000	68.00	40.00	12.00	4
4.000	4.000	68.00	40.00	12.00	4
4.010	4.000	68.00	40.00	12.00	4
4.020	4.000	68.00	40.00	12.00	4
4.030	4.000	68.00	40.00	12.00	4
4.970	6.000	76.00	40.00	12.00	4
4.980	6.000	76.00	40.00	12.00	4
4.990	6.000	76.00	40.00	12.00	4
5.000	6.000	76.00	40.00	12.00	4
5.010	6.000	76.00	40.00	12.00	4
5.020	6.000	76.00	40.00	12.00	4
5.030	6.000	76.00	40.00	12.00	4
5.970	6.000	76.00	40.00	12.00	4
5.980	6.000	76.00	40.00	12.00	4
5.990	6.000	76.00	40.00	12.00	4
6.000	6.000	76.00	40.00	12.00	4
6.010	6.000	76.00	40.00	12.00	4
6.020	6.000	76.00	40.00	12.00	4
6.030	6.000	76.00	40.00	12.00	4
7.000	8.000	101.00	65.00	16.00	6
7.970	8.000	101.00	65.00	16.00	6
7.980	8.000	101.00	65.00	16.00	6
7.990	8.000	101.00	65.00	16.00	6
8.000	8.000	101.00	65.00	16.00	6
8.010	8.000	101.00	65.00	16.00	6
8.020	8.000	101.00	65.00	16.00	6
8.030	8.000	101.00	65.00	16.00	6

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High performance reamers

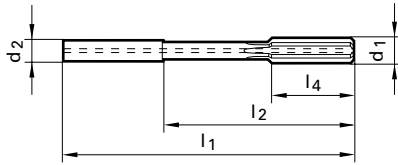


Carbide high performance reamers

Guhring no.	1675	1676
Standard	Guhring std.	
Tool material	Solid carbide	
Carbide grade	K10	K10
Surface	a	a
Type	HR 500 S	HR 500 D
Form		
Cutting direction	right-hand	right-hand
Tolerance	+0,005	+0,005
Discount group	166	166
Techn. data page	1271	1272

NEW

NEW



High performance reamers

d1	d2 h6	l1	l2	l4	Z
mm	mm	mm	mm	mm	
9.000	10.000	101.00	61.00	19.00	6
9.970	10.000	101.00	61.00	19.00	6
9.980	10.000	101.00	61.00	19.00	6
9.990	10.000	101.00	61.00	19.00	6
10.000	10.000	101.00	61.00	19.00	6
10.010	10.000	101.00	61.00	19.00	6
10.020	10.000	101.00	61.00	19.00	6
10.030	10.000	101.00	61.00	19.00	6
11.000	12.000	130.00	85.00	19.00	6
11.970	12.000	130.00	85.00	19.00	6
11.980	12.000	130.00	85.00	19.00	6
11.990	12.000	130.00	85.00	19.00	6
12.000	12.000	130.00	85.00	19.00	6
12.010	12.000	130.00	85.00	19.00	6
12.020	12.000	130.00	85.00	19.00	6
12.030	12.000	130.00	85.00	19.00	6

Availability

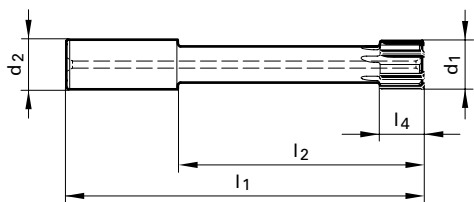
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Guhring no.	1680	1681
Standard	Guhring std.	
Tool material	Carbide	
Carbide grade	K10	K10
Surface	a	a
Type	HR 500 GS	HR 500 GD
Form		
Cutting direction	right-hand	right-hand
Tolerance	H7	H7
Discount group	166	166
Techn. data page	1272	1272

NEW

NEW



d1	d2 h6	l1	l2	l4	Z
mm	mm	mm	mm	mm	
22.000	20.000	160.00	110.00	22.00	6
24.000	25.000	180.00	124.00	22.00	6
25.000	25.000	180.00	124.00	22.00	6
26.000	25.000	180.00	124.00	22.00	6
28.000	25.000	180.00	124.00	25.00	6
30.000	25.000	180.00	124.00	25.00	6
32.000	32.000	200.00	140.00	25.00	6
34.000	32.000	200.00	140.00	25.00	6
36.000	32.000	200.00	140.00	25.00	8
38.000	32.000	200.00	140.00	25.00	8
40.000	32.000	200.00	140.00	25.00	8

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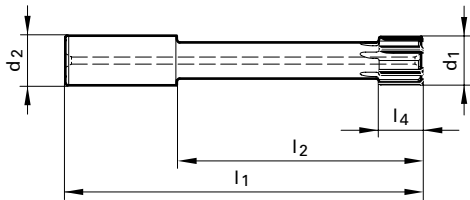
High performance reamers



Guhring no.	1682	1683
Standard	Guhring std.	
Tool material	Cermet tipped	
Carbide grade		
Surface	○	
Type	HR 500 GS	HR 500 GD
Form		
Cutting direction	right-hand	right-hand
Tolerance	H7	H7
Discount group	166	166
Techn. data page	1272	1272

NEW

NEW



Availability

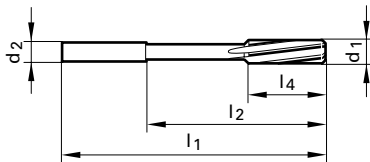
d1	d2 h6	l1	l2	l4	Z
mm	mm	mm	mm	mm	
22.000	20.000	160.00	110.00	22.00	6
24.000	25.000	180.00	124.00	22.00	6
25.000	25.000	180.00	124.00	22.00	6
26.000	25.000	180.00	124.00	22.00	6
28.000	25.000	180.00	124.00	25.00	6
30.000	25.000	180.00	124.00	25.00	6
32.000	32.000	200.00	140.00	25.00	6
34.000	32.000	200.00	140.00	25.00	6
36.000	32.000	200.00	140.00	25.00	8
38.000	32.000	200.00	140.00	25.00	8
40.000	32.000	200.00	140.00	25.00	8

Availability	
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High performance reamers



Guhring no.	1427	1449
Standard	Guhring std.	
Tool material	Solid carbide	
Carbide grade	K10	K10
Surface	○	○
Type		
Form	B	B
Cutting direction	right-hand	right-hand
Tolerance	+0,004/+0,005	H7
Discount group	120	120
Techn. data page	1273	1273



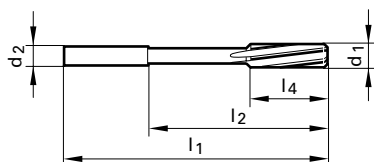
d1	d2 h6	l1	l2	l4	Z
mm	mm	mm	mm	mm	
0.980	4.000	50.00	22.00	6.00	3
0.990	4.000	50.00	22.00	6.00	3
1.000	4.000	50.00	22.00	6.00	3
1.010	4.000	50.00	22.00	6.00	3
1.020	4.000	50.00	22.00	6.00	3
1.030	4.000	50.00	22.00	9.00	3
1.480	4.000	50.00	22.00	9.00	3
1.490	4.000	50.00	22.00	9.00	3
1.500	4.000	50.00	22.00	9.00	3
1.510	4.000	50.00	22.00	9.00	3
1.520	4.000	50.00	22.00	9.00	3
1.530	4.000	50.00	22.00	9.00	3
1.980	4.000	50.00	22.00	12.00	4
1.990	4.000	50.00	22.00	12.00	4
2.000	4.000	50.00	22.00	12.00	4
2.010	4.000	50.00	22.00	12.00	4
2.020	4.000	50.00	22.00	12.00	4
2.030	4.000	50.00	22.00	12.00	4
2.480	4.000	60.00	32.00	16.00	4
2.490	4.000	60.00	32.00	16.00	4
2.500	4.000	60.00	32.00	16.00	4
2.510	4.000	60.00	32.00	16.00	4
2.520	4.000	60.00	32.00	16.00	4
2.530	4.000	60.00	32.00	16.00	4
2.970	4.000	64.00	36.00	17.00	6
2.980	4.000	64.00	36.00	17.00	6
2.990	4.000	64.00	36.00	17.00	6
3.000	4.000	64.00	36.00	17.00	6
3.010	4.000	64.00	36.00	17.00	6
3.020	4.000	64.00	36.00	17.00	6
3.030	4.000	64.00	36.00	17.00	6
3.100	4.000	68.00	40.00	18.00	6
3.200	4.000	68.00	40.00	18.00	6
3.300	4.000	68.00	40.00	18.00	6
3.400	4.000	74.00	46.00	20.00	6
3.500	4.000	74.00	46.00	20.00	6

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Carbide reamers



Guhring no.	1427	1449
Standard	Guhring std.	
Tool material	Solid carbide	
Carbide grade	K10	K10
Surface	○	○
Type		
Form	B	B
Cutting direction	right-hand	right-hand
Tolerance	+0,004/+0,005	H7
Discount group	120	120
Techn. data page	1273	1273



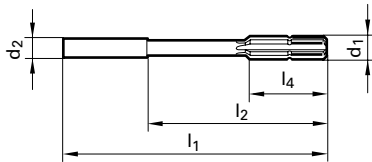
d1	d2 h6	l1	l2	l4	Z
mm	mm	mm	mm	mm	
12.010	12.000	151.00	105.00	44.00	6
12.020	12.000	151.00	105.00	44.00	6
12.030	12.000	151.00	105.00	44.00	6
12.040	12.000	151.00	105.00	44.00	6
12.050	12.000	151.00	105.00	44.00	6

Availability
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Carbide reamers



Guhring no.	1408	1428	1409	1429
Standard	~ DIN 8093			
Tool material	Carbide			
Carbide grade	K10	K10	K10	K10
Surface	○	ⓐ	○	ⓐ
Type				
Form	A	A	B	B
Cutting direction	right-hand	right-hand	right-hand	right-hand
Tolerance	H7	H7	H7	H7
Discount group	120	120	120	120
Techn. data page	1273	1274	1274	1274



d1	d2 h6	l1	l2	l4	Z
mm	mm	mm	mm	mm	
1.000	1.000	34.00	15.50	5.50	3
1.200	1.200	38.00	17.10	7.50	3
1.400	1.400	40.00	18.70	8.00	3
1.500	1.500	40.00	18.80	8.00	3
1.600	1.600	43.00	20.80	9.00	3
1.800	1.800	46.00	22.90	10.00	4
2.000	2.000	49.00	25.00	11.00	4
2.200	2.200	53.00	26.10	12.00	4
2.500	2.500	57.00	30.30	14.00	4
2.800	2.800	61.00	34.40	15.00	4
3.000	3.000	61.00	34.50	15.00	6
3.200	3.200	65.00	38.60	16.00	6
3.500	3.500	70.00	43.80	18.00	6
4.000	4.000	75.00	43.00	19.00	6
4.500	4.500	80.00	47.00	21.00	6
5.000	5.000	86.00	52.00	23.00	6
5.500	5.600	93.00	57.00	26.00	6
6.000	5.600	93.00	57.00	26.00	6
6.500	6.300	101.00	63.00	28.00	6
7.000	7.100	109.00	69.00	31.00	6
7.500	7.100	109.00	69.00	31.00	6
8.000	8.000	117.00	75.00	33.00	6
8.500	8.000	117.00	75.00	33.00	6
9.000	9.000	125.00	81.00	36.00	6
9.500	9.000	125.00	81.00	36.00	6
10.000	10.000	133.00	87.00	38.00	6
10.500	10.000	133.00	87.00	38.00	6
11.000	10.000	142.00	96.00	41.00	6
12.000	10.000	151.00	105.00	44.00	6
13.000	10.000	151.00	105.00	44.00	6
14.000	12.000	160.00	110.00	47.00	6
15.000	12.000	162.00	112.00	50.00	6
16.000	12.000	170.00	120.00	52.00	6
17.000	14.000	175.00	123.00	54.00	6
18.000	14.000	182.00	130.00	56.00	6
19.000	16.000	189.00	131.00	58.00	6

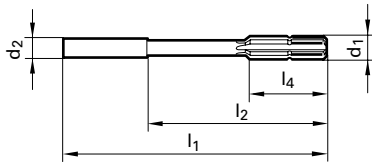
Availability			
●		●	
●		●	
●		●	
●		●	
○		●	●
●	●	●	●
●	●	●	○
●	●	●	●
●	●	●	●
●	●	●	●
●	●	●	●
●	●	●	●
●	●	●	●
●	●	●	●
●	●	●	●
●	●	●	●
●	●	●	●
●	●	●	○
●	●	●	●
●	●	●	●
●	●	●	●
●	●	●	○
●	●	●	○

Carbide reamers



Machine reamers

Guhring no.	1408	1428	1409	1429
Standard	~ DIN 8093			
Tool material	Carbide			
Carbide grade	K10	K10	K10	K10
Surface	○	ⓐ	○	ⓐ
Type				
Form	A	A	B	B
Cutting direction	right-hand	right-hand	right-hand	right-hand
Tolerance	H7	H7	H7	H7
Discount group	120	120	120	120
Techn. data page	1273	1274	1274	1274



Carbide reamers

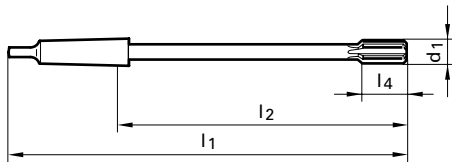
d1	d2 h6	l1	l2	l4	Z
mm	mm	mm	mm	mm	
20.000	16.000	195.00	137.00	60.00	6

Availability			
●	●	●	●

○ bright ○ steam tempered ● nitrided lands ● nitrided ● golden brown ⓐ TiAlN ⓐ TiAlN nanoA ⓐ TiAlN SuperA



Guhring no.	719	720
Standard	~ DIN 8051	
Tool material	Carbide	
Carbide grade	K10	K10
Surface	○	○
Type		
Form	A	B
Cutting direction	right-hand	right-hand
Tolerance	H7	H7
Discount group	120	120
Techn. data page	1274	1274



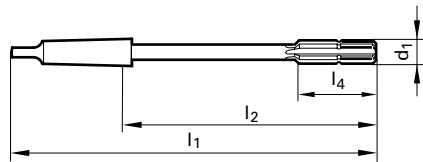
d1	MK	l1	l2	l4	Z
mm		mm	mm	mm	
5.000	1	133.00	71.00	12.00	6
6.000	1	138.00	76.00	12.00	6
7.000	1	150.00	88.00	16.00	6
8.000	1	156.00	94.00	16.00	6
10.000	1	168.00	106.00	12.00	6
11.000	1	175.00	113.00	12.00	6
12.000	1	182.00	120.00	12.00	6
13.000	1	182.00	120.00	12.00	6
14.000	1	189.00	127.00	16.00	6
15.000	2	204.00	129.00	16.00	6
16.000	2	210.00	135.00	19.00	6
17.000	2	214.00	139.00	19.00	6
18.000	2	219.00	144.00	19.00	6
20.000	2	228.00	153.00	19.00	6
21.000	2	232.00	157.00	22.00	6
22.000	2	237.00	162.00	22.00	6
23.000	2	241.00	166.00	22.00	6
24.000	3	268.00	174.00	22.00	8
25.000	3	268.00	174.00	22.00	8
26.000	3	273.00	179.00	22.00	8
28.000	3	277.00	183.00	25.00	8
30.000	3	281.00	187.00	25.00	8
32.000	4	317.00	199.50	25.00	8
40.000	4	329.00	211.50	25.00	8

Availability	
●	
●	●
●	
●	●
●	●
●	○
●	●
●	○
●	●
●	●
●	●
●	●
●	●
●	●
●	●
●	●
●	●
●	●
●	●
●	●
○	●
○	●

Carbide reamers



Guhring no.	1410	1411
Standard	~ DIN 8094	
Tool material	Carbide	
Carbide grade	K10	K10
Surface		
Type		
Form	A	B
Cutting direction	right-hand	right-hand
Tolerance	H7	H7
Discount group	120	120
Techn. data page	1275	1275



Carbide reamers



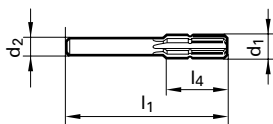
d1	MK	l1	l2	l4	Z
mm		mm	mm	mm	
5.000	1	133.00	71.00	23.00	6
6.000	1	138.00	76.00	26.00	6
7.000	1	150.00	88.00	31.00	6
8.000	1	156.00	94.00	33.00	6
9.000	1	162.00	100.00	36.00	6
10.000	1	168.00	106.00	38.00	6
11.000	1	175.00	113.00	41.00	6
12.000	1	182.00	120.00	44.00	6
13.000	1	182.00	120.00	44.00	6
14.000	1	189.00	127.00	47.00	6
15.000	2	204.00	129.00	50.00	6
16.000	2	210.00	135.00	52.00	6
17.000	2	214.00	139.00	54.00	6
18.000	2	219.00	144.00	56.00	6
19.000	2	223.00	148.00	58.00	6
20.000	2	228.00	153.00	60.00	6
21.000	2	232.00	157.00	62.00	6
22.000	2	237.00	162.00	64.00	6
23.000	2	241.00	166.00	66.00	6
24.000	3	268.00	174.00	68.00	8
25.000	3	268.00	174.00	68.00	8
26.000	3	273.00	179.00	70.00	8
27.000	3	277.00	183.00	71.00	8
28.000	3	277.00	183.00	71.00	8
30.000	3	281.00	187.00	73.00	8
35.000	4	321.00	203.50	78.00	8
40.000	4	329.00	211.50	81.00	8

Availability	
●	●
●	●
●	○
●	●
●	●
●	●
●	●
●	●
●	●
●	●
●	●
●	●
●	●
●	●
●	●
●	●
●	●
●	●
●	●
●	●
●	●
●	●
●	●

○ bright ● steam tempered ● nitrided lands ● nitrided ● golden brown ● TiAlN ● TiAlN nanoA ● TiAlN SuperA



Guhring no.	674	1430	1407	737
Standard	~ DIN 8090			
Tool material	Carbide			
Carbide grade	K10	K10	K10	K10
Surface	○	ⓐ	○	○
Type				
Form	A	A	B	C
Cutting direction	right-hand	right-hand	right-hand	right-hand
Tolerance	H7	H7	H7	H7
Discount group	120	120	120	120
Techn. data page	1275	1275	1275	1276



d1	d2 h8/≥10 h6	l1	l4	Z
mm	mm	mm	mm	
3.000	2.500	56.00	20.00	6
3.200	2.800	56.00	20.00	6
3.500	3.000	56.00	20.00	6
4.000	3.550	56.00	20.00	6
4.500	4.000	63.00	22.00	6
5.000	4.000	63.00	22.00	6
5.500	5.000	63.00	22.00	6
6.000	5.000	63.00	22.00	6
6.500	5.000	63.00	22.00	6
7.000	6.300	71.00	25.00	6
7.500	6.300	71.00	25.00	6
8.000	6.300	71.00	25.00	6
9.000	8.000	71.00	25.00	6
10.000	8.000	71.00	25.00	6
10.500	8.000	71.00	25.00	6
11.000	10.000	80.00	28.00	6
11.500	10.000	80.00	28.00	6
12.000	10.000	80.00	28.00	6
12.500	10.000	80.00	28.00	6
13.500	12.500	90.00	32.00	6
14.000	12.500	90.00	32.00	6
15.000	12.500	90.00	32.00	6
16.000	12.500	90.00	32.00	6

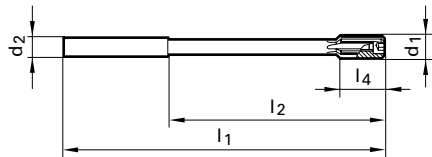
Availability			
●			
		○	
	●	●	
●	●	●	●
●		●	●
●	●	○	●
●	●	●	●
●	○	○	●
●	●	●	●
●	●	●	●
●		●	
●	●	●	○
●		●	●
●	●		
●	●	●	●
●		●	
●		●	

Carbide reamers



Expanding machine reamers

Guhring no.	749
Standard	Guhring std.
Tool material	Carbide
Carbide grade	K10
Surface	○
Type	
Form	A
Cutting direction	right-hand
Tolerance	H7
Discount group	120
Techn. data page	1276



Carbide reamers

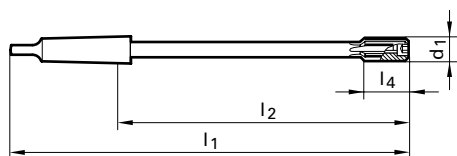
d1	d2 h6	l1	l2	l4	Z
mm	mm	mm	mm	mm	
8.000	8.000	117.00	75.00	12.00	4
9.000	10.000	125.00	79.00	12.00	6
10.000	10.000	133.00	87.00	12.00	6
12.000	10.000	151.00	105.00	12.00	6
13.000	10.000	151.00	105.00	12.00	6
14.000	12.000	160.00	110.00	16.00	6
15.000	12.000	162.00	112.00	16.00	6
16.000	12.000	170.00	120.00	19.00	6
18.000	14.000	182.00	130.00	19.00	6

Availability





Guhring no.	740
Standard	Guhring std.
Tool material	Carbide
Carbide grade	K10
Surface	
Type	
Form	A
Cutting direction	right-hand
Tolerance	H7
Discount group	120
Techn. data page	1276



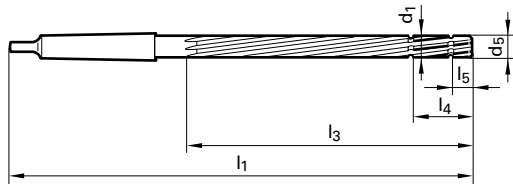
d1	MK	l1	l2	l4	Z	Availability
mm		mm	mm	mm		
8.000	1	156.00	94.00	12.00	4	<input type="radio"/>
10.000	1	168.00	106.00	12.00	6	<input type="radio"/>
11.000	1	175.00	113.00	12.00	6	<input type="radio"/>
12.000	1	182.00	120.00	12.00	6	<input type="radio"/>
14.000	1	189.00	127.00	16.00	6	<input type="radio"/>
15.000	2	204.00	129.00	16.00	6	<input type="radio"/>
16.000	2	210.00	135.00	19.00	6	<input type="radio"/>
19.000	2	223.00	148.00	19.00	6	<input type="radio"/>
20.000	2	228.00	153.00	19.00	6	<input type="radio"/>
22.000	2	237.00	162.00	22.00	6	<input type="radio"/>
25.000	3	268.00	174.00	22.00	6	<input type="radio"/>
30.000	3	281.00	187.00	25.00	6	<input type="radio"/>

Carbide reamers



Stepped machine reamers

Guhring no.	743
Standard	Guhring std.
Tool material	Carbide
Carbide grade	K10
Surface	○
Type	
Form	
Tolerance	H7
Cutting direction	right-hand
Discount group	120
Techn. data page	1276



Carbide reamers

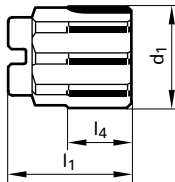
d1	MK	d5	l1	l3	l4	l5	Z
mm		mm	mm	mm	mm	mm	
8.000	1	7.920	205.00	133.00	23.00	10.00	6
10.000	1	9.900	230.00	155.00	28.00	12.00	6
12.000	1	11.900	230.00	155.00	28.00	12.00	6
24.000	3	23.850	285.00	176.00	33.00	15.00	8
25.000	3	24.850	285.00	176.00	33.00	15.00	8

Availability

-
-
-
-
-



Guhring no.	727
Standard	DIN 8054
Tool material	Carbide
Carbide grade	K10
Surface	○
Type	
Form	
Cutting direction	right-hand
Tolerance	H7
Discount group	120
Techn. data page	1276



d1	int. Ø	l1	l4	Z
mm	mm	mm	mm	
25.000	13.000	45.00	30.00	6
35.000	13.000	45.00	30.00	8
36.000	16.000	50.00	30.00	8
38.000	16.000	50.00	30.00	8
40.000	16.000	50.00	30.00	8
50.000	19.000	56.00	30.00	10
55.000	22.000	63.00	30.00	10

Availability	
	○
	○
	○
	○
	○
	○
	○
	○
	○
	○
	○
	○
	○
	○
	○
	○
	○
	○
	○
	○
	○
	○

Carbide reamers



Hand taper reamers

Guhring no.

428

429

Standard

DIN 9

DIN 9

Tool material

HSS

HSS

Surface



Type

Form

A

B

Cutting direction

right-hand

right-hand

Tolerance

Discount group

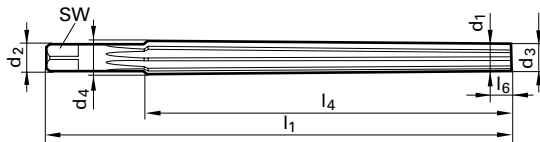
105

105

Techn. data page

1277

1277



Taper reamers

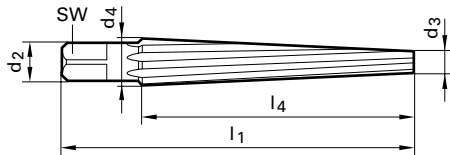
d1	d2	d3	d4	l1	l4	l6	SW	Z
mm	mm	mm	mm	mm	mm	mm		
1.000	3.150	0.900	1.460	46.00	28.00	5.00	2.40	3
1.200	3.150	1.100	1.740	50.00	32.00	5.00	2.40	3
1.500	3.150	1.400	2.140	57.00	37.00	5.00	2.40	3
2.000	3.150	1.900	2.860	68.00	48.00	5.00	2.40	3
2.500	3.150	2.400	3.360	68.00	48.00	5.00	2.40	4
3.000	4.000	2.900	4.060	80.00	58.00	5.00	3.00	5
3.500	4.500	3.400	4.660	87.00	63.00	5.00	3.40	5
4.000	5.000	3.900	5.260	93.00	68.00	5.00	3.80	5
4.500	5.600	4.400	5.800	95.00	70.00	5.00	4.30	5
5.000	6.300	4.900	6.360	100.00	73.00	5.00	4.90	5
5.500	7.100	5.400	7.200	118.00	90.00	5.00	5.50	6
6.000	8.000	5.900	8.000	135.00	105.00	5.00	6.20	6
6.500	8.000	6.400	8.600	140.00	110.00	5.00	6.20	6
7.000	9.000	6.900	9.400	160.00	125.00	5.00	7.00	6
8.000	10.000	7.900	10.800	180.00	145.00	5.00	8.00	6
9.000	11.200	8.900	12.100	195.00	160.00	5.00	9.00	6
10.000	12.500	9.900	13.400	215.00	175.00	5.00	10.00	6
12.000	14.000	11.800	16.000	255.00	210.00	10.00	11.00	8
13.000	16.000	12.800	17.000	255.00	210.00	10.00	12.00	8
14.000	16.000	13.800	18.000	255.00	210.00	10.00	12.00	8
16.000	18.000	15.800	20.400	280.00	230.00	10.00	14.50	8
20.000	22.400	19.800	24.800	310.00	250.00	10.00	18.00	8
25.000	28.000	24.700	30.700	370.00	300.00	15.00	22.00	10
30.000	31.500	29.700	36.100	400.00	320.00	15.00	24.00	10

Availability	
●	
	○
●	
●	
●	●
	●
●	●
○	●
●	○
	●
●	○
●	●
●	●
●	●
○	●
●	●
●	○

○ bright ○ steam tempered ● nitrided lands ● nitrided ● golden brown ● TiAlN ● TiAlN nanoA ● TiAlN SuperA



Guhring no.	1433
Standard	Guhring std.
Tool material	HSS
Surface	
Type	
Form	
Cutting direction	right-hand
Tolerance	
Discount group	105
Techn. data page	1277



d2	d3	d4	l1	l4	SW	Z	Code no.
mm	mm	mm	mm	mm	mm		
8.000	3.000	10.000	100.00	70.00	6.20	5	3.000
13.000	5.000	15.000	140.00	100.00	10.00	7	5.000
21.000	10.000	25.000	195.00	150.00	16.00	9	10.000
30.000	15.000	35.000	250.00	200.00	24.00	11	15.000
40.000	23.000	45.000	275.00	220.00	32.00	11	23.000

Availability

-
-
-
-
-

Taper reamers



Machine taper reamers

Guhring no.

410

Standard

DIN 2179

Tool material

HSS-E

Surface



Type

Form

Cutting direction

right-hand

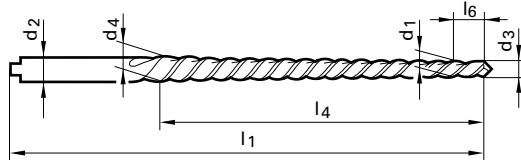
Tolerance

Discount group

105

Techn. data page

1277



Taper reamers

d1	d2	d3	d4	l1	l4	l6	Z
mm	mm	mm	mm	mm	mm	mm	
1.000	1.400	0.900	1.460	60.00	33.00	5.00	2
1.500	2.100	1.400	2.140	70.00	37.00	5.00	2
2.000	3.150	1.900	2.860	86.00	48.00	5.00	3
2.500	3.150	2.400	3.360	86.00	48.00	5.00	3
3.000	4.000	2.900	4.060	100.00	58.00	5.00	3
4.000	5.000	3.900	5.260	112.00	68.00	5.00	3
5.000	6.300	4.900	6.360	122.00	73.00	5.00	3
6.000	8.000	5.900	8.000	160.00	105.00	5.00	3
6.500	8.500	6.400	8.780	188.00	119.00	5.00	3
8.000	10.000	7.900	10.800	207.00	145.00	5.00	3
10.000	12.500	9.900	13.400	245.00	175.00	5.00	3
12.000	16.000	11.800	16.000	290.00	210.00	10.00	3
14.000	17.000	13.800	17.680	289.00	194.00	10.00	3
30.000	35.000	29.700	36.100	475.00	320.00	15.00	4

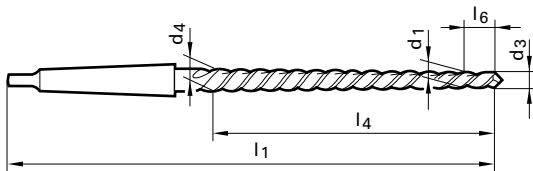
Availability



bright
 steam tempered
 nitrided lands
 nitrided
 golden brown
 TiAIN
 TiAIN nanoA
 TiAIN SuperA



Guhring no.	411
Standard	DIN 2180
Tool material	HSS-E
Surface	○
Type	
Form	
Cutting direction	right-hand
Tolerance	
Discount group	105
Techn. data page	1277



d1	MK	d3	d4	l1	l4	l6	Z
mm		mm	mm	mm	mm	mm	
5.000	1	4.900	6.360	155.00	73.00	5.00	3
6.000	1	5.900	8.000	187.00	105.00	5.00	3
8.000	1	7.900	10.800	227.00	145.00	5.00	3
10.000	1	9.900	13.400	257.00	175.00	5.00	3
12.000	2	11.800	16.000	315.00	210.00	10.00	3
13.000	2	12.800	16.680	295.00	194.00	10.00	3
14.000	2	13.800	17.680	295.00	194.00	10.00	3
16.000	2	15.800	20.400	335.00	230.00	10.00	3
20.000	3	19.800	24.800	377.00	250.00	10.00	3
25.000	3	24.700	30.700	427.00	300.00	15.00	3
30.000	4	29.700	36.100	475.00	320.00	15.00	4
40.000	4	39.700	46.500	495.00	340.00	15.00	6
50.000	5	49.700	56.900	550.00	360.00	15.00	8

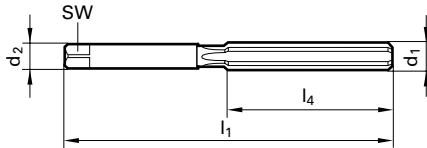
Availability
●
●
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●
●

Taper reamers



Hand reamers

Guhring no.	412	413
Standard	DIN 206	
Tool material	HSS	
Surface	○	○
Type		
Form	A	B
Cutting direction	right-hand	right-hand
Tolerance	H7	H7
Discount group	105	105
Techn. data page	1278	1278



High speed steel hand reamers

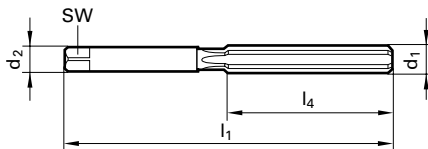
d1	d2	l1	l4	SW	Z
mm	mm	mm	mm		
1.400	1.400	41.00	20.00	1.12	3
1.500	1.500	41.00	20.00	1.12	3
2.000	2.000	50.00	25.00	1.60	4
2.200	2.200	54.00	27.00	1.80	4
2.500	2.500	58.00	29.00	2.10	4
3.000	3.000	62.00	31.00	2.40	6
3.200	3.200	66.00	33.00	2.40	6
3.500	3.500	71.00	35.00	2.70	6
4.000	4.000	76.00	38.00	3.00	6
4.500	4.500	81.00	41.00	3.40	6
5.000	5.000	87.00	44.00	3.80	6
5.500	5.500	93.00	47.00	4.30	6
6.000	6.000	93.00	47.00	4.90	6
6.500	6.500	100.00	50.00	4.90	6
7.000	7.000	107.00	54.00	5.50	6
7.500	7.500	107.00	54.00	6.20	6
8.000	8.000	115.00	58.00	6.20	6
8.500	8.500	115.00	58.00	7.00	6
9.000	9.000	124.00	62.00	7.00	6
9.500	9.500	124.00	62.00	8.00	6
10.000	10.000	133.00	66.00	8.00	6
10.500	10.500	133.00	66.00	8.00	6
11.000	11.000	142.00	71.00	9.00	6
11.500	11.500	142.00	71.00	9.00	6
12.000	12.000	152.00	76.00	9.00	6
12.500	12.500	152.00	76.00	10.00	6
13.000	13.000	152.00	76.00	10.00	6
14.000	14.000	163.00	81.00	11.00	8
15.000	15.000	163.00	81.00	12.00	8
15.500	15.500	175.00	87.00	12.00	8
16.000	16.000	175.00	87.00	12.00	8
16.500	16.500	175.00	87.00	13.00	8
17.000	17.000	175.00	87.00	13.00	8
18.000	18.000	188.00	93.00	14.50	8
19.000	19.000	188.00	93.00	14.50	8
20.000	20.000	201.00	100.00	16.00	8

Availability	
●	○
●	●
●	●
●	●
●	●
○	○
●	●
●	●
○	●
○	●
●	●
○	●
○	●
●	●
●	●
○	○
○	●
○	●
●	●
○	●
○	●
○	●
●	●
○	●
○	●
○	●
●	●
○	●
●	●
○	●
●	●

○ bright
○ steam tempered
● nitrided lands
● nitrided
● golden brown
ⓐ TiAIN
ⓐ TiAIN nanoA
ⓐ TiAIN SuperA



Guhring no.	412	413
Standard	DIN 206	
Tool material	HSS	
Surface	○	○
Type		
Form	A	B
Cutting direction	right-hand	right-hand
Tolerance	H7	H7
Discount group	105	105
Techn. data page	1278	1278



d1	d2	l1	l4	SW	Z
mm	mm	mm	mm		
21.000	21.000	201.00	100.00	16.00	8
22.000	22.000	215.00	107.00	18.00	8
24.000	24.000	231.00	115.00	18.00	8
25.000	25.000	231.00	115.00	20.00	8
28.000	28.000	247.00	124.00	22.00	10
30.000	30.000	247.00	124.00	24.00	10
31.000	31.000	265.00	133.00	24.00	10
32.000	32.000	265.00	133.00	24.00	10
33.000	33.000	265.00	133.00	26.00	10
34.000	34.000	284.00	142.00	26.00	10
35.000	35.000	284.00	142.00	29.00	10
38.000	38.000	305.00	152.00	29.00	10
38.100	38.100	305.00	152.00	29.00	10
40.000	40.000	305.00	152.00	32.00	10
43.000	43.000	326.00	163.00	35.00	12
44.000	44.000	326.00	163.00	32.00	12
46.000	46.000	326.00	163.00	35.00	12
49.000	49.000	347.00	174.00	39.00	12

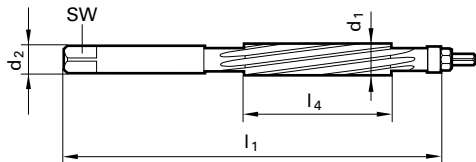
Availability	
○	●
○	●
○	●
●	●
○	●
○	○
○	●
○	●
○	●
○	●
○	●
○	○
○	●
○	●
○	○
○	○
○	○
○	○
○	○
○	○
○	○
○	○
○	○

High speed steel hand reamers



Adjustable hand reamers

Guhring no.	415
Standard	DIN 859
Tool material	HSS
Surface	○
Type	
Form	B
Cutting direction	right-hand
Tolerance	
Discount group	105
Techn. data page	1278



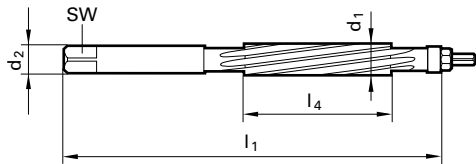
High speed steel
hand reamers

d1	d2	l1	l4	SW	Z	Availability
mm	mm	mm	mm			
4.000	4.000	76.00	24.00	3.00	6	●
5.000	5.000	87.00	30.00	3.80	6	●
5.500	5.500	93.00	33.00	4.30	6	○
6.000	6.000	93.00	33.00	4.90	6	●
7.000	7.000	107.00	38.00	5.50	9	●
8.000	8.000	115.00	42.00	6.20	9	●
9.000	9.000	124.00	46.00	7.00	9	●
10.000	10.000	133.00	50.00	8.00	9	●
11.000	11.000	142.00	51.00	9.00	9	●
12.000	12.000	152.00	56.00	9.00	9	●
12.500	12.500	152.00	56.00	10.00	9	○
13.000	13.000	152.00	56.00	10.00	9	●
14.000	14.000	163.00	61.00	11.00	9	●
15.000	15.000	163.00	61.00	12.00	9	●
16.000	16.000	175.00	67.00	12.00	9	●
17.000	17.000	175.00	67.00	13.00	9	○
18.000	18.000	188.00	68.00	14.50	9	○
19.000	19.000	188.00	68.00	14.50	9	●
20.000	20.000	201.00	75.00	16.00	9	●
21.000	21.000	201.00	75.00	16.00	12	○
22.000	22.000	215.00	82.00	18.00	12	●
24.000	24.000	231.00	85.00	18.00	12	●
25.000	25.000	231.00	85.00	20.00	12	●
26.000	26.000	231.00	85.00	20.00	12	○
28.000	28.000	247.00	94.00	22.00	12	○
29.000	29.000	247.00	94.00	22.00	12	○
30.000	30.000	247.00	94.00	24.00	12	●
31.000	31.000	265.00	99.00	24.00	12	○
32.000	32.000	265.00	99.00	24.00	12	○
33.000	33.000	265.00	99.00	26.00	12	●
38.000	38.000	305.00	111.00	29.00	12	●
41.000	41.000	305.00	111.00	32.00	12	○
43.000	43.000	326.00	120.00	35.00	12	○
46.000	46.000	326.00	120.00	35.00	12	○
47.000	47.000	326.00	120.00	39.00	12	○
49.000	49.000	347.00	131.00	39.00	12	○

○ bright ● steam tempered ● nitrided lands ● nitrided ● golden brown ● TiAIN ● TiAIN nanoA ● TiAIN SuperA



Guhring no.	415
Standard	DIN 859
Tool material	HSS
Surface	○
Type	
Form	B
Cutting direction	right-hand
Tolerance	
Discount group	105
Techn. data page	1278



d1	d2	l1	l4	SW	Z
mm	mm	mm	mm		
51.000	51.000	347.00	131.00	39.00	16
54.000	54.000	367.00	131.00	44.00	16
58.000	58.000	367.00	131.00	44.00	16
59.000	59.000	367.00	131.00	49.00	16

Availability

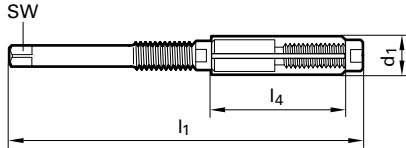
-
-
-
-

High speed steel
hand reamers



Expanding hand reamers

Guhring no.	416
Standard	Guhring std.
Tool material	HSS
Surface	
Type	
Form	
Cutting direction	right-hand
Tolerance	
Discount group	105
Techn. data page	1278



High speed steel
hand reamers

d1	from d1	to d1	l1	l4	SW	Z
mm	mm	mm	mm	mm		
6.400	6.400	7.200	110.00	32.00	3.00	4
7.200	7.200	8.000	110.00	32.00	3.40	4
8.000	8.000	9.000	115.00	34.00	3.80	5
9.000	9.000	10.000	115.00	34.00	4.30	5
10.000	10.000	11.000	115.00	34.00	4.90	5
11.000	11.000	12.000	125.00	35.00	4.90	5
12.000	12.000	13.500	135.00	41.00	6.20	5
13.500	13.500	15.500	146.00	50.00	7.00	5
15.500	15.500	18.000	166.00	60.00	8.00	5
18.000	18.000	21.000	178.00	65.00	9.00	5
21.000	21.000	24.000	195.00	76.00	11.00	5
24.000	24.000	27.500	218.00	82.00	12.00	5
27.500	27.500	31.500	245.00	86.00	14.50	5
31.500	31.500	37.000	280.00	98.00	18.00	6
37.000	37.000	45.000	325.00	108.00	20.00	6
45.000	45.000	55.000	370.00	118.00	26.00	6
55.000	55.000	65.000	400.00	125.00	32.00	6
67.000	67.000	80.000	435.00	140.00	39.00	8

Availability	

bright
 steam tempered
 nitrided lands
 nitrided
 golden brown
 TiAlN
 TiAlN nanoA
 TiAlN SuperA



Guhring no.	417
Standard	Guhring std.
Tool material	HSS
Surface	○
Type	
Form	
Cutting direction	right-hand
Tolerance	
Discount group	105
Techn. data page	1278

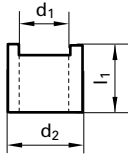


d1	from d1	to d1	l4	Availability
mm	mm	mm	mm	
6.400	6.400	7.200	32.00	○
7.200	7.200	8.000	32.00	○
8.000	8.000	9.000	34.00	○
9.000	9.000	10.000	34.00	○
10.000	10.000	11.000	34.00	○
11.000	11.000	12.000	35.00	○
12.000	12.000	13.500	41.00	○
13.500	13.500	15.500	50.00	○
15.500	15.500	18.000	60.00	○
18.000	18.000	21.000	65.00	○
21.000	21.000	24.000	76.00	○
24.000	24.000	27.500	82.00	○
27.500	27.500	31.500	86.00	○
31.500	31.500	37.000	98.00	○
37.000	37.000	45.000	108.00	○
45.000	45.000	55.000	118.00	○
55.000	55.000	65.000	125.00	○
65.000	65.000	67.000	140.00	○
67.000	67.000	80.000	140.00	○
80.000	80.000	95.000	155.00	○

High speed steel
hand reamers



Guhring no.	1436
Standard	Guhring std.
Discount group	105
Techn. data page	1279



d1	l1	d2
mm	mm	mm
13.000	21.00	23.000
16.000	23.00	27.000
19.000	28.00	32.000
22.000	30.00	39.000
27.000	35.00	46.000
32.000	42.00	56.000
40.000	45.00	65.000

Availability

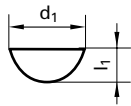
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	<input type="radio"/>

Reamers



Woodruff keys

Guhring no.	1437
Standard	DIN 6888
Discount group	105
Techn. data page	1279



Reamers

d1	l1	Holder	Thickness	Availability
mm	mm	mm	mm	
13.000	3.70	13	3.000	<input type="radio"/>
16.000	5.00	16	4.000	<input type="radio"/>
22.000	6.50	19/22	5.000	<input type="radio"/>
27.000	7.50	27	6.000	<input type="radio"/>
32.000	9.00	32	8.000	<input type="radio"/>
50.000	11.00	40/50	8.000	<input type="radio"/>

- bright
- steam tempered
- nitrided lands
- nitrided
- golden brown
- TiAIN
- TiAIN nanoA
- TiAIN SuperA



Additional charges for special tol. zones and intermediate sizes for straight shank reamers

The surcharge for grinding intermediate sizes and special tolerances is €30.00 net per diameter regardless of quantity. Minimum order 2 of.

Quality control requirements for reamers

The QS principle encourages requests for inspection records or certificates of conformity to be supplied with ordered tools. We will gladly do this. But as the setting-up of inspection records is particularly time consuming and costly

- special marking on a specified number of tools, the provision of measuring records, the entry of measured data in special forms - and we do not wish to incorporate these costs in our overhead costs, we have chosen to charge the

prices below in relation to the quantity ordered. Surely you will appreciate this.

inspected number of items	1	up to 3	up to 5	up to 10	up to 15	up to 20	up to 30	up to 50	up to 100
	net prices for the inspected number of items per inspection criteria								
total length	●	●	●	●	●	●	●	●	●
cutting length	●	●	●	●	●	●	●	●	●
shank length	●	●	●	●	●	●	●	●	●
shank diameter	●	●	●	●	●	●	●	●	●
cutting diameter and taper	●	●	●	●	●	●	●	●	●
concentricity TIh/Trn/Trs	●	●	●	●	●	●	●	●	●
land width	●	●	●	●	●	●	●	●	●
clearance angle of minor cut. edge	●	●	●	●	●	●	●	●	●
clearance angle	●	●	●	●	●	●	●	●	●
back rake angle	●	●	●	●	●	●	●	●	●
end cutting angle	●	●	●	●	●	●	●	●	●
bore diameter for shell reamers	●	●	●	●	●	●	●	●	●
optical	●	●	●	●	●	●	●	●	●
marking of test tools	●	●	●	●	●	●	●	●	●

Quality control requirements

net prices for the inspected number of items for all inspection criteria									
	●	●	●	●	●	●	●	●	●
plus cost of inspection report									
total price	●	●	●	●	●	●	●	●	●