

## Garant

### GARANT Master TM plain shank thread mill with countersink 1.5×D, AlTiN, M: M4



#### Order data

|              |               |
|--------------|---------------|
| Order number | 139666 M4     |
| GTIN         | 4067263126768 |
| 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. 139666 + 129100 HB**.

Order **HE** shank: with **No. 139666 + 129100 HE**.

#### Technical description

|                 |        |
|-----------------|--------|
| Thread size     | M4     |
| Thread pitch    | 0.7 mm |
| Thread Ø        | 4 mm   |
| Through-coolant | yes    |

|  |  |
|--|--|
| Nominal $\varnothing D_c$                  | 3.1 mm                                 |
| Feed $f_z$ in steel $< 750 \text{ N/mm}^2$ | 0.02 mm                                |
| Programming value for countersink $L_1$    | 7.33 mm                                |
| No. of teeth $Z$                           | 4                                      |
| Flute length $L_c$                         | 6.63 mm                                |
| Number of clamping slots                   | 4                                      |
| Overall length $L$                         | 58 mm                                  |
| Shank $\varnothing D_s$                    | 6 mm                                   |
| Neck $\varnothing D_1$                     | 5 mm                                   |
| Thread depth                               | 6.63 mm                                |
| Shank length $L_s$                         | 39.4 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 $1.5 \times D$ for through holes |
| Application for type of drilling           | up to $1.5 \times D$ for blind 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

|                                | <b>Suitability</b>                        | <b>V<sub>c</sub></b> | <b>ISO code</b> |
|--------------------------------|---|----------------------|-----------------|
| 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 only under restricted conditions | 45 m/min             | H               |
| TOOLOX 33                      | suitable                                  | 85 m/min             | H               |
| TOOLOX 44                      | suitable                                  | 50 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               |
| GG(G)                          | suitable                                  | 120 m/min            | K               |
| CuZn                           | suitable                                  | 200 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