# Garant

# GARANT Master Steel solid carbide high-performance reamer HPC through hole, TiAIN, Nominal Ø DC: 13mm



# Order data

| Order number | 164420 13     |
|--------------|---------------|
| GTIN         | 4062406284299 |
| Item class   | 10P           |

## Description

#### Version:

The latest generation of **universal** HPC reamers. Extra-short teeth for increased cutting performance values. Optimised cooling strategy with radially arranged coolant outlets aligned directly to the teeth. **For uncompromising applications in steel and stainless steel.** Reliable machining of high-tensile steels **up to 60 HRC. Version suitable for NC** with straight shank Ø for standard arbors especially in **hydraulic chucks** or **high precision collet chucks.** Very high concentricity and process reliability due to unequal spacing.

#### **Tolerance specifications:**

**Configurable:** Reamers finish ground to match your specification.

H7: Version for H7 bore tolerance.

0/0.005 mm: Manufacturing or cutting tolerance of nominal Ø D<sub>c</sub>.

#### **Application:**

Special version for through holes.

## **Technical description**

| Nominal Ø $D_c$                                   | 13 mm            |  |  |
|---|------------------|--|--|
| Flute length L <sub>c</sub>                       | 15 mm            |  |  |
| Ø range   | 12.201 - 13.2 mm |  |  |
| Tolerance   | Configurable     |  |  |
| Shank Ø D <sub>s</sub>                            | 14 mm            |  |  |
| Overhang L <sub>1</sub>                           | 85 mm            |  |  |
| Feed f in stainless steel < 900 N/mm <sup>2</sup> | 0.5 mm/rev.      |  |  |

| Series                                   | Master Steel            |  |  |
|--|-------------------------|--|--|
| Number of cutting edges Z                | 6                       |  |  |
| Overall length L                         | 130 mm                  |  |  |
| Feed f in steel < 1100 N/mm <sup>2</sup> | 1.7 mm/rev.             |  |  |
| Reaming oversize in diameter             | 0.2 mm                  |  |  |
| Coating                                  | TiAIN                   |  |  |
| Tool material                            | Solid carbide           |  |  |
| Standard                                 | Manufacturer's standard |  |  |
| Through-coolant                          | yes, with 25 bar        |  |  |
| Shank                                    | DIN 6535 HA with h6     |  |  |
| Machining strategy                       | HPC                     |  |  |
| Application for type of drilling         | for through holes       |  |  |
| Colour ring                              | green                   |  |  |
| Type of product                          | Phillips bit            |  |  |

# User data

|                                | Suitability                               | V <sub>c</sub> | ISO code |
|--------------------------------|---|----------------|----------|
| Steel < 500 N/mm <sup>2</sup>  | suitable only under restricted conditions | 180 m/min      | Ρ        |
| Steel < 750 N/mm <sup>2</sup>  | suitable                                  | 180 m/min      | Р        |
| Steel < 900 N/mm <sup>2</sup>  | suitable                                  | 180 m/min      | Р        |
| Steel < 1100 N/mm <sup>2</sup> | suitable                                  | 150 m/min      | Р        |
| Steel < 1400 N/mm <sup>2</sup> | Suitable                                  | 100 m/min      | Р        |
| Steel < 55 HRC                 | Suitable                                  | 12 m/min       | Н        |
| Steel < 60 HRC                 | Suitable only under restricted conditions | 8 m/min        | н        |
| INOX < 900 N/mm <sup>2</sup>   | suitable                                  | 50 m/min       | М        |
| INOX > 900 N/mm <sup>2</sup>   | suitable                                  | 30 m/min       | М        |
| GG                             | suitable                                  | 110 m/min      | К        |

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| GGG         | suitable | 90 m/min | К |
|-------------|----------|----------|---|
| Uni         | suitable |          |   |
| wet maximum | suitable |          |   |
| wet minimum | suitable |          |   |