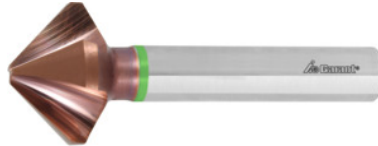


**Garant**
**High-precision countersink with unequal spacing and 3 drive flats 90°, TiAlN, External Ø Dc: 16,5mm**

**Order data**

Order number	150132 16,5
GTIN	4045197700773
Item class	11M

**Description**
**Version:**

**All countersinks have 3 cutting edges. Special geometry with extremely unequal spacing** and matching cutting edge preparation. Radially relief ground. Flutes ground from solid. Newly developed **special TiAlN coating** for long service life.

High-precision countersink, produced with tight manufacturing tolerances similar to DIN 335-C. Three **drive flats on the shank** for use in a 3-jaw chuck.

**Advantage:**

Very smooth cutting throughout the entire countersinking operation. Chatter-free running for perfect results and **optimum tool service life**.

**Application:**

High-precision countersinks for production of exactly round 90° countersunk surfaces.

**Technical description**

Feed f in steel < 500 N/mm <sup>2</sup>	0.18 mm/rev.
Shank tolerance	h9
for countersunk screws DIN 7991	M8
smallest countersink Ø for holes from	3.2 mm
External Ø	16.5 mm
Shank Ø D <sub>s</sub>	10 mm

Overall length L	60 mm
Number of cutting edges Z	3
Coating	TiAlN
Countersink tip angle	90 degrees
Tool material	HSS
Spacing of the countersink cutting edges	unequal spacing
Standard	DIN 335 C
Shank	Shank with h9 and three drive flats
Through-coolant	no
Colour ring	green
Type of product	Stepped drill and countersink

## User data

	Suitability	V <sub>c</sub>	ISO code
Alu plastics	suitable	75 m/min	N
Aluminium (short chipping)	suitable	75 m/min	N
Alu > 10% Si	suitable	50 m/min	N
Steel < 500 N/mm <sup>2</sup>	suitable	65 m/min	P
Steel < 750 N/mm <sup>2</sup>	suitable	50 m/min	P
Steel < 900 N/mm <sup>2</sup>	suitable	30 m/min	P
Steel < 1100 N/mm <sup>2</sup>	suitable	18 m/min	P
Steel < 1400 N/mm <sup>2</sup>	suitable	8 m/min	P
Steel < 55 HRC	suitable only under restricted conditions	8 m/min	H
INOX < 900 N/mm <sup>2</sup>	suitable	16 m/min	M
INOX > 900 N/mm <sup>2</sup>	suitable	10 m/min	M
Ti > 850 N/mm <sup>2</sup>	suitable only under restricted conditions	12 m/min	S
GG(G)	suitable	25 m/min	K

CuZn	suitable	60 m/min	N
Graphite, GRP, CRP	suitable only under restricted conditions		
Uni	suitable		
wet maximum	suitable		
dry	suitable only under restricted conditions		