

## Garant

### GARANT Master Steel MICRO solid carbide drill, plain shank DIN 6535 HA 8xD, AlCrN, Ø DC m7: 1,15 mm



## Order data

Order number	121224 1,15
GTIN	4062406580223
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 8xD, a **pilot hole of at least 4xD** is required using the micro-pilot drill 121223. For vertical machining and flat workpiece surfaces, a pilot hole can be dispensed with from  $D_c = \varnothing 1$  mm up to a length of 12xD. 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 3xD 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 ( $D_c < \varnothing 2$  mm with filter  $\leq 0.010$  mm;  $D_c < \varnothing 3$  mm filter  $\leq 0.020$  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  $\varnothing$ : h6

Number of cutting edges Z: 2

Tolerance nominal  $\varnothing$ : h6

recommended maximum drilling depth  $L_2$ : 10.2 mm

Overall length L: 45 mm

Shank  $\varnothing D_s$ : 3 mm

Feed f in steel < 1100 N/mm<sup>2</sup>: 0.034 mm/rev.

Feed f in stainless steel < 900 N/mm<sup>2</sup>: 0.018 mm/rev.

## Technical description

Standard	Manufacturer's standard
Shank $\varnothing D_s$	3 mm
Nominal $\varnothing D_c$	1.15 mm
Feed f in steel < 1100 N/mm <sup>2</sup>	0.034 mm/rev.
recommended maximum drilling depth L <sub>2</sub>	10.2 mm
Flute length L <sub>c</sub>	12 mm
Overall length L	45 mm
Tolerance nominal $\varnothing$	h6
Number of cutting edges Z	2
Feed f in stainless steel < 900 N/mm <sup>2</sup>	0.018 mm/rev.
Series	GARANT Master Steel
Coating	AlCrN
Tool material	Solid carbide
Drill depth up to	8xD
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

