

**Garant**
**Solid carbide torus cutter HPC, ZOX, Ø f8 DC / R1: 20/4,0mm**

**Order data**

|              |               |
|--------------|---------------|
| Order number | 206265 20/4,0 |
| GTIN         | 4045197539267 |
| Item class   | 11X           |

**Description**
**Version:**

With strong core, **special chip breaker recesses** and **large polished flutes**.

New generation of high performance end mills in the HPC machining range.

**Application:**

Especially for **high speed machining** in **mould and tool making** for **copy milling**.

**Technical description**

|                                                         |                   |
|---------------------------------------------------------|-------------------|
| Overhang length $L_1$ incl. recess                      | 98 mm             |
| Cutting edge Ø $D_c$                                    | 20 mm             |
| Feed $f_z$ for copy milling in short-chipping aluminium | 0.1 mm            |
| Feed $f_z$ for side milling in short-chipping aluminium | 0.1 mm            |
| Corner radius $R_1$                                     | 4 mm              |
| No. of teeth $Z$                                        | 3                 |
| Recess Ø $D_1$                                          | 19 mm             |
| Shank Ø $D_s$                                           | 20 mm             |
| Flute length $L_c$                                      | 32 mm             |
| Overall length $L$                                      | 150 mm            |
| Balance quality with shank                              | G 2.5 with HA     |
| Shank                                                   | DIN 6535 HA to h6 |
| Helix angle                                             | 45 degrees        |

|                                           |                                  |
|-------------------------------------------|----------------------------------|
| Coating                                   | ZOX                              |
| Tool material                             | Solid carbide                    |
| Standard                                  | Manufacturer's standard          |
| Type                                      | W                                |
| Tolerance nominal Ø                       | f8                               |
| Helix angle characteristic                | unequal spacing                  |
| Spacing of the cutters                    | unequal spacing                  |
| Direction of infeed                       | horizontal, oblique and vertical |
| Cutting width $a_e$ for milling operation | $0.3 \times D$ for side milling  |
| Cutting width $a_e$ for milling operation | $0.03 \times D$ for copy milling |
| Through-coolant                           | no                               |
| Machining strategy                        | HPC                              |
| Shank tolerance                           | h6                               |
| Colour ring                               | yellow                           |
| Type of product                           | Torus cutter                     |

## User data

|                            | Suitability                               | $V_c$     | ISO code |
|----------------------------|-------------------------------------------|-----------|----------|
| Aluminium                  | suitable only under restricted conditions | 250 m/min | N        |
| Aluminium (short chipping) | suitable                                  | 240 m/min | N        |
| Alu > 10% Si               | suitable                                  | 120 m/min | N        |
| Cu                         | Suitable                                  | 100 m/min | N        |
| CuZn                       | suitable                                  | 120 m/min | N        |
| wet maximum                | suitable                                  |           |          |
| wet minimum                | suitable only under restricted conditions |           |          |
| dry                        | suitable only under restricted conditions |           |          |

|                        |                                              |
|------------------------|----------------------------------------------|
| Air                    | suitable only under<br>restricted conditions |
| <b>Services</b>        |                                              |
| Shank grinding Type HB | 129100 HB                                    |