

# GÜHRING



## RT 100 **XF**

NEW. EXTREME. POWERFUL.

# NEW. *EXTREME.* **POWERFUL.**


- ▶ ***EXCEPTIONAL*** METAL REMOVAL RATE
- ▶ ***POWERFUL*** MACHINING

120 years of manufacturing expertise, innovation and synergy: These are the pillars of our success that have allowed Gühring, once a pioneer of drilling solutions, to develop into an industry-leading full-service provider. This was made possible by our own R&D departments in geometry, production and coating, the production of proprietary cutting materials, as well as grinding and coating systems. These elements find their way into the performance of our products, enabling us to continually set new standards for the industry.

This leading expertise serves as the basis for the new RT 100 XF. Exceptional performance and a qualitative advantage. With unbridled power and guaranteed outstanding results for your processes.

The RT 100 XF. New. Extreme. Powerful.

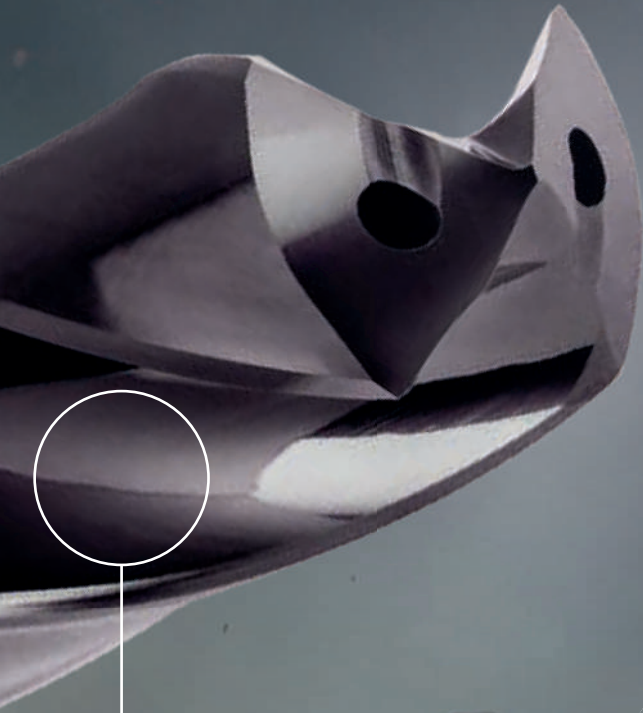




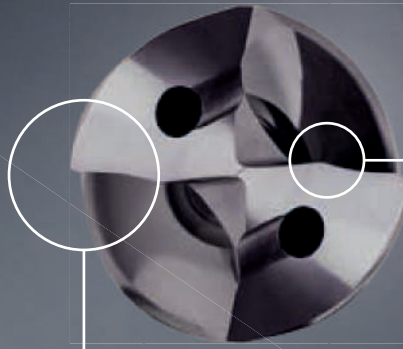
Extremely hard, absolutely break-proof: The carbide developed for the RT 100 XF **performs a balancing act between hardness and toughness**. Due to its special structure, this Gühring-created carbide grade has a **re-sharpening effect**. Breakages that normally accelerate tool wear no longer occur.

The proven **nanoFire coating system** was developed by a specially designed **pre- and post-treatment**. This surface treatment smooths the coating and makes it significantly more robust.

**Double margin grip** extremely early, thus perfecting the coaxiality, ensuring perfect bore quality and are therefore standard on the RT 100 XF from **5xD upwards**. The third and fourth support chamfers ensure excellent running smoothness.



**Polished flutes** reduce the heat input into the component. The chip flows off faster; thermal changes such as hardening are avoided.



The **point geometry, protected by a negative chamfer along the side cutting edge**, makes the cutting edge ultra-robust and durable. For exceptional performance.

The **rounding of the cutting edge** produces a stable and efficient cutting edge. The **accurate reproducibility** of this rounding (to the nearest micrometre) is made possible by our manufacturing competence. Original quality is restored in the in-house regrinding and re-coating centres.

- Combined optimisation of all tool parameters enables **outstanding feed rates** and **exceptional metal removal rates**
- In-house high-end finishing for **maximum performance utilisation**
- **Reduced cycle times** for difficult-to-machine materials and special applications in series production

# RT 100 **XF**

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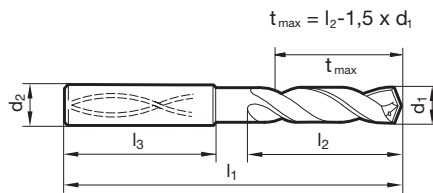


Ratio drills with internal coolant



Tool material	Solid carbide
Surface	F
Shank form	HA

- P** ● relieved cone • main cutting edge form concave • optimised cutting geometry • maximum performance
- M** ○
- K** ○
- N** ● structural and case hardened steels • free-cutting steels, heat-treatable steels • steels (alloyed/unalloyed) up to 1400 N/mm<sup>2</sup>
- S** ○
- H** ○



Article no. 5498

Discount group 255

Cutting direction

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



Article no. 5498						Availability
Discount group 255						
Cutting direction (R)						
d1		d2	l1	l2	l3	Availability
mm	inch	mm	mm	mm	mm	
5.500		6.00	82.00	44.00	36.00	●
5.550		6.00	82.00	44.00	36.00	●
5.560	7/32	6.00	82.00	44.00	36.00	●
5.600		6.00	82.00	44.00	36.00	●
5.700		6.00	82.00	44.00	36.00	●
5.800		6.00	82.00	44.00	36.00	●
5.900		6.00	82.00	44.00	36.00	●
5.950	15/64	6.00	82.00	44.00	36.00	●
6.000		6.00	82.00	44.00	36.00	●
6.100		8.00	91.00	53.00	36.00	●
6.200		8.00	91.00	53.00	36.00	●
6.300		8.00	91.00	53.00	36.00	●
6.350	1/4	8.00	91.00	53.00	36.00	●
6.400		8.00	91.00	53.00	36.00	●
6.500		8.00	91.00	53.00	36.00	●
6.530		8.00	91.00	53.00	36.00	●
6.550		8.00	91.00	53.00	36.00	●
6.600		8.00	91.00	53.00	36.00	●
6.700		8.00	91.00	53.00	36.00	●
6.750	17/64	8.00	91.00	53.00	36.00	●
6.800		8.00	91.00	53.00	36.00	●
6.900		8.00	91.00	53.00	36.00	●
7.000		8.00	91.00	53.00	36.00	●
7.100		8.00	91.00	53.00	36.00	●
7.140	9/32	8.00	91.00	53.00	36.00	●
7.200		8.00	91.00	53.00	36.00	●
7.300		8.00	91.00	53.00	36.00	●
7.400		8.00	91.00	53.00	36.00	●
7.500		8.00	91.00	53.00	36.00	●
7.540	19/64	8.00	91.00	53.00	36.00	●
7.550		8.00	91.00	53.00	36.00	●
7.600		8.00	91.00	53.00	36.00	●
7.650		8.00	91.00	53.00	36.00	●
7.700		8.00	91.00	53.00	36.00	●
7.800		8.00	91.00	53.00	36.00	●
7.900		8.00	91.00	53.00	36.00	●
7.940	5/16	8.00	91.00	53.00	36.00	●
8.000		8.00	91.00	53.00	36.00	●
8.100		10.00	103.00	61.00	40.00	●
8.200		10.00	103.00	61.00	40.00	●
8.300		10.00	103.00	61.00	40.00	●
8.330	21/64	10.00	103.00	61.00	40.00	●
8.400		10.00	103.00	61.00	40.00	●
8.500		10.00	103.00	61.00	40.00	●
8.600		10.00	103.00	61.00	40.00	●
8.700		10.00	103.00	61.00	40.00	●
8.730	11/32	10.00	103.00	61.00	40.00	●
8.800		10.00	103.00	61.00	40.00	●
8.900		10.00	103.00	61.00	40.00	●
9.000		10.00	103.00	61.00	40.00	●
9.100		10.00	103.00	61.00	40.00	●
9.130	23/64	10.00	103.00	61.00	40.00	●
9.200		10.00	103.00	61.00	40.00	●
9.250		10.00	103.00	61.00	40.00	●
9.300		10.00	103.00	61.00	40.00	●
9.340		10.00	103.00	61.00	40.00	●
9.400		10.00	103.00	61.00	40.00	●
9.500		10.00	103.00	61.00	40.00	●
9.520	3/8	10.00	103.00	61.00	40.00	●
9.550		10.00	103.00	61.00	40.00	●



Article no. 5498

Discount group 255

Cutting direction (R)

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





Article no. 5498						Availability
Discount group 255						
Cutting direction (R)						
d1		d2	l1	l2	l3	
mm	inch	mm	mm	mm	mm	
14.600		16.00	133.00	83.00	48.00	●
14.680	37/64	16.00	133.00	83.00	48.00	●
14.700		16.00	133.00	83.00	48.00	●
14.800		16.00	133.00	83.00	48.00	●
14.900		16.00	133.00	83.00	48.00	●
15.000		16.00	133.00	83.00	48.00	●
15.080	19/32	16.00	133.00	83.00	48.00	●
15.100		16.00	133.00	83.00	48.00	●
15.200		16.00	133.00	83.00	48.00	●
15.300		16.00	133.00	83.00	48.00	●
15.400		16.00	133.00	83.00	48.00	●
15.480	39/64	16.00	133.00	83.00	48.00	●
15.500		16.00	133.00	83.00	48.00	●
15.550		16.00	133.00	83.00	48.00	●
15.600		16.00	133.00	83.00	48.00	●
15.700		16.00	133.00	83.00	48.00	●
15.800		16.00	133.00	83.00	48.00	●
15.870	5/8	16.00	133.00	83.00	48.00	●
15.900		16.00	133.00	83.00	48.00	●
16.000		16.00	133.00	83.00	48.00	●
16.270	41/64	18.00	143.00	93.00	48.00	●
16.300		18.00	143.00	93.00	48.00	●
16.500		18.00	143.00	93.00	48.00	●
16.670	21/32	18.00	143.00	93.00	48.00	●
16.700		18.00	143.00	93.00	48.00	●
16.900		18.00	143.00	93.00	48.00	●
17.000		18.00	143.00	93.00	48.00	●
17.070	43/64	18.00	143.00	93.00	48.00	●
17.460	11/16	18.00	143.00	93.00	48.00	●
17.500		18.00	143.00	93.00	48.00	●
17.550		18.00	143.00	93.00	48.00	●
17.700		18.00	143.00	93.00	48.00	●
17.860	45/64	18.00	143.00	93.00	48.00	●
18.000		18.00	143.00	93.00	48.00	●
18.260	23/32	20.00	153.00	101.00	50.00	●
18.500		20.00	153.00	101.00	50.00	●
18.700		20.00	153.00	101.00	50.00	●
18.900		20.00	153.00	101.00	50.00	●
19.000		20.00	153.00	101.00	50.00	●
19.050	3/4	20.00	153.00	101.00	50.00	●
19.250		20.00	153.00	101.00	50.00	●
19.300		20.00	153.00	101.00	50.00	●
19.446		20.00	153.00	101.00	50.00	●
19.500		20.00	153.00	101.00	50.00	●
19.550		20.00	153.00	101.00	50.00	●
19.700		20.00	153.00	101.00	50.00	●
19.800		20.00	153.00	101.00	50.00	●
19.840	25/32	20.00	153.00	101.00	50.00	●
20.000		20.00	153.00	101.00	50.00	●



Ratio drills with internal coolant



Tool material **Solid carbide**

Surface **F**

Shank form **HA**

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

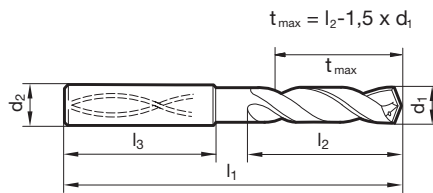
**M** ○

**K** ○

**N** ● structural and case hardened steels • free-cutting steels, heat-treatable steels • steels (alloyed/unalloyed) up to 1400 N/mm<sup>2</sup>

**S** ○

**H** ○



Article no. **5499**

Discount group **255**

Cutting direction **(R)**

d1		d2	l1	l2	l3	Availability
mm	inch	mm	mm	mm	mm	
3.000		6.000	70.000	30.000	36.000	●
3.100		6.000	70.000	30.000	36.000	●
3.170	1/8	6.000	70.000	30.000	36.000	●
3.200		6.000	70.000	30.000	36.000	●
3.250		6.000	70.000	30.000	36.000	●
3.300		6.000	70.000	30.000	36.000	●
3.400		6.000	75.000	35.500	36.000	●
3.500		6.000	75.000	35.500	36.000	●
3.570	9/64	6.000	75.000	35.500	36.000	●
3.600		6.000	75.000	35.500	36.000	●
3.700		6.000	75.000	35.500	36.000	●
3.800		6.000	75.000	37.500	36.000	●
3.900		6.000	75.000	37.500	36.000	●
3.970	5/32	6.000	75.000	37.500	36.000	●
4.000		6.000	75.000	37.500	36.000	●
4.040		6.000	75.000	37.500	36.000	●
4.100		6.000	75.000	37.500	36.000	●
4.200		6.000	75.000	37.500	36.000	●
4.300		6.000	85.000	45.000	36.000	●
4.370	11/64	6.000	85.000	45.000	36.000	●
4.400		6.000	85.000	45.000	36.000	●
4.500		6.000	85.000	45.000	36.000	●
4.600		6.000	85.000	45.000	36.000	●
4.650		6.000	85.000	45.000	36.000	●
4.700		6.000	85.000	45.000	36.000	●
4.760	3/16	6.000	90.000	50.000	36.000	●
4.800		6.000	90.000	50.000	36.000	●
4.900		6.000	90.000	50.000	36.000	●
5.000		6.000	90.000	50.000	36.000	●
5.100		6.000	90.000	50.000	36.000	●
5.110		6.000	90.000	50.000	36.000	●
5.160	13/64	6.000	90.000	50.000	36.000	●
5.200		6.000	90.000	50.000	36.000	●
5.300		6.000	90.000	50.000	36.000	●
5.400		6.000	97.000	57.000	36.000	●
5.410		6.000	97.000	57.000	36.000	●



Article no. 5499						Availability
Discount group 255						
Cutting direction (R)						
d1		d2	l1	l2	l3	Availability
mm	inch	mm	mm	mm	mm	
5.500		6.000	97.000	57.000	36.000	●
5.550		6.000	97.000	57.000	36.000	●
5.560	7/32	6.000	97.000	57.000	36.000	●
5.600		6.000	97.000	57.000	36.000	●
5.700		6.000	97.000	57.000	36.000	●
5.800		6.000	97.000	57.000	36.000	●
5.900		6.000	97.000	57.000	36.000	●
5.950	15/64	6.000	97.000	57.000	36.000	●
6.000		6.000	97.000	57.000	36.000	●
6.100		8.000	106.000	66.000	36.000	●
6.200		8.000	106.000	66.000	36.000	●
6.300		8.000	106.000	66.000	36.000	●
6.350	1/4	8.000	106.000	66.000	36.000	●
6.400		8.000	106.000	66.000	36.000	●
6.500		8.000	106.000	66.000	36.000	●
6.530		8.000	106.000	66.000	36.000	●
6.550		8.000	106.000	66.000	36.000	●
6.600		8.000	106.000	66.000	36.000	●
6.700		8.000	106.000	66.000	36.000	●
6.750	17/64	8.000	106.000	66.000	36.000	●
6.800		8.000	106.000	66.000	36.000	●
6.900		8.000	116.000	76.000	36.000	●
7.000		8.000	116.000	76.000	36.000	●
7.100		8.000	116.000	76.000	36.000	●
7.140	9/32	8.000	116.000	76.000	36.000	●
7.200		8.000	116.000	76.000	36.000	●
7.300		8.000	116.000	76.000	36.000	●
7.400		8.000	116.000	76.000	36.000	●
7.500		8.000	116.000	76.000	36.000	●
7.540	19/64	8.000	116.000	76.000	36.000	●
7.600		8.000	116.000	76.000	36.000	●
7.700		8.000	116.000	76.000	36.000	●
7.800		8.000	116.000	76.000	36.000	●
7.900		8.000	116.000	76.000	36.000	●
7.940	5/16	8.000	116.000	76.000	36.000	●
8.000		8.000	116.000	76.000	36.000	●
8.100		10.000	131.000	87.000	40.000	●
8.200		10.000	131.000	87.000	40.000	●
8.300		10.000	131.000	87.000	40.000	●
8.330	21/64	10.000	131.000	87.000	40.000	●
8.400		10.000	131.000	87.000	40.000	●
8.500		10.000	131.000	87.000	40.000	●
8.600		10.000	131.000	87.000	40.000	●
8.700		10.000	131.000	87.000	40.000	●
8.730	11/32	10.000	131.000	87.000	40.000	●
8.800		10.000	131.000	87.000	40.000	●
8.900		10.000	131.000	87.000	40.000	●
9.000		10.000	131.000	87.000	40.000	●
9.100		10.000	139.000	95.000	40.000	●
9.130	23/64	10.000	139.000	95.000	40.000	●
9.200		10.000	139.000	95.000	40.000	●
9.250		10.000	139.000	95.000	40.000	●
9.300		10.000	139.000	95.000	40.000	●
9.340		10.000	139.000	95.000	40.000	●
9.400		10.000	139.000	95.000	40.000	●
9.500		10.000	139.000	95.000	40.000	●
9.520	3/8	10.000	139.000	95.000	40.000	●
9.600		10.000	139.000	95.000	40.000	●
9.700		10.000	139.000	95.000	40.000	●
9.800		10.000	139.000	95.000	40.000	●

Article no. **5499**Discount group **255**Cutting direction **(R)**

d1		d2	l1	l2	l3	Availability
mm	inch	mm	mm	mm	mm	
9.900		10.000	139.000	95.000	40.000	●
9.920	25/64	10.000	139.000	95.000	40.000	●
10.000		10.000	139.000	95.000	40.000	●
10.100		12.000	155.000	106.000	45.000	●
10.200		12.000	155.000	106.000	45.000	●
10.300		12.000	155.000	106.000	45.000	●
10.320	13/32	12.000	155.000	106.000	45.000	●
10.400		12.000	155.000	106.000	45.000	●
10.500		12.000	155.000	106.000	45.000	●
10.600		12.000	155.000	106.000	45.000	●
10.700		12.000	155.000	106.000	45.000	●
10.720	27/64	12.000	155.000	106.000	45.000	●
10.800		12.000	155.000	106.000	45.000	●
10.900		12.000	155.000	106.000	45.000	●
11.000		12.000	155.000	106.000	45.000	●
11.100		12.000	163.000	114.000	45.000	●
11.110	7/16	12.000	163.000	114.000	45.000	●
11.200		12.000	163.000	114.000	45.000	●
11.300		12.000	163.000	114.000	45.000	●
11.400		12.000	163.000	114.000	45.000	●
11.500		12.000	163.000	114.000	45.000	●
11.510	29/64	12.000	163.000	114.000	45.000	●
11.600		12.000	163.000	114.000	45.000	●
11.700		12.000	163.000	114.000	45.000	●
11.800		12.000	163.000	114.000	45.000	●
11.900		12.000	163.000	114.000	45.000	●
11.910	15/32	12.000	163.000	114.000	45.000	●
12.000		12.000	163.000	114.000	45.000	●
12.100		14.000	182.000	133.000	45.000	●
12.200		14.000	182.000	133.000	45.000	●
12.300	31/64	14.000	182.000	133.000	45.000	●
12.400		14.000	182.000	133.000	45.000	●
12.500		14.000	182.000	133.000	45.000	●
12.600		14.000	182.000	133.000	45.000	●
12.700	1/2	14.000	182.000	133.000	45.000	●
12.800		14.000	182.000	133.000	45.000	●
12.900		14.000	182.000	133.000	45.000	●
13.000		14.000	182.000	133.000	45.000	●
13.100	33/64	14.000	182.000	133.000	45.000	●
13.490	17/32	14.000	182.000	133.000	45.000	●
13.500		14.000	182.000	133.000	45.000	●
13.700		14.000	182.000	133.000	45.000	●
13.890	35/64	14.000	182.000	133.000	45.000	●
14.000		14.000	182.000	133.000	45.000	●
14.100		16.000	204.000	152.000	48.000	●
14.200		16.000	204.000	152.000	48.000	●
14.290	9/16	16.000	204.000	152.000	48.000	●
14.300		16.000	204.000	152.000	48.000	●
14.500		16.000	204.000	152.000	48.000	●
14.700		16.000	204.000	152.000	48.000	●
14.800		16.000	204.000	152.000	48.000	●
15.000		16.000	204.000	152.000	48.000	●
15.100		16.000	204.000	152.000	48.000	●
15.300		16.000	204.000	152.000	48.000	●
15.480	39/64	16.000	204.000	152.000	48.000	●
15.500		16.000	204.000	152.000	48.000	●
15.700		16.000	204.000	152.000	48.000	●
15.800		16.000	204.000	152.000	48.000	●
15.870	5/8	16.000	204.000	152.000	48.000	●
16.000		16.000	204.000	152.000	48.000	●



Article no.

5499

Discount group

255

Cutting direction

d1		d2	l1	l2	l3	Availability
mm	inch	mm	mm	mm	mm	
16.300		18.000	223.000	171.000	48.000	●
16.500		18.000	223.000	171.000	48.000	●
16.700		18.000	223.000	171.000	48.000	●
16.900		18.000	223.000	171.000	48.000	●
17.000		18.000	223.000	171.000	48.000	●
17.500		18.000	223.000	171.000	48.000	●
17.700		18.000	223.000	171.000	48.000	●
18.000		18.000	223.000	171.000	48.000	●
18.500		20.000	244.000	190.000	50.000	●
18.900		20.000	244.000	190.000	50.000	●
19.000		20.000	244.000	190.000	50.000	●
19.050	3/4	20.000	244.000	190.000	50.000	●
19.500		20.000	244.000	190.000	50.000	●
19.800		20.000	244.000	190.000	50.000	●
20.000		20.000	244.000	190.000	50.000	●



## GÜHRING NAVIGATOR

Tools with bold feed column no. are preferred choice.

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

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

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

Coolant:

- Air  
● Neat oil  
● Soluble oil

Cutting direction:

- Ⓜ right-hand cutting  
Ⓛ left-hand cutting

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



≤5xD drilling depth

5498
6537L
<b>VHM</b>
K/P
RT 100 XF
<b>F</b>
axial
6

≤7xD drilling depth

5499
6537L
<b>VHM</b>
K/P
RT100 XF
<b>F</b>
axial
10



V <sub>c</sub> m/min	Feed col. no.
200	8
200	7
200	8
200	8
180	8
160	8
130	8
120	8
120	7
180	8
120	8
110	7
110	7
100	5
90	7
65	6
60	5
60	5
55	3
80	5
60	5
180	9
160	9
140	9
140	8
140	8
140	8
80	7
80	7
30	4
40	4
35	3

V <sub>c</sub> m/min	Feed col. no.
180	8
180	7
180	8
180	8
160	8
140	8
120	8
110	8
110	7
160	8
110	8
100	7
100	7
90	5
80	7
60	6
55	5
55	5
45	3
70	5
50	5
165	9
145	9
130	9
130	8
130	8
130	8
70	7
70	7
25	4
35	4
30	3

# GM 300

Tool holders and clamping devices for every application

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