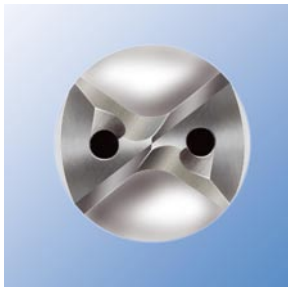
GUHRING

# RT 150 GG/GN

## The specialists for machining cast iron and aluminum

– from Ø 3.00 mm
– up to a drilling depth of 15 x D



## 130° 4-facet point & new carbide grade deliver top performance in cast iron

Available in 4xD, 7xD and 10xD lengths, the newest additions to Guhring's popular line of RT 150 GG coolant-through straight-fluted carbide drills feature an aggressive, self-centering 130° 4-facet point and a new, more wear-resistant carbide grade. These design modifications deliver higher cutting speeds and longer tool life when machining short-chipping cast materials and other highly abrasive metals.

**KEY FEATURES**:

- **Aggressive, self-centering 130° 4-facet point.** This point generates considerably less thrust and heat than conventional point styles. The combination of primary cutting lip and secondary heel clearance facets results in a naturally self-centering point. Performance enhancements include increased cutting edge life and accuracy.
- **DK 255 F (K20) carbide.** Developed in-house by Guhring, this carbide grade features a higher cobalt content than K40 grades, giving DK 255 F better wear resistance. This translates into significantly longer tool life, especially when machining abrasive materials such as cast iron.
- **Rigid, straight-flute design.** This design eliminates the spring effect common with helical flutes and significantly increases tool rigidity. As a result, the RT 150 GG can be fed more aggressively, while delivering hole concentricity and straightness up to 6x better than standard HSS twist drills and up to 2x better than carbide twist drills.
- **Double margin.** Hole quality is further enhanced by the RT 150 GG's double margin effect, which provides minimal deviation from straightness and excellent self-centering performance. This feature enables the RT 150 GG to produce near-burnished hole finish, eliminating the need for secondary operations such as reaming or boring.

**Manufacturing specifications**

| | |
|---|---|
| Point grinding: | 4-facet |
| Point angle: | 130° |
| Web thinning: | G-special |
| Helix angle: | 0° |
| Web taper: | none |
| Flute form: | special, double margins |
| Tolerance on Ø : | m7 |
| Coolant supply: | IC through the body |

**Series #6068** — **For machining cast iron**

- Drilling depth ~ 4xD
- Shank to DIN 6535 HA
- Guhring standard
- With internal cooling

| Diameter | | | | Shank Dia | OAL | FL | Diameter | | |
|---|---|---|---|---|---|---|---|---|---|
| Dec in | Fract in | W/L | mm | mm | mm | mm | Dec in | Fract in | W/L |
| 0.1181 | | | 3.00 | 6.00 | 66 | 24 | 0.5315 | | |
| 0.1220 | | | 3.10 | | | | 0.5512 | | |
| 0.1260 | | | 3.20 | | | | 0.5709 | | |
| 0.1299 | | | 3.30 | | | | 0.5906 | | |
| 0.1339 | | | 3.40 | | | | 0.6102 | | |
| 0.1378 | | | 3.50 | | | | 0.6299 | | |
| 0.1417 | | | 3.60 | | | | 0.6496 | | |
| 0.1457 | | | 3.70 | | 66 | 24 | 0.6693 | | |
| 0.1496 | | 25 | 3.80 | | 74 | 30 | 0.6890 | | |
| 0.1535 | | | 3.90 | | | | 0.7087 | | |
| 0.1575 | | | 4.00 | | | | 0.7283 | | |
| 0.1654 | | | 4.20 | | | | 0.7480 | | |
| 0.1772 | | 16 | 4.50 | | | | 0.7677 | | |
| 0.1811 | | | 4.60 | | | 30 | 0.7874 | | |
| 0.1890 | | 12 | 4.80 | | | 36 | | | |
| 0.1969 | | | 5.00 | | | | | | |
| 0.2008 | | | 5.10 | | | | | | |
| 0.2031 | 13/64 | | 5.16 | | | | | | |
| 0.2047 | | | 5.20 | | | | | | |
| 0.2087 | | | 5.30 | | | | | | |
| 0.2126 | | | 5.40 | | | | | | |
| 0.2165 | | | 5.50 | | | | | | |
| 0.2189 | 7/32 | | 5.56 | | | | | | |
| 0.2205 | | | 5.60 | | | | | | |
| 0.2283 | | | 5.80 | | | | | | |
| 0.2362 | | | 6.00 | 6.00 | 74 | 36 | | | |
| 0.2402 | | | 6.10 | 8.00 | 91 | 53 | | | |
| 0.2441 | | | 6.20 | | | | | | |
| 0.2480 | | | 6.30 | | | | | | |
| 0.2500 | 1/4 | E | 6.35 | | | | | | |
| 0.2520 | | | 6.40 | | | | | | |
| 0.2559 | | | 6.50 | | | | | | |
| 0.2598 | | | 6.60 | | | | | | |
| 0.2657 | 17/64 | H | 6.75 | | | | | | |
| 0.2677 | | | 6.80 | | | | | | |
| 0.2717 | | I | 6.90 | | | | | | |
| 0.2756 | | | 7.00 | | | | | | |
| 0.2795 | | | 7.10 | | | | | | |
| 0.2811 | 9/32 | K | 7.14 | | | | | | |
| 0.2835 | | | 7.20 | | | | | | |
| 0.2874 | | | 7.30 | | | | | | |
| 0.2913 | | | 7.40 | | | | | | |
| 0.2953 | | | 7.50 | | | | | | |
| 0.2969 | 19/64 | | 7.54 | | | | | | |
| 0.3071 | | | 7.80 | | | | | | |
| 0.3150 | | | 8.00 | 8.00 | 91 | 53 | | | |
| 0.3189 | | | 8.10 | 10.00 | 103 | 61 | | | |
| 0.3228 | | P | 8.20 | | | | | | |
| 0.3268 | | | 8.30 | | | | | | |
| 0.3307 | | | 8.40 | | | | | | |
| 0.3346 | | | 8.50 | | | | | | |
| 0.3386 | | | 8.60 | | | | | | |
| 0.3425 | | | 8.70 | | | | | | |
| 0.3437 | 11/32 | | 8.73 | | | | | | |
| 0.3543 | | | 9.00 | | | | | | |
| 0.3594 | 23/64 | | 9.13 | | | | | | |
| 0.3622 | | | 9.20 | | | | | | |
| 0.3661 | | | 9.30 | | | | | | |
| 0.3740 | | | 9.50 | | | | | | |
| 0.3748 | 3/8 | | 9.52 | | | | | | |
| 0.3780 | | | 9.60 | | | | | | |
| 0.3819 | | | 9.70 | | | | | | |
| 0.3858 | | W | 9.80 | | | | | | |
| 0.3906 | 25/64 | | 9.92 | | | | | | |
| 0.3937 | | | 10.00 | 10.00 | 103 | 61 | | | |
| 0.4016 | | | 10.20 | 12.00 | 118 | 71 | | | |
| 0.4134 | | | 10.50 | | | | | | |
| 0.4220 | 27/64 | | 10.72 | | | | | | |
| 0.4331 | | | 11.00 | | | | | | |
| 0.4374 | 7/16 | | 11.11 | | | | | | |
| 0.4528 | | | 11.50 | | | | | | |
| 0.4724 | | | 12.00 | 12.00 | 118 | 71 | | | |
| 0.4843 | 31/64 | | 12.30 | 14.00 | 124 | 74 | | | |
| 0.4921 | | | 12.50 | | | | | | |
| 0.5000 | 1/2 | | 12.70 | | | | | | |
| 0.5118 | | | 13.00 | | | | | | |

| | Shank Dia | OAL | FL |
|---|---|---|---|
| mm | mm | mm | mm |
| 13.50 | \| | \| | \| |
| 14.00 | 14.00 | 124 | 74 |
| 14.50 | 16.00 | 133 | 83 |
| 15.00 | \| | \| | \| |
| 15.50 | \| | \| | \| |
| 16.00 | 16.00 | 133 | 83 |
| 16.50 | 18.00 | 143 | 93 |
| 17.00 | \| | \| | \| |
| 17.50 | \| | \| | \| |
| 18.00 | 18.00 | 143 | 93 |
| 18.50 | 20.00 | 153 | 101 |
| 19.00 | \| | \| | \| |
| 19.50 | \| | \| | \| |
| 20.00 | 20.00 | 153 | 101 |

## Series #6069 — For machining cast iron

- Drilling depth ~ 7xD
- Shank to DIN 6535 HA
- Guhring standard
- With internal cooling

| Diameter | | | | Shank Dia | OAL | FL |
|---|---|---|---|---|---|---|
| Dec in | Fract in | W/L | mm | mm | mm | mm |
| 0.1181 | | | 3.00 | 6.00 | 74 | 36 |
| 0.1220 | | | 3.10 | \| | \| | \| |
| 0.1260 | | | 3.20 | \| | \| | \| |
| 0.1299 | | | 3.30 | \| | \| | \| |
| 0.1339 | | | 3.40 | \| | \| | \| |
| 0.1378 | | | 3.50 | \| | \| | \| |
| 0.1417 | | | 3.60 | \| | \| | \| |
| 0.1457 | | | 3.70 | \| | 74 | 36 |
| 0.1496 | | 25 | 3.80 | \| | 97 | 45 |
| 0.1535 | | | 3.90 | \| | \| | \| |
| 0.1575 | | | 4.00 | \| | \| | \| |
| 0.1614 | | | 4.10 | \| | \| | \| |
| 0.1654 | | | 4.20 | \| | \| | \| |
| 0.1693 | | 18 | 4.30 | \| | \| | \| |
| 0.1732 | | | 4.40 | \| | \| | \| |
| 0.1772 | | 16 | 4.50 | \| | \| | \| |
| 0.1850 | | 13 | 4.70 | \| | \| | 45 |
| 0.1890 | | 12 | 4.80 | \| | \| | 57 |
| 0.1929 | | | 4.90 | \| | \| | \| |
| 0.1969 | | | 5.00 | \| | \| | \| |
| 0.2031 | 13/64 | | 5.16 | \| | \| | \| |
| 0.2165 | | | 5.50 | \| | \| | \| |
| 0.2362 | | | 6.00 | 6.00 | 97 | 57 |
| 0.2500 | 1/4 | E | 6.35 | 8.00 | 116 | 76 |
| 0.2559 | | | 6.50 | \| | \| | \| |
| 0.2677 | | | 6.80 | \| | \| | \| |
| 0.2756 | | | 7.00 | \| | \| | \| |
| 0.2811 | 9/32 | K | 7.14 | \| | \| | \| |
| 0.2953 | | | 7.50 | \| | \| | \| |
| 0.3071 | | | 7.80 | \| | \| | \| |
| 0.3126 | 5/16 | | 7.94 | \| | \| | \| |
| 0.3150 | | | 8.00 | 8.00 | 116 | 76 |
| 0.3280 | 21/64 | | 8.33 | 10.00 | 139 | 95 |
| 0.3346 | | | 8.50 | \| | \| | \| |
| 0.3437 | 11/32 | | 8.73 | \| | \| | \| |
| 0.3543 | | | 9.00 | \| | \| | \| |
| 0.3594 | 23/64 | | 9.13 | \| | \| | \| |
| 0.3740 | | | 9.50 | \| | \| | \| |
| 0.3748 | 3/8 | | 9.52 | \| | \| | \| |
| 0.3937 | | | 10.00 | 10.00 | 139 | 95 |
| 0.4016 | | | 10.20 | 12.00 | 163 | 114 |
| 0.4063 | 13/32 | | 10.32 | \| | \| | \| |
| 0.4134 | | | 10.50 | \| | \| | \| |
| 0.4220 | 27/64 | | 10.72 | \| | \| | \| |
| 0.4331 | | | 11.00 | \| | \| | \| |
| 0.4374 | 7/16 | | 11.11 | \| | \| | \| |
| 0.4528 | | | 11.50 | \| | \| | \| |
| 0.4531 | 29/64 | | 11.51 | \| | \| | \| |
| 0.4724 | | | 12.00 | 12.00 | 163 | 114 |
| 0.4843 | 31/64 | | 12.30 | 14.00 | 182 | 133 |
| 0.4921 | | | 12.50 | \| | \| | \| |
| 0.5000 | 1/2 | | 12.70 | \| | \| | \| |
| 0.5118 | | | 13.00 | \| | \| | \| |
| 0.5315 | | | 13.50 | \| | \| | \| |
| 0.5512 | | | 14.00 | 14.00 | 182 | 133 |
| 0.5709 | | | 14.50 | 16.00 | 204 | 152 |
| 0.5906 | | | 15.00 | \| | \| | \| |
| 0.6102 | | | 15.50 | \| | \| | \| |
| 0.6299 | | | 16.00 | 16.00 | 204 | 152 |
| 0.6496 | | | 16.50 | 18.00 | 223 | 171 |
| 0.6693 | | | 17.00 | \| | \| | \| |
| 0.6890 | | | 17.50 | \| | \| | \| |
| 0.7087 | | | 18.00 | 18.00 | 223 | 171 |
| 0.7283 | | | 18.50 | 20.00 | 244 | 190 |
| 0.7480 | | | 19.00 | \| | \| | \| |
| 0.7677 | | | 19.50 | \| | \| | \| |
| 0.7874 | | | 20.00 | 20.00 | 244 | 190 |

## Series #6070 — For machining cast iron

- Drilling depth ~ 10xD
- Shank to DIN 6535 HA
- Guhring standard
- With internal cooling

| Diameter | | | | Shank Dia | OAL | FL |
|---|---|---|---|---|---|---|
| Dec in | Fract in | W/L | mm | mm | mm | mm |
| 0.1181 | | | 3.00 | 6.00 | 91 | 42 |
| 0.1220 | | | 3.10 | \| | \| | \| |
| 0.1260 | | | 3.20 | \| | \| | \| |
| 0.1299 | | | 3.30 | \| | \| | 42 |
| 0.1339 | | | 3.40 | \| | \| | 48 |
| 0.1378 | | | 3.50 | \| | \| | \| |
| 0.1417 | | | 3.60 | \| | \| | \| |
| 0.1457 | | | 3.70 | \| | 91 | 48 |
| 0.1496 | | 25 | 3.80 | \| | 121 | 77 |
| 0.1535 | | | 3.90 | \| | \| | \| |
| 0.1575 | | | 4.00 | \| | \| | \| |
| 0.1614 | | | 4.10 | \| | \| | \| |
| 0.1654 | | | 4.20 | \| | \| | \| |
| 0.1693 | | 18 | 4.30 | \| | \| | \| |
| 0.1732 | | | 4.40 | \| | \| | \| |
| 0.1772 | | 16 | 4.50 | \| | \| | \| |
| 0.1850 | | 13 | 4.70 | \| | \| | 77 |
| 0.1890 | | 12 | 4.80 | \| | \| | 82 |
| 0.1929 | | | 4.90 | \| | \| | \| |
| 0.1969 | | | 5.00 | \| | \| | \| |
| 0.2031 | 13/64 | | 5.16 | \| | \| | \| |
| 0.2165 | | | 5.50 | \| | \| | \| |
| 0.2362 | | | 6.00 | 6.00 | 121 | 82 |
| 0.2500 | 1/4 | E | 6.35 | 8.00 | 146 | 106 |
| 0.2559 | | | 6.50 | \| | \| | \| |
| 0.2677 | | | 6.80 | \| | \| | \| |
| 0.2756 | | | 7.00 | \| | \| | \| |
| 0.2811 | 9/32 | K | 7.14 | \| | \| | \| |
| 0.2953 | | | 7.50 | \| | \| | \| |
| 0.3071 | | | 7.80 | \| | \| | \| |
| 0.3126 | 5/16 | | 7.94 | \| | \| | \| |
| 0.3150 | | | 8.00 | 8.00 | 146 | 106 |
| 0.3280 | 21/64 | | 8.33 | 10.00 | 175 | 130 |
| 0.3346 | | | 8.50 | \| | \| | \| |
| 0.3437 | 11/32 | | 8.73 | \| | \| | \| |
| 0.3543 | | | 9.00 | \| | \| | \| |
| 0.3594 | 23/64 | | 9.13 | \| | \| | \| |
| 0.3740 | | | 9.50 | \| | \| | \| |
| 0.3748 | 3/8 | | 9.52 | \| | \| | \| |
| 0.3937 | | | 10.00 | 10.00 | 175 | 130 |
| 0.4016 | | | 10.20 | 12.00 | 209 | 159 |
| 0.4063 | 13/32 | | 10.32 | \| | \| | \| |
| 0.4134 | | | 10.50 | \| | \| | \| |
| 0.4220 | 27/64 | | 10.72 | \| | \| | \| |
| 0.4331 | | | 11.00 | \| | \| | \| |
| 0.4374 | 7/16 | | 11.11 | \| | \| | \| |
| 0.4528 | | | 11.50 | \| | \| | \| |
| 0.4531 | 29/64 | | 11.51 | \| | \| | \| |
| 0.4724 | | | 12.00 | 12.00 | 209 | 159 |
| 0.4843 | 31/64 | | 12.30 | 14.00 | 233 | 183 |
| 0.4921 | | | 12.50 | \| | \| | \| |
| 0.5000 | 1/2 | | 12.70 | \| | \| | \| |
| 0.5118 | | | 13.00 | \| | \| | \| |
| 0.5315 | | | 13.50 | \| | \| | \| |
| 0.5512 | | | 14.00 | 14.00 | 233 | 183 |
| 0.5709 | | | 14.50 | 16.00 | 260 | 207 |
| 0.5906 | | | 15.00 | \| | \| | \| |
| 0.6102 | | | 15.50 | \| | \| | \| |
| 0.6299 | | | 16.00 | 16.00 | 260 | 207 |
| 0.6496 | | | 16.50 | 18.00 | 284 | 231 |
| 0.6693 | | | 17.00 | \| | \| | \| |
| 0.6890 | | | 17.50 | \| | \| | \| |
| 0.7087 | | | 18.00 | 18.00 | 284 | 231 |
| 0.7283 | | | 18.50 | 20.00 | 308 | 255 |
| 0.7480 | | | 19.00 | \| | \| | \| |
| 0.7677 | | | 19.50 | \| | \| | \| |
| 0.7874 | | | 20.00 | 20.00 | 308 | 255 |

## 120° cone-relief point & "super-tough" carbide grade deliver top performance in aluminum

Designed for accurate, high penetration rate holemaking in aluminum and high silicon-content aluminum, the original RT 150 GG is a soolant-through, straight-flute carbide drill that can achieve reamer-class hole quality (IT7) when drilling from solid. Offered in 4xD, 7xD and 10xD lengths, the original RT 150 GG is now joined by a new negative-helix RT 150 GN version capable of drilling hole depths to 15xD.

**KEY FEATURES**:

- **Self-centering 120° cone-relief point.** The steeper point angle results in a longer cutting edge, which improves the tool's self-centering performance while delivering better hole straightness, especially in short-chipping materials such as aluminum and high silicon-content aluminum alloys.
- **DK 460 UF (K40) carbide.** This ultra-fine grain carbide was developed in-house by Guhring specifically for cutting tool applications and is 50-60% tougher than common carbide grades. In particular, it delivers improved cutting edge strength and stability, preventing premature chipping and material loading. The ultra-fine grain size also allows tools to be given sharper cutting edges. Significantly improved tool life, better holemaking consistency and broader tool application are among the key benefits of DK 460 UF.
- **Rigid, straight-flute design.** This design eliminates the spring effect common with helical flutes and significantly increases tool rigidity. As a result, the RT 150 GG can be fed more aggressively, while delivering hole concentricity and straightness up to 6x better than standard HSS twist drills and up to 2x better than carbide twist drills.
- **Double margin.** Hole quality is further enhanced by the RT 150 GG's double margin effect, which provides minimal deviation from straightness and excellent self-centering performance. This feature enables the RT 150 GG to produce near-burnished hole finish, eliminating the need for secondary operations such as reaming or boring.
- **Negative helix (RT 150 GN – #773).** The negative helix increases the drill's dynamic stability, allowing greater holemaking depths while delivering optimum surface quality and dimensional accuracy.

**Manufacturing specifications**

| | |
|---|---|
| Point grinding: | Cone-relief |
| Point angle: | 120° |
| Web thinning: | G/GN-special |
| Helix angle: | 0° – RT 150 GG<br>Negative – RT 150 GN |
| Web taper: | none |
| Flute form: | special, double margins |
| Tolerance on Ø : | m7 |
| Coolant supply: | IC through the body |

**Series #768** — **For machining aluminum**

- Drilling depth ~ 4xD
- Shank to DIN 6535 HA
- Guhring standard
- With internal cooling

| Diameter | | | | Shank Dia | OAL | FL | Diameter | | |
|---|---|---|---|---|---|---|---|---|---|
| Dec in | Fract in | W/L | mm | mm | mm | mm | Dec in | Fract in | W/L |
| 0.1181 | | | 3.00 | 6.00 | 66 | 24 | 0.3740 | | |
| 0.1220 | | | 3.10 | | | | 0.3748 | 3/8 | |
| 0.1260 | | | 3.20 | | | | 0.3780 | | |
| 0.1299 | | | 3.30 | | | | 0.3819 | | |
| 0.1339 | | | 3.40 | | | | 0.3858 | | W |
| 0.1378 | | | 3.50 | | | | 0.3898 | | |
| 0.1417 | | | 3.60 | | | | 0.3906 | 25/64 | |
| 0.1457 | | | 3.70 | | 66 | 24 | 0.3937 | | |
| 0.1496 | | 25 | 3.80 | | 74 | 30 | 0.4016 | | |
| 0.1535 | | | 3.90 | 3.00 | | | 0.4063 | 13/32 | |
| 0.1575 | | | 4.00 | | | | 0.4134 | | |
| 0.1614 | | | 4.10 | | | | 0.4220 | 27/64 | |
| 0.1654 | | | 4.20 | | | | 0.4331 | | |
| 0.1693 | | 18 | 4.30 | | | | 0.4374 | 7/16 | |
| 0.1732 | | | 4.40 | | | | 0.4528 | | |
| 0.1772 | | 16 | 4.50 | | | | 0.4531 | 29/64 | |
| 0.1811 | | | 4.60 | | | | 0.4689 | 15/32 | |
| 0.1850 | | 13 | 4.70 | | | 30 | 0.4724 | | |
| 0.1890 | | 12 | 4.80 | | | 36 | 0.4843 | 31/64 | |
| 0.1929 | | | 4.90 | | | | 0.4921 | | |
| 0.1969 | | | 5.00 | | | | 0.5000 | 1/2 | |
| 0.2008 | | | 5.10 | | | | 0.5118 | | |
| 0.2031 | 13/64 | | 5.16 | | | | 0.5315 | | |
| 0.2047 | | | 5.20 | | | | 0.5512 | | |
| 0.2087 | | | 5.30 | | | | 0.5709 | | |
| 0.2126 | | | 5.40 | | | | 0.5906 | | |
| 0.2165 | | | 5.50 | | | | 0.6102 | | |
| 0.2189 | 7/32 | | 5.56 | | | | 0.6299 | | |
| 0.2205 | | | 5.60 | | | | 0.6496 | | |
| 0.2244 | | | 5.70 | | | | 0.6693 | | |
| 0.2283 | | | 5.80 | | | | 0.6890 | | |
| 0.2323 | | | 5.90 | | | | 0.7087 | | |
| 0.2343 | 15/64 | | 5.95 | | | | 0.7283 | | |
| 0.2362 | | | 6.00 | 6.00 | 74 | 36 | 0.7480 | | |
| 0.2402 | | | 6.10 | 8.00 | 91 | 53 | 0.7677 | | |
| 0.2441 | | | 6.20 | | | | 0.7874 | | |
| 0.2480 | | | 6.30 | | | | | | |
| 0.2500 | 1/4 | E | 6.35 | | | | | | |
| 0.2520 | | | 6.40 | | | | | | |
| 0.2559 | | | 6.50 | | | | | | |
| 0.2598 | | | 6.60 | | | | | | |
| 0.2638 | | | 6.70 | | | | | | |
| 0.2657 | 17/64 | H | 6.75 | | | | | | |
| 0.2677 | | | 6.80 | | | | | | |
| 0.2717 | | I | 6.90 | | | | | | |
| 0.2756 | | | 7.00 | | | | | | |
| 0.2795 | | | 7.10 | | | | | | |
| 0.2811 | 9/32 | K | 7.14 | | | | | | |
| 0.2835 | | | 7.20 | | | | | | |
| 0.2874 | | | 7.30 | | | | | | |
| 0.2913 | | | 7.40 | | | | | | |
| 0.2953 | | | 7.50 | | | | | | |
| 0.2969 | 19/64 | | 7.54 | | | | | | |
| 0.2992 | | | 7.60 | | | | | | |
| 0.3031 | | | 7.70 | | | | | | |
| 0.3071 | | | 7.80 | | | | | | |
| 0.3110 | | | 7.90 | | | | | | |
| 0.3126 | 5/16 | | 7.94 | | | | | | |
| 0.3150 | | | 8.00 | 8.00 | 91 | 53 | | | |
| 0.3189 | | | 8.10 | 10.00 | 103 | 61 | | | |
| 0.3228 | | P | 8.20 | | | | | | |
| 0.3268 | | | 8.30 | | | | | | |
| 0.3280 | 21/64 | | 8.33 | | | | | | |
| 0.3307 | | | 8.40 | | | | | | |
| 0.3346 | | | 8.50 | | | | | | |
| 0.3386 | | | 8.60 | | | | | | |
| 0.3425 | | | 8.70 | | | | | | |
| 0.3437 | 11/32 | | 8.73 | | | | | | |
| 0.3465 | | | 8.80 | | | | | | |
| 0.3504 | | | 8.90 | | | | | | |
| 0.3543 | | | 9.00 | | | | | | |
| 0.3583 | | | 9.10 | | | | | | |
| 0.3594 | 23/64 | | 9.13 | | | | | | |
| 0.3622 | | | 9.20 | | | | | | |
| 0.3661 | | | 9.30 | | | | | | |
| 0.3701 | | | 9.40 | | | | | | |

| | Shank Dia | OAL | FL |
|---|---|---|---|
| mm | mm | mm | mm |
| 9.50 | 10.00 | 103 | 61 |
| 9.52 | | | |
| 9.60 | | | |
| 9.70 | | | |
| 9.80 | | | |
| 9.90 | | | |
| 9.92 | | | |
| 10.00 | 10.00 | 103 | 61 |
| 10.20 | 12.00 | 118 | 71 |
| 10.32 | | | |
| 10.50 | | | |
| 10.72 | | | |
| 11.00 | | | |
| 11.11 | | | |
| 11.50 | | | |
| 11.51 | | | |
| 11.91 | | | |
| 12.00 | 12.00 | 118 | 71 |
| 12.30 | 14.00 | 124 | 74 |
| 12.50 | | | |
| 12.70 | | | |
| 13.00 | | | |
| 13.50 | | | |
| 14.00 | 14.00 | 124 | 74 |
| 14.50 | 16.00 | 133 | 83 |
| 15.00 | | | |
| 15.50 | | | |
| 16.00 | 16.00 | 133 | 83 |
| 16.50 | 18.00 | 143 | 93 |
| 17.00 | | | |
| 17.50 | | | |
| 18.00 | 18.00 | 143 | 93 |
| 18.50 | 20.00 | 153 | 101 |
| 19.00 | | | |
| 19.50 | | | |
| 20.00 | 20.00 | 153 | 101 |

## Series #769 — For machining aluminum

- Drilling depth ~ 7xD
- Shank to DIN 6535 HA
- Guhring standard
- With internal cooling

| Diameter | | | | Shank Dia | OAL | FL |
|---|---|---|---|---|---|---|
| Dec in | Fract in | W/L | mm | mm | mm | mm |
| 0.1181 | | | 3.00 | 6.00 | 74 | 36 |
| 0.1220 | | | 3.10 | | | |
| 0.1260 | | | 3.20 | | | |
| 0.1299 | | | 3.30 | | | |
| 0.1339 | | | 3.40 | | | |
| 0.1378 | | | 3.50 | | | |
| 0.1417 | | | 3.60 | | | |
| 0.1457 | | | 3.70 | | 74 | 36 |
| 0.1496 | | 25 | 3.80 | | 97 | 45 |
| 0.1535 | | | 3.90 | | | |
| 0.1575 | | | 4.00 | | | |
| 0.1614 | | | 4.10 | | | |
| 0.1654 | | | 4.20 | | | |
| 0.1693 | | 18 | 4.30 | | | |
| 0.1732 | | | 4.40 | | | |
| 0.1772 | | 16 | 4.50 | | | |
| 0.1850 | | 13 | 4.70 | | | 45 |
| 0.1890 | | 12 | 4.80 | | | 57 |
| 0.1929 | | | 4.90 | | | |
| 0.1969 | | | 5.00 | | | |
| 0.2031 | 13/64 | | 5.16 | | | |
| 0.2165 | | | 5.50 | | | |
| 0.2362 | | | 6.00 | 6.00 | 97 | 57 |
| 0.2500 | 1/4 | E | 6.35 | 8.00 | 116 | 76 |
| 0.2559 | | | 6.50 | | | |
| 0.2677 | | | 6.80 | | | |
| 0.2756 | | | 7.00 | | | |
| 0.2811 | 9/32 | K | 7.14 | | | |
| 0.2953 | | | 7.50 | | | |
| 0.3071 | | | 7.80 | | | |
| 0.3126 | 5/16 | | 7.94 | | | |
| 0.3150 | | | 8.00 | 8.00 | 116 | 76 |
| 0.3280 | 21/64 | | 8.33 | 10.00 | 139 | 95 |
| 0.3346 | | | 8.50 | | | |
| 0.3437 | 11/32 | | 8.73 | | | |
| 0.3543 | | | 9.00 | | | |
| 0.3594 | 23/64 | | 9.13 | | | |
| 0.3740 | | | 9.50 | | | |
| 0.3748 | 3/8 | | 9.52 | | | |
| 0.3937 | | | 10.00 | 10.00 | 139 | 95 |
| 0.4016 | | | 10.20 | 12.00 | 163 | 114 |
| 0.4063 | 13/32 | | 10.32 | | | |
| 0.4134 | | | 10.50 | | | |
| 0.4220 | 27/64 | | 10.72 | | | |
| 0.4331 | | | 11.00 | | | |
| 0.4374 | 7/16 | | 11.11 | | | |
| 0.4528 | | | 11.50 | | | |
| 0.4531 | 29/64 | | 11.51 | | | |
| 0.4724 | | | 12.00 | 12.00 | 163 | 114 |
| 0.4843 | 31/64 | | 12.30 | 14.00 | 182 | 133 |
| 0.4921 | | | 12.50 | | | |
| 0.5000 | 1/2 | | 12.70 | | | |
| 0.5118 | | | 13.00 | | | |
| 0.5315 | | | 13.50 | | | |
| 0.5512 | | | 14.00 | 14.00 | 182 | 133 |
| 0.5709 | | | 14.50 | 16.00 | 204 | 152 |
| 0.5906 | | | 15.00 | | | |
| 0.6102 | | | 15.50 | | | |
| 0.6299 | | | 16.00 | 16.00 | 204 | 152 |
| 0.6496 | | | 16.50 | 18.00 | 223 | 171 |
| 0.6693 | | | 17.00 | | | |
| 0.6890 | | | 17.50 | | | |
| 0.7087 | | | 18.00 | 18.00 | 223 | 171 |
| 0.7283 | | | 18.50 | 20.00 | 244 | 190 |
| 0.7480 | | | 19.00 | | | |
| 0.7677 | | | 19.50 | | | |
| 0.7874 | | | 20.00 | 20.00 | 244 | 190 |

## Series #5513 — For machining aluminum

- Drilling depth ~ 10xD
- Shank to DIN 6535 HA
- Guhring standard
- With internal cooling

| Diameter | | | | Shank Dia | OAL | FL |
|---|---|---|---|---|---|---|
| Dec in | Fract in | W/L | mm | mm | mm | mm |
| 0.1181 | | | 3.00 | 6.00 | 91 | 42 |
| 0.1248 | 1/8 | | 3.17 | | | |
| 0.1280 | | | 3.25 | | | |
| 0.1299 | | | 3.30 | | | 42 |
| 0.1378 | | | 3.50 | | | 48 |
| 0.1406 | 9/64 | 28 | 3.57 | | 91 | 48 |
| 0.1496 | | 25 | 3.80 | | 121 | 77 |
| 0.1563 | 5/32 | | 3.97 | | | |
| 0.1575 | | | 4.00 | | | |
| 0.1654 | | | 4.20 | | | |
| 0.1772 | | 16 | 4.50 | | | 77 |
| 0.1969 | | | 5.00 | | | 82 |
| 0.2165 | | | 5.50 | | | |
| 0.2362 | | | 6.00 | 6.00 | 121 | 82 |
| 0.2500 | 1/4 | E | 6.35 | 8.00 | 146 | 106 |
| 0.2559 | | | 6.50 | | | |
| 0.2677 | | | 6.80 | | | |
| 0.2756 | | | 7.00 | | | |
| 0.2953 | | | 7.50 | | | |
| 0.3071 | | | 7.80 | | | |
| 0.3150 | | | 8.00 | 8.00 | 146 | 106 |
| 0.3346 | | | 8.50 | 10.00 | 175 | 130 |
| 0.3543 | | | 9.00 | | | |
| 0.3740 | | | 9.50 | | | |
| 0.3748 | 3/8 | | 9.52 | | | |
| 0.3937 | | | 10.00 | 10.00 | 175 | 130 |
| 0.4016 | | | 10.20 | 12.00 | 209 | 159 |
| 0.4134 | | | 10.50 | | | |
| 0.4331 | | | 11.00 | | | |
| 0.4528 | | | 11.50 | | | |
| 0.4724 | | | 12.00 | 12.00 | 209 | 159 |
| 0.4921 | | | 12.50 | 14.00 | 233 | 183 |
| 0.5000 | 1/2 | | 12.70 | | | |
| 0.5118 | | | 13.00 | | | |
| 0.5315 | | | 13.50 | | | |
| 0.5512 | | | 14.00 | 14.00 | 233 | 183 |
| 0.5709 | | | 14.50 | 16.00 | 260 | 207 |
| 0.5906 | | | 15.00 | | | |
| 0.6102 | | | 15.50 | | | |
| 0.6299 | | | 16.00 | 16.00 | 260 | 207 |

## Series #773 — For machining aluminum

- Drilling depth ~ 15xD
- Shank to DIN 6535 HA
- Negative helix
- With internal cooling

| Diameter | | | | Shank Dia | OAL | FL |
|---|---|---|---|---|---|---|
| Dec in | Fract in | W/L | mm | mm | mm | mm |
| 0.1969 | | | 5.00 | 6.00 | 145 | 105 |
| 0.2362 | | | 6.00 | 6.00 | 145 | 105 |
| 0.3150 | | | 8.00 | 8.00 | 180 | 137 |
| 0.3543 | | | 9.00 | 10.00 | 217 | 170 |
| 0.3937 | | | 10.00 | 10.00 | 217 | 170 |
| 0.4331 | | | 11.00 | 12.00 | 258 | 205 |
| 0.4724 | | | 12.00 | 12.00 | 258 | 205 |
| 0.5512 | | | 14.00 | 14.00 | 290 | 236 |

# Application recommendations

**Prerequisites for the application of RT 150 GG/GN drills:**

- Powerful machines
- No play in spindle bearings
- Alignment-accurate toolholders
  *(Hydraulic or shrinkfit chucks recommended)*
- Max. concentricity error of clamped tools 0.02 mm
- High coolant pressure

**Safety notice – Pilot Holes**

Pilot holes are absolutely necessary when drilling >7xD. If the tools are not properly supported, the centrifugal forces can break these long drills before they reach the workpiece surface. Operating speed should be kept below 6,000 RPM until the tool is securely inside the pilot hole.

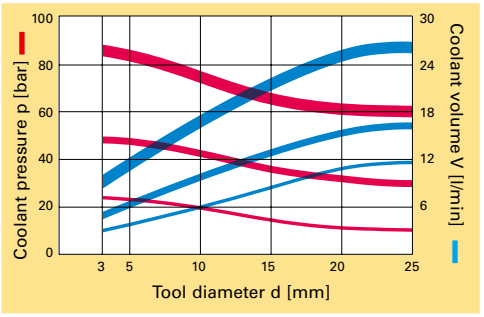
Short, rigid drills can be used to machine a pilot hole 0.01-0.02 mm larger than the diameter of the RT 150 GG/GN drill. Pilot hole depth should be at least 1.5xD.

Alternatively, the drills themselves can be used to produce their own pilot holes. Cutting speed and feed must be reduced 30-40% until the pilot depth is achieved.

| 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 | 0.315 | 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 |

Tool material
Carbide type
Carbide grade
Type
Surface finish
Internal cooling
Shank design
**Guhring no.**/standard
Ø-range mm

bright ○
ultra fine grain UF
with internal cooling ■




*optimum*
*good*
*minimum requirement*

soluble oil ●
neat oil ●
air ○

**CONVERSIONS**

**SFM** = m/min. x 3.28

**IPR** = mm/rev ÷ 25.4

**PSI** = bar x 14.50

**Gal** = liter ÷ 3.79

| Material group | Material examples, **new designation** (old designation in brackets)<br>*Figures in bold = material no. to DIN EN* | Tensile Strength N/mm² | Hardness | Coolant |
|---|---|---|---|---|
| Common structural steels | **1.0035** S185(St33),**1.0486** P275N(StE285),**1.0345** P235GH(H1),**1.0425** P265GH(H2) | ≤500 | | ● |
| | **1.0050** E295 (St50-2), **1.0070** E360 (St70-2), **1.8937** P500NH (WStE500) | >500-850 | | ● |
| Free-cutting steels | **1.0718** 11SMnPb30 (9SMnPb28), **1.0736** 11SMn37 (9SMn36) | ≤850 | | ● |
| | **1.0727** 46S20 (45S20), **1.0728** (60S20), **1.0757** 46SPb20 (45SPb20) | 850-1000 | | ● |
| Unalloyed heat-treatable steels | **1.0402** C22, **1.1178** C30E (Ck30) | ≤ 700 | | ● |
| | **1.0503** C45, **1.1191** C45E (Ck45) | 700-850 | | ● |
| | **1.0601** C60, **1.1221** C60E (Ck60) | 850-1000 | | ● |
| Alloyed heat-treatable steels | **1.5131** 50MnSi4, **1.7003** 38Cr2, **1.7030** 28Cr4 | 850-1000 | | ● |
| | **1.5710** 36NiCr6, **1.7035** 41Cr4, **1.7225** 42CrMo4 | 1000-1200 | | ● |
| Unalloyed case hardened steels | **1.0301** (C10), **1.1121** C10E (Ck10) | ≤750 | | ● |
| Alloyed case hardened steels | **1.7043** 38Cr4 | 850-1000 | | ● |
| | **1.5752** 15NiCr13 (15NiCr13), **1.7131** 16MnCr5, **1.7264** 20CrMo5 | 1000-1200 | | ● |
| Nitriding steels | **1.8504** 34CrAl6 | ≥850-1000 | | ● |
| | **1.8519** 31CrMoV9, **1.8550** 34CrAlNi7 | 1000-1200 | | ● |
| Tool steels | **1.1750** C75W, **1.2067** 102Cr6, **1.2307** 29CrMoV9 | ≤850 | | ● |
| | **1.2080** X210Cr12, **1.2083** X42Cr13, **1.2419** 105WCr6, **1.2767** X45NiCrMo4 | 850-1000 | | ● |
| High speed steels | **1.3243** S 6-5-2-5, **1.3343** S 6-5-2, **1.3344** S 6-5-3 | ≥650-1000 | | ● |
| Spring steels | **1.5026** 55Si7, **1.7176** 55Cr3, **1.8159** 51CrV4 (51CrV4) | | ≤330 HB | ● |
| Stainless steels, sulphured | **1.4005** X12CrS13, **1.4104** X14CrMoS17, **1.4105** X6CrMoS17, **1.4305** X8CrNiS18-9 | ≤850 | | ● |
| austenitic | **1.4301** X5CrNi18-10, **1.4541** X6CrNiTi18-10, **1.4571** X6CrNiMoTi 17-12-2 | ≤850 | | ● |
| martensitic | **1.4057** X20CrNi 17 2 (X17CrNi16-2), **1.4122** X39CrMo17-1, **1.4521** X2CrMoTi18-2 | ≤850 | | ● |
| Hardened steels | – | | ≤40-48 HRC | ● |
| | | | >48-60 HRC | ● |
| Special alloys | Nimonic, Inconel, Monel, Hastelloy | ≤1200 | | ● |
| 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) | | <300 HB | ○ ○ |
| Spheroidal graphite and | **0.7050** EN-GJS-500-7(GGG50), **0.8035** EN-GJMW-350-4(GTW35) | | ≤240 HB | ● |
| malleable cast iron | **0.7070** EN-GJS-700-2(GGG70), **0.8170** EN-GJMB-700-2(GTS70) | | <300 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 | 850-1200 | | ● |
| Aluminum 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 | ≤450 | | ● |
| Al-cast iron ≤ 10 % Si | **3.2131** G-AlSi5Cu1, **3.2153** G-AlSi7Cu3, **3.2573** G-AlSi9 | ≤600 | | ● |
| > 10 % Si | **3.2581** G-AlSi12, **3.2583** G-AlSi12Cu, **G**-AlSi12CuNiMg | ≤600 | | ● |
| Magnesium-alloys | **3.5200** MgMn2, **3.5812.05** G-MgAl8Zn1, **3.5612.05** G-MgAl6Zn1 | ≤450 | | ○ |
| Copper, low-alloyed | **2.0070** SE-Cu, **2.1020** CuSn6, **2.1096** G-CuSn5ZnPb | ≤400 | | ● |
| 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 | >600-850 | | ● |
| Bronze, long-chipping | **2.0916** CuAl5, **2.0960** CuAl9Mn, **2.1050** CuSn10 | ≤850 | | ● |
| | **2.0980** CuAl11Ni, **2.1247** CuBe2 | 850-1000 | | ● |
| Duroplastics | Bakelit, Resopal, Pertinax, Moltopren | | – | ○ |
| Thermoplastics | Plexiglass, Hostalen, Novodur, Makralon | | – | ○ ○ |
| Kevlar | Kevlar | | – | ○ |
| Glass/carbon fiber | GFK/CFK | | – | ○ |

## 4xD

| Solid carbide | |
|---|---|
| DK 460 UF | DK 255 F |
| K40 | K20 |
| RT 150 G**G** | |
| ○ | |
| ■ | |
| HA | HA |
| **768** | **6068** |
| 3-24 | 3-20 |

| $v_c$ m/min | Feed column no. | |
|---|---|---|
| *120* | 7 | **7** |
| *100* | 7 | **7** |
| *90* | 7 | **7** |
| *80* | 7 | **7** |
| *40* | 2 | **2** |
| *410* | **9** | 7 |
| *410* | **9** | 7 |
| *380* | **9** | 7 |
| *330* | **9** | 7 |
| *280* | 9 | 9 |
| *110* | 6 | 6 |
| *80* | 5 | 5 |

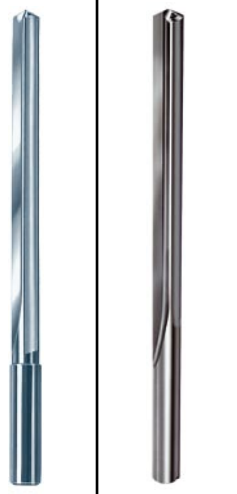
## 7xD

| Solid carbide | |
|---|---|
| DK 460 UF | DK 255 F |
| K40 | K20 |
| RT 150 G**G** | |
| ○ | |
| ■ | |
| HA | HA |
| **769** | **6069** |
| 3-24 | 3-20 |

| $v_c$ m/min | Feed column no. | |
|---|---|---|
| *120* | 6 | **7** |
| *100* | 6 | **7** |
| *90* | 6 | **7** |
| *80* | 6 | **7** |
| *40* | 2 | **2** |
| *410* | 8 | 7 |
| *410* | 8 | 7 |
| *380* | **8** | 7 |
| *330* | **8** | 7 |
| *280* | 7 | 7 |
| *110* | 6 | 6 |
| *80* | 5 | 5 |

## 10xD

| Solid carbide | |
|---|---|
| DK 460 UF | DK 255 F |
| K40 | K20 |
| RT 150 G**G** | |
| ○ | |
| ■ | |
| HA | HA |
| **5513** | **6070** |
| 3-16 | 3-20 |



| $v_c$ m/min | Feed column no. | |
|---|---|---|
| *120* | 6 | **6** |
| *100* | 6 | **6** |
| *90* | 6 | **6** |
| *80* | 6 | **6** |
| *40* | 1 | **1** |
| *410* | 8 | 6 |
| *410* | 8 | 6 |
| *380* | **8** | 6 |
| *330* | **8** | 6 |
| *280* | 7 | 7 |
| *110* | 6 | 6 |
| *80* | 5 | 5 |

## 15xD

| Solid carbide | |
|---|---|
| DK 460 UF | |
| K40 | |
| RT 150 G**N** | |
| ○ | |
| ■ | |
| HA | |
| **773** | |
| 5-14 | |


| $v_c$ m/min | Feed column no. |
|---|---|
| *120* | **5** |
| *100* | **5** |
| *90* | **5** |
| *80* | **5** |
| *40* | 1 |
| *410* | 7 |
| *410* | 7 |
| *380* | **7** |
| *330* | **7** |
| *280* | 6 |
| *110* | 5 |
| *80* | 4 |

Tools with **bold** feed column nos. are preferred choice.

# GUHRING

**Guhring, Inc.**
P.O. Box 643, Brookfield, WI 53008-0643

**Shipping Address**
1445 Commerce Avenue
Brookfield, WI 53045
Tel (262) 784-6730 (800) 776-6170
Fax (262) 784-9096

**West Coast Distribution Center**
16291 Gothard Street
Huntington Beach, CA 92647
Tel (714) 841-3582 (800) 877-7202
Fax (714) 841-3592

**Guhring Corporation**
20 Steckle Place, Unit #14
Kitchener, ON N2E 2C3
Tel (519) 748-9664 (800) 877-7202
Fax (519) 748-2954

## Our product range:

### 1. *Drilling Tools*
***in High Speed Steel and Carbide***

Twist drills
Ratio drills
Micro-precision drills
Oil feed drills
Subland drills
Center drills
Core drills
Gun drills
NC spot drills

### 2. *Thread Cutting Tools*
***in High Speed Steel and Carbide***

Hand taps
Machine taps and fluteless taps
Oil feed taps and oil feed fluteless taps
Thread milling cutters
Dies

### 3. *Milling Cutters*
***in High Speed Steel and Carbide***

Ratio end mills
Slot drills
End mills
Radius profile cutters
Hard profile cutters
Diesinking cutters

### 4. *Reaming Tools*
***in High Speed Steel and Carbide***

HSS and HSS-E reamers
Carbide reamers
Taper pin reamers
Hand reamers

### 5. *Countersinking Tools*
***in High Speed Steel and Carbide***

Countersinks, counterbores and spot facers
Short counterbores
Back spot facers

### 6. *Cutting Tools*
***in ultra-hard materials***

Cermet and ceramic tools
PCD- and PCB-tipped tools

### 7. *Coated Tools*

A-tools, TiAlN coated
C-tools, TiCN coated
F-tools, FIREX® coated
S-tools, TiN coated
M-tools, MolyGlide® coated
Super A™ (AlTiN) coated

### 8. *Modular Tooling Systems*

***Tooling system GM 300***
for rotary and stationary tools, offering a large combination of toolholding possibilities

***Flexible tooling system GE 100***
a tooling system for the combined machining operations facing, chamfering, boring, centering etc.

***Cartridge tooling system DP 200***
with indexable inserts for roughing and finishing operations in complex workpieces

### 9. *Special Tools*
to sketch or drawing, the more complex, the better

### 10. *Carbides*
for precision cutting tools, for metal forming and punching tools

### 11. *Tungsten Carbide Forming Tools*
***for the production of nuts and bolts***

Cold forming tools
Heading die inserts
Punching pins

### 12. *HSC Motor Spindles, Hydro expansion chucks, Shrinkfit chucks and systems*

### 13. *Tool Restoration Service*
Regrinding, recoating, tool management

© Guhring, Inc. 2006 FORM 01-6068 (5/06)