

**Garant**
**GARANT Master UNI solid carbide torus cutter, TiSiN, Ø DC / R1: 12/1,5mm**


## Order data

Order number	206367 12/1,5
GTIN	4067263047056
Item class	11Z

## Description

### Version:

For **roughing and finishing at very high feed rates** with smooth cutting action. **Newly developed geometry and high-performance coating** for outstanding production results and very long tool life with a variety of materials. Unequal spacing gives **high intrinsic stability** and smooth cutting action. Tolerance: corner radius  $R_1 = \pm 0.005 \text{ mm}$ .

Dimensions similar to **DIN 6527**.

### Advantage:

- **Particularly low vibration running.**
- **Special flute profile, large flutes.**
- **Specially matched edge honing.**
- **Optimised substrate for hardness and toughness.**

## Technical description

Feed $f_z$ for copy milling in steel < 900 N/mm <sup>2</sup>	0.11 mm
Flute length $L_c$	26 mm
Helix angle	42 degrees
Shank Ø $D_s$	12 mm
Cutting edge Ø $D_c$	12 mm
Recess Ø $D_1$	11.6 mm
Feed $f_z$ for side milling in steel < 900 N/mm <sup>2</sup>	0.09 mm
Overhang length $L_1$ incl. recess	38 mm

Shank	DIN 6535 HB to h6
Feed $f_z$ for side milling in INOX > 900 N/mm <sup>2</sup>	0.055 mm
Feed $f_z$ for copy milling in stainless steel > 900 N/mm <sup>2</sup>	0.067 mm
No. of teeth Z	4
Corner radius $R_1$	1.5 mm
Overall length L	83 mm
Series	Master Uni
Coating	TiSiN
Tool material	Solid carbide
Standard	Works standard
Type	N
Tolerance nominal $\varnothing$	e8
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×D for side milling
Cutting width $a_e$ for milling operation	0.3×D for side milling
Cutting width $a_e$ for milling operation	0.05×D for copy milling
Through-coolant	no
Machining strategy	HPC
Type of product	Torus cutter

## User data

	Suitability	$V_c$	ISO code
Aluminium (short chipping)	suitable only under restricted conditions	280 m/min	N
Steel < 500 N/mm <sup>2</sup>	suitable	260 m/min	P
Steel < 750 N/mm <sup>2</sup>	suitable	240 m/min	P
Steel < 900 N/mm <sup>2</sup>	suitable	190 m/min	P

Steel < 1100 N/mm <sup>2</sup>	suitable	180 m/min	P
Steel < 1400 N/mm <sup>2</sup>	suitable	150 m/min	P
INOX < 900 N/mm <sup>2</sup>	suitable	90 m/min	M
INOX > 900 N/mm <sup>2</sup>	suitable	80 m/min	M
Ti > 850 N/mm <sup>2</sup>	suitable	40 m/min	S
GG(G)	suitable only under restricted conditions	250 m/min	K
Uni	suitable		
wet maximum	suitable		
wet minimum	suitable only under restricted conditions		
dry	suitable		
Air	suitable		