

## Garant

### GARANT Master TM plain shank thread mill with countersink 2.5×D, AlTiN, M: M16



#### Order data

|              |               |
|--------------|---------------|
| Order number | 139664 M16    |
| GTIN         | 4067263128526 |
| 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 running** 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.**

##### Advantage:

Incorporating a countersink profile for a 90° countersink and thread milling in a single operation.

##### Note:

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

Order **HB** shank: with **No. 139664 + 129100 HB**.

Order **HE** shank: with **No. 139664 + 129100 HE**.

#### Technical description

|  |         |
|--|---------|
| Neck Ø D <sub>1</sub>                                | 17 mm   |
| Thread size  | M16     |
| Number of clamping slots                             | 6       |
| Feed f <sub>z</sub> in steel < 750 N/mm <sup>2</sup> | 0.11 mm |

|  |                               |
|--|-------------------------------|
| Overall length L                                 | 108 mm                        |
| Programming value for countersink L <sub>1</sub> | 42.55 mm                      |
| Shank Ø D <sub>s</sub>                           | 18 mm                         |
| Through-coolant                                  | yes                           |
| Thread depth                                     | 41 mm                         |
| Flute length L <sub>c</sub>                      | 41 mm                         |
| No. of teeth Z                                   | 6                             |
| Nominal Ø D <sub>c</sub>                         | 13.4 mm                       |
| Thread pitch                                     | 2 mm                          |
| Shank length L <sub>s</sub>                      | 48 mm                         |
| Coating  | AlTiN                         |
| Thread type                                      | M-LH                          |
| Thread type                                      | M                             |
| 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 2.5×D for through holes |
| Spacing of the cutters                           | unequal spacing               |
| Countersink angle                                | 90 degrees                    |
| 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 | 200 m/min | N |
| Aluminium (short chipping)     | suitable | 190 m/min | N |
| Alu > 10% Si                   | suitable | 160 m/min | N |
| Steel < 500 N/mm <sup>2</sup>  | suitable | 125 m/min | P |
| Steel < 750 N/mm <sup>2</sup>  | suitable | 115 m/min | P |
| Steel < 900 N/mm <sup>2</sup>  | suitable | 110 m/min | P |
| Steel < 1100 N/mm <sup>2</sup> | suitable | 80 m/min  | P |
| Steel < 1400 N/mm <sup>2</sup> | suitable | 70 m/min  | P |
| INOX < 900 N/mm <sup>2</sup>   | suitable | 75 m/min  | M |
| INOX > 900 N/mm <sup>2</sup>   | suitable | 70 m/min  | M |
| Ti > 850 N/mm <sup>2</sup>     | suitable | 45 m/min  | S |
| GG(G)                          | suitable | 105 m/min | K |
| CuZn                           | suitable | 175 m/min | N |
| Uni                            | suitable |           |   |
| wet maximum                    | suitable |           |   |
| wet minimum                    | suitable |           |   |
| Air                            | suitable |           |   |

### Services

|                        |           |
|------------------------|-----------|
| Shank grinding Type HB | 129100 HB |
| Shank grinding Type HE | 129100 HE |