

**Garant****GARANT Master TM solid carbide single profile thread mill 2×D, AlTiN, M: M2****Order data**

|              |               |
|--------------|---------------|
| Order number | 139620 M2     |
| GTIN         | 4067263139829 |
| Item class   | 11D           |

**Description****Version:**

Solid carbide thread milling cutters **with irregular cutting edge spacing and an increased number of cutting edges**. Due to the **irregular cutting edge spacing** they achieve very **smooth cutting action** and **long tool life**. **Newly developed universal geometry** and **high-performance coating** for use across a wide spectrum of materials.

- **Significantly reduced vibration due to irregular cutting edge spacing.**
- **Increased number of cutting edges.**
- **Latest-generation AlTiN-based HIPIMS coating.**
- **Corrected thread profile for avoidance of profile distortions.**

**Parallel coolant channels.**

**Advantage:**

Significantly **less radial pressure** than with multi-tooth thread mills. The tool can also be used for additional thread profiles (UN; UN-LH) **for various pitches and diameters**. See overview for possible threads.

**Note:**

HB and HE shanks are available at the same price as HA.

**HB shank:** order with No. **139620 + 129100 HB**.

**HE shank:** order with No. **139620 + 129100 HE**.

**Technical description**

|                           |          |
|---------------------------|----------|
| No. of teeth Z            | 4        |
| Nominal $\varnothing D_c$ | 1.51 mm  |
| Shank $\varnothing D_s$   | 6 mm     |
| Feed $f_z$ in CRP         | 0.007 mm |

## Data sheet

|                                              |                             |
|----------------------------------------------|-----------------------------|
| Through-coolant                              | yes                         |
| Thread depth                                 | 4 mm                        |
| Shank length $L_s$                           | 42 mm                       |
| Feed $f_z$ in steel < 1400 N/mm <sup>2</sup> | 0.008 mm                    |
| Number of clamping slots                     | 4                           |
| Overall length L                             | 58 mm                       |
| Overhang $L_1$                               | 4.2 mm                      |
| Flute length $L_c$                           | 0.53 mm                     |
| Thread size                                  | M2                          |
| Thread pitch range                           | 0.15 - 0.4 mm               |
| Thread profile                               | Partial profile             |
| Coating                                      | AlTiN                       |
| Thread type                                  | M-LH                        |
| Thread type                                  | M                           |
| Thread type                                  | UN                          |
| Thread type                                  | UN-LH                       |
| Flank angle                                  | 60 degrees                  |
| Tool material                                | Solid carbide               |
| Thread standard                              | DIN 13                      |
| Shank                                        | DIN 6535 HA to h6           |
| Application for type of drilling             | up to 2×D for blind holes   |
| Application for type of drilling             | up to 2×D for through holes |
| Spacing of the cutters                       | unequal spacing             |
| Shank tolerance                              | h6                          |
| Colour ring                                  | green                       |
| Internal/external application                | Internal                    |
| Series                                       | Master TM                   |
| Type of product                              | thread milling cutter       |

## User data

|                                | Suitability | V <sub>c</sub> | ISO code |
|--------------------------------|-------------|----------------|----------|
| Alu plastics                   | suitable    | 220 m/min      | N        |
| Aluminium (short chipping)     | suitable    | 220 m/min      | N        |
| Alu > 10% Si                   | suitable    | 180 m/min      | N        |
| Steel < 500 N/mm <sup>2</sup>  | suitable    | 140 m/min      | P        |
| Steel < 750 N/mm <sup>2</sup>  | suitable    | 130 m/min      | P        |
| Steel < 900 N/mm <sup>2</sup>  | suitable    | 120 m/min      | P        |
| Steel < 1100 N/mm <sup>2</sup> | suitable    | 90 m/min       | P        |
| Steel < 1400 N/mm <sup>2</sup> | suitable    | 80 m/min       | P        |
| Steel < 55 HRC                 | suitable    | 45 m/min       | H        |
| Steel < 60 HRC                 | suitable    | 35 m/min       | H        |
| INOX < 900 N/mm <sup>2</sup>   | suitable    | 82 m/min       | M        |
| INOX > 900 N/mm <sup>2</sup>   | suitable    | 75 m/min       | M        |
| Ti > 850 N/mm <sup>2</sup>     | suitable    | 50 m/min       | S        |
| CuZn                           | suitable    | 200 m/min      | N        |
| GRP                            | suitable    | 100 m/min      | N        |
| CRP                            | suitable    | 100 m/min      | N        |
| Graphite                       | suitable    | 150 m/min      | N        |
| Uni                            | suitable    |                |          |
| wet maximum                    | suitable    |                |          |
| wet minimum                    | suitable    |                |          |
| Air                            | suitable    |                |          |