

## Garant

### GARANT Master Steel MICRO solid carbide pilot drill, plain shank DIN 6535 HA 5xD, AlCrN, Ø DC: 1,1 mm



#### Order data

Order number	121223 1,1
GTIN	4062406579869
Item class	10F

#### Description

##### Version:

**High-performance micro-drill** for general-purpose use on material, 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 reliable use of the 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  $D_c = \varnothing 1 \text{ mm}$  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 ( $D_c < \varnothing 2 \text{ mm}$  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: m6

Number of cutting edges Z: 2

Tolerance nominal Ø: m6

recommended maximum drilling depth  $L_2$ : 6 mm

Overall length L: 41 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

Nominal $\varnothing D_c$	1.1 mm
Flute length $L_c$	7.7 mm
recommended maximum drilling depth $L_2$	6 mm
Feed f in steel < 1100 N/mm <sup>2</sup>	0.034 mm/rev.
Overall length L	41 mm
Number of cutting edges Z	2
Shank $\varnothing D_s$	3 mm
Tolerance nominal $\varnothing$	m6
Standard	Manufacturer's standard
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	5×D
Point angle	135 degrees
Shank	Parallel shank to h6
Through-coolant	yes, with 40 bar
Machining strategy	HPC
Semi-Standard	yes
Colour ring	green
Type of product	Jobber drill