

**Garant**

**GARANT Master Steel MICRO solid carbide drill, plain shank DIN 6535 HA 8×D, AlCrN, Ø DC m7: 1,35 mm**


**Order data**

|              |               |
|--------------|---------------|
| Order number | 121224 1,35   |
| GTIN         | 4062406580261 |
| Item class   | 10F           |

**Description**
**Version:**

**High-performance micro-drill** for universal material use, focussing on steel processing. Maximum process reliability due to **exactly matched tools within the overall system** and **expanded guide chamfer**. Drilling of very small diameters down to the maximum depth after creating a pilot hole. **Optimum compromise between core diameter and flute size for optimum chip evacuation** – even with long-chipping materials. The **increased metal removal rates and longer tool life** ensure an economical drilling process, even with very small hole diameters combined with a large L/D ratio.

**Note:**

For process reliability when using micro-drills from 8×D, a **pilot hole of at least 4×D** is required using the micro-pilot drill 121223. For vertical machining and flat workpiece surfaces, a pilot hole can be dispensed with from  $D_c = \varnothing 1 \text{ mm}$  up to a length of 12×D. Please always ensure that the **pilot hole is free from chips** before using the subsequent drilling tool. We recommend setting a 90° counterbore with a suitable NC spotting drill after the pilot hole has been completed. For **through holes**, reduce the feed rate of the tool by 50% before exiting the hole. Long-chipping materials may require **chips to be evacuated** in steps of 3×D each by moving the drill back slightly at pilot hole depth. Please make sure that you use a suitable **tool clamping device** (shrink-fit chuck, hydraulic clamping chuck) with a radial run-out of less than 0.003 mm, a sufficiently high **coolant pressure** (at least 30 bar), as well as sufficiently fine **filtration** of the cooling medium ( $D_c < \varnothing 2 \text{ mm}$  with filter  $\leq 0.010 \text{ mm}$ ;  $D_c < \varnothing 3 \text{ mm}$  filter  $\leq 0.020 \text{ mm}$ ). The specified L/D ratio gives the **minimum achievable depth of hole** with the respective micro-drill. Flute length  $L_c = L_2 + 1.5 \times D_c$ .

Standard: Manufacturer's standard

Tolerance nominal Ø: h6

Number of cutting edges Z: 2

Tolerance nominal Ø: h6

recommended maximum drilling depth  $L_2$ : 11.9 mm

Overall length L: 47 mm

Shank Ø D<sub>s</sub>: 3 mm

Feed f in steel < 1100 N/mm<sup>2</sup>: 0.045 mm/rev.

Feed f in stainless steel < 900 N/mm<sup>2</sup>: 0.024 mm/rev.

## Technical description

|                                                   |                         |
|---------------------------------------------------|-------------------------|
| Overall length L                                  | 47 mm                   |
| Tolerance nominal Ø                               | h6                      |
| Number of cutting edges Z                         | 2                       |
| Shank Ø D <sub>s</sub>                            | 3 mm                    |
| Feed f in stainless steel < 900 N/mm <sup>2</sup> | 0.024 mm/rev.           |
| Nominal Ø D <sub>c</sub>                          | 1.35 mm                 |
| recommended maximum drilling depth L <sub>2</sub> | 11.9 mm                 |
| Feed f in steel < 1100 N/mm <sup>2</sup>          | 0.045 mm/rev.           |
| Standard                                          | Manufacturer's standard |
| Flute length L <sub>c</sub>                       | 14 mm                   |
| Series                                            | GARANT Master Steel     |
| Coating                                           | AlCrN                   |
| Tool material                                     | Solid carbide           |
| Drill depth up to                                 | 8×D                     |
| Point angle                                       | 128 degrees             |
| Shank                                             | Parallel shank to h6    |
| Through-coolant                                   | yes, with 25 bar        |
| Machining strategy                                | HPC                     |
| Pilot drill required                              | yes, pilot drill        |
| Semi-Standard                                     | yes                     |
| Colour ring                                       | green                   |
| Type of product                                   | Jobber drill            |

