

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

Feed f _x in steel < 750 N/mm² Programming value for countersink L ₁ No. of teeth Z Flute length L ₂ Overall length L Shank Ø D ₃ Thread depth Shank length L ₅ Thread type Flank angle Tool material Thread standard Shank Application for type of drilling Application for type of drilling Countersink angle Countersink angle Countersink angle Colour ring Respondence Flank tolerance Colour ring Internal /external application Series Master TM Type of product Plank angle O.02 mm Programming value for countersink L₁ 7.33 mm Ad A (6.63 mm Ad A (7) A	Nominal Ø D _c	3.1 mm	
Programming value for countersink L₁ 7.33 mm No. of teeth Z 4 Flute length L₂ 6.63 mm Number of clamping slots 4 Overall length L 58 mm Shank Ø D₂ 6 mm Neck Ø D₁ 5 mm Thread depth 6.63 mm Shank length L₄ 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×D for through holes Application for type of drilling up to 1.5×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			
No. of teeth Z Flute length L₂ Flute length L₂ Coverall length L Shank Ø D₂			
Flute length L _c Number of clamping slots Overall length L S8 mm Shank Ø D _c 6 mm Neck Ø D ₁ 5 mm Thread depth 6.63 mm Shank length L _c Coating AlTiN Thread type M-LH Thread type M Flank angle 60 degrees Tool material Solid carbide Thread standard DIN 13 Shank Application for type of drilling Application for type of drilling Spacing of the cutters Countersink angle Series Master TM 6.63 mm 6.64 mm 6.65 mm 6.65 mm 6.65 mm 6.65 mm 6.67 mm 6.68 mm 6.69 mm 6.69 mm 6.60 degrees 7 tool material Solid carbide DIN 13 Shank DIN 6535 HA to h6 4.5 mp to 1.5 mp			
Number of clamping slots Overall length L Shank Ø D _s 6 mm Neck Ø 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 Application for type of drilling Application for type of drilling Spacing of the cutters unequal spacing Countersink angle Solid carbide 90 degrees Shank tolerance h6 Colour ring green Internal/external application Series Master TM		4	
Overall length L 58 mm Shank Ø D₂ 6 mm Neck Ø D₁ 5 mm Thread depth 6.63 mm Shank length L₂ 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×D for through holes Application for type of drilling up to 1.5×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	Flute length L _c	6.63 mm	
Shank Ø D₀ 6 mm Neck Ø D₁ 5 mm Thread depth 6.63 mm Shank length L₀ 39.4 mm Coating AITiN 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×D for through holes Application for type of drilling up to 1.5×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	Number of clamping slots	4	
Neck Ø D₁ 5 mm Thread depth 6.63 mm Shank length L₃ 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×D for through holes Application for type of drilling up to 1.5×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	Overall length L	58 mm	
Thread depth Shank length Ls Coating AlTiN Thread type M-LH Thread type M Flank angle Floor material Thread standard Shank DIN 6535 HA to h6 Application for type of drilling Application for type of drilling Countersink angle Shank Countersink angle Countersink angle Shank Colour ring Internal green Internal/external application Series Master TM	Shank Ø D _s	6 mm	
Shank length L₅39.4 mmCoatingAlTiNThread typeM-LHThread typeMFlank angle60 degreesTool materialSolid carbideThread standardDIN 13ShankDIN 6535 HA to h6Application for type of drillingup to 1.5×D for through holesApplication for type of drillingup to 1.5×D for blind holesSpacing of the cuttersunequal spacingCountersink angle90 degreesShank toleranceh6Colour ringgreenInternal/external applicationInternalSeriesMaster TM	Neck Ø D ₁	5 mm	
Coating Thread type M-LH Thread type M Flank angle Flank angle Floor material Flo	Thread depth	6.63 mm	
Thread type M Flank angle Flank angle Tool material Thread standard Thread standard Solid carbide Thread standard DIN 13 Shank DIN 6535 HA to h6 Application for type of drilling Application for type of drilling Application for type of drilling Up to 1.5×D for through holes Application for type of drilling Up to 1.5×D for blind holes Spacing of the cutters Unequal spacing Countersink angle Shank tolerance h6 Colour ring green Internal/external application Internal Series Master TM	Shank length L _s	39.4 mm	
Thread type Flank angle Flank angle Flank angle Flool material Thread standard Thread standard Shank DIN 13 Shank DIN 6535 HA to h6 Application for type of drilling Application for type of drilling Application for type of drilling Up to 1.5×D for through holes Spacing of the cutters Unequal spacing Countersink angle Shank tolerance h6 Colour ring Internal/external application Series Master TM	Coating	AlTiN	
Flank angle Tool material Solid carbide Thread standard DIN 13 Shank DIN 6535 HA to h6 Application for type of drilling Application for type of drilling Up to 1.5×D for through holes Application for type of drilling Up to 1.5×D for blind holes Spacing of the cutters Unequal spacing Countersink angle Shank tolerance h6 Colour ring green Internal/external application Series Master TM	Thread type	M-LH	
Tool material Thread standard DIN 13 Shank DIN 6535 HA to h6 Application for type of drilling Application for type of drilling Up to 1.5×D for through holes Application for type of drilling Up to 1.5×D for blind holes Spacing of the cutters Unequal spacing Countersink angle Shank tolerance h6 Colour ring green Internal/external application Series Master TM	Thread type	M	
Thread standard DIN 13 Shank DIN 6535 HA to h6 Application for type of drilling Application for type of drilling Up to 1.5×D for through holes up to 1.5×D for blind holes Spacing of the cutters Unequal spacing Countersink angle 90 degrees Shank tolerance h6 Colour ring Internal/external application Series Master TM	Flank angle	60 degrees	
Shank Application for type of drilling Spacing of the cutters Countersink angle Shank tolerance Colour ring Internal/external application Series DIN 6535 HA to h6 up to 1.5×D for through holes up to 1.5×D for blind holes unequal spacing 90 degrees h6 Colour ring Internal Master TM	Tool material	Solid carbide	
Application for type of drilling up to 1.5×D for through holes Application for type of drilling up to 1.5×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	Thread standard	DIN 13	
Application for type of drilling up to 1.5×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	Shank	DIN 6535 HA to h6	
Spacing of the cutters Countersink angle Shank tolerance Colour ring Internal/external application Series unequal spacing 90 degrees h6 green Internal Internal Master TM	Application for type of drilling	up to 1.5×D for through holes	
Countersink angle 90 degrees Shank tolerance h6 Colour ring green Internal/external application Internal Series Master TM	Application for type of drilling	up to 1.5×D for blind holes	
Shank tolerance h6 Colour ring green Internal/external application Internal Series Master TM	Spacing of the cutters	unequal spacing	
Colour ring green Internal/external application Internal Series Master TM	Countersink angle	90 degrees	
Internal/external application Internal Series Master TM	Shank tolerance	h6	
Series Master TM	Colour ring	green	
	Internal/external application	Internal	
Type of product thread milling cutter	Series	Master TM	
	Type of product	thread milling cutter	

User data



	Suitability	V _c	ISO code
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 ²	suitable	140 m/min	Р
Steel < 750 N/mm ²	suitable	130 m/min	Р
Steel < 900 N/mm ²	suitable	120 m/min	Р
Steel < 1100 N/mm ²	suitable	90 m/min	Р
Steel < 1400 N/mm ²	suitable	80 m/min	Р
Steel < 55 HRC	suitable only under restricted conditions	45 m/min	Н
TOOLOX 33	suitable	85 m/min	Н
TOOLOX 44	suitable	50 m/min	Н
INOX < 900 N/mm ²	suitable	82 m/min	М
INOX > 900 N/mm ²	suitable	75 m/min	М
Ti > 850 N/mm ²	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