

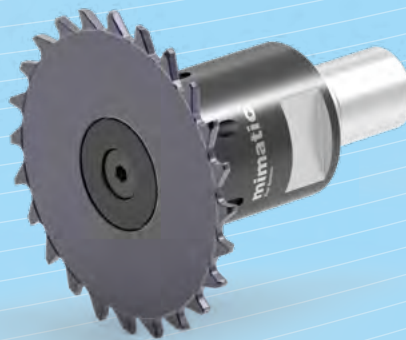
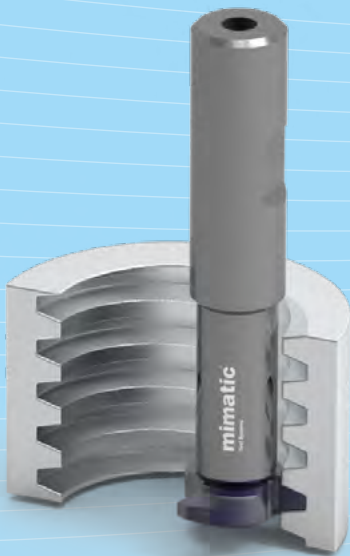
mimatic®

Tool Systems

Your Partner For Clever Tooling

Cutting Tools

- Thread milling
- Groove milling
- Gear milling
- Contour and radius milling
- Dovetail milling
- Sawing, cutting, slitting
- etc.



Manufacturer of Precision Tools Since 1974

Thread Milling



Systems for Circular Thread Milling

PolyMILL

Our bestseller system allows **threading** and/or **circlip grooving** in high precision.

The polygonal connection of insert and milling body improves the efficiency and precision of the process significantly:

- **Longer tool life**
- **Higher machining volume**
- **Higher feed rates**
- **Shorter processing times**
- **High stability**
- **High security at interrupted cutting**



TriMILL

Affordable and flexible system for short processing times and long tool lives.

- **Deep, true to gauge threads**
- **Accurate free-form contours**
- **Accurate grooving**

Bottom threads can be cut almost to the bottom without undercuts.

By using the same pitches, the storage and acquisition costs decrease also.



TrioCUT

Smooth cutting and **low cutting pressure** results in high surface quality and long tool lives. A **conical position of insert pocket** guarantees stability of the tool shaft. Further advantages are the **radially back ground thread profile**, extremely high wedge angle, a more stable cutting edge as well as a positive rake angle.

The optimum application area are fine threads and/or very short thread lengths.

- **Thread milling with undercut**
- **Thread milling**
- **Drill thread milling**



SolidCUT

Extensive range of solid carbide thread milling cutters.

- **Spiral-grooved grooves**
- **Soft cut**
- **Excellent surface qualities**
- **Also for thin-walled workpieces**
- **A tool for right- and left-hand threads**
- **Unbeatable in price / performance**



14,5 15 21 26

Multi tooth thread milling cutters, ideal for short thread, small gradient lengths and very rigid clamping of workpiece and cutter.



mimaticSTC

Sectional thread milling for high-quality large threads from M24.

STC-1 with 10 edges

Biggest advantage for any long threads from M24: A shorter process time compared to cutters with inserts and easier assembly.



Symbols

	Type designation		Thread standard
	Steel shaft without clamping surface		Thread with undercut (Trio-Cut)
	Steel shaft with Weldon clamping surface		for right- and left hand internal thread for left hand thread modify your NC-program!
	Solid carbide shaft without clamping surface		for right- and left hand external thread for left hand thread modify your NC-program!
	Solid carbide shaft with Weldon clamping surface		Full form thread milling
	Cutter with tightening thread		Partial form thread milling
	Smallest necessary bore-diameter		Point angle
	Internal coolant supply		Thread standard
	Number of inserts		

Short Descriptions

Alpha (α)	Point angle of milling insert	F	Width of trailing chamfer
A	Groove width	H _P	Insert height
A ₁	Basic width in the Groove	H _S	Slider height (Axial grooving tool)
B _{f6}	Insert holder width of axial grooving tool	L	Length of milling tool
B _{H7}	Groove width of axial grooving tool	L ₁	Clamping length of milling tool
B _w	Tool width of axial grooving tool	L ₂	Length of step milling head
C	Chamfer width	L _G	Usable thread length at the multi-tooth thread milling
D	Cutting diameter	L _{HA}	Holder length
d ₁	Milling body diameter (front)	L _{P1}	Insert height of milling body – edge
d ₂	Large diameter of milling body	L _{P2}	Insert height of edge – interfering contour
d _{g6}	Fitting face diameter of threaded milling tool	L _{PF}	Length of fitting face
D _{t6}	Shaft diameter of milling body (Arbor)	L _S	Shaft length – clamping length (Depth)
D _P	Flight circle of insert	M	Thread size
D _R	Nominal diameter of concave radius insert	P	Pitch
E	Width blank insert	R	Radius (general/common)

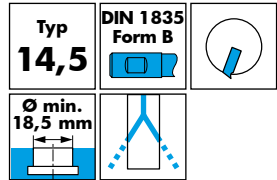
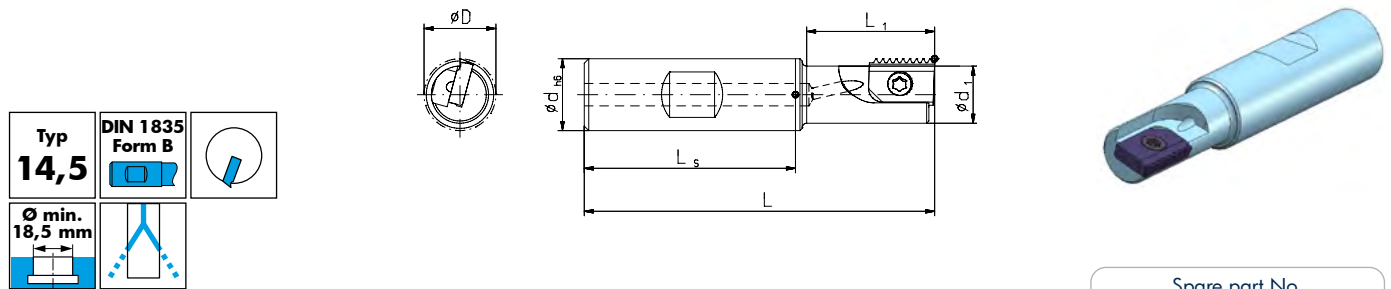
Formula for Tool Lengths

$$L_{WKZ} = L_{GK} + L_1 + L_{P1} (+L_{P2})$$

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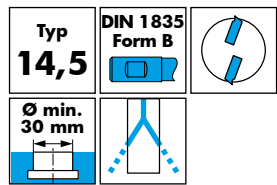
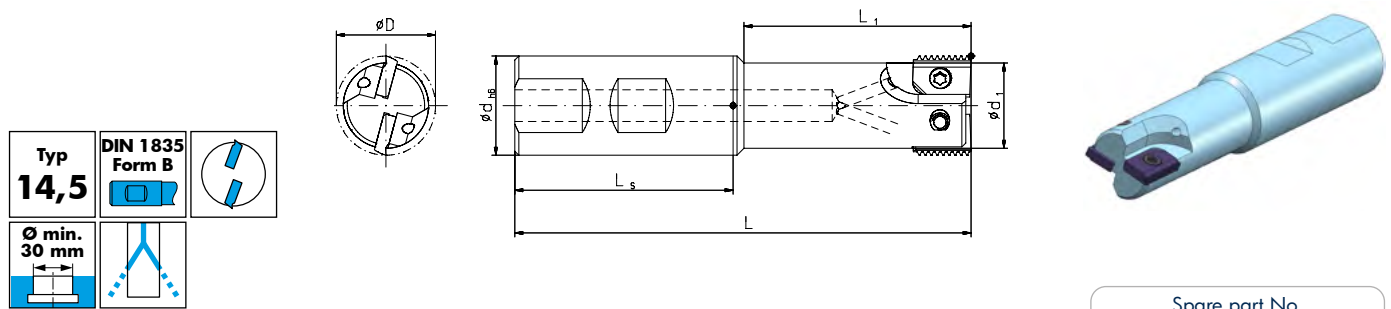
Circular Thread Milling Tools

- Inserts see page 45
- Cutting data see page 166



Order No.	D mm	dh6 mm	d1 mm	L mm	L1 mm	Type	Shaft	Spare part No.	
								T15 IP Screw-driver*	Screw *
123540	16	16	12,7	78	29	short	Steel	111671	107571
123541	16	16	12,7	98	50	long	Heavy metal	111671	107571
123542	20	20	16,8	110	60	long	Steel	111671	115628

Screw torques max.
107571 T15 IP 3,8 Nm
107628 T15 IP 3,8 Nm



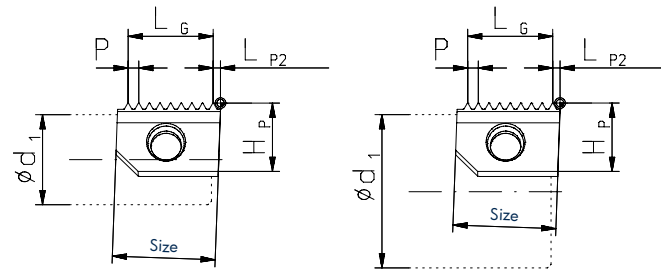
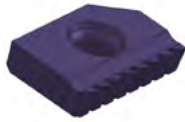
Order No.	D mm	dh6 mm	d1 mm	L mm	L1 mm	Type	Shaft	Spare part No.	
								T15 IP Screw-driver*	Screw *
123546	25	25	21,5	106	48,2	short	Steel	111671	107552
123547	25	25	21,5	150	92,2	long	Heavy metal	111671	107552

Screw torque max. 3,8 Nm

* Screwdriver and clamping screw included in delivery

14,5

Circular Thread Milling Inserts

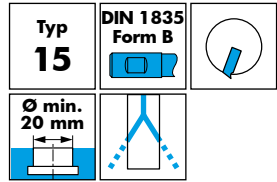
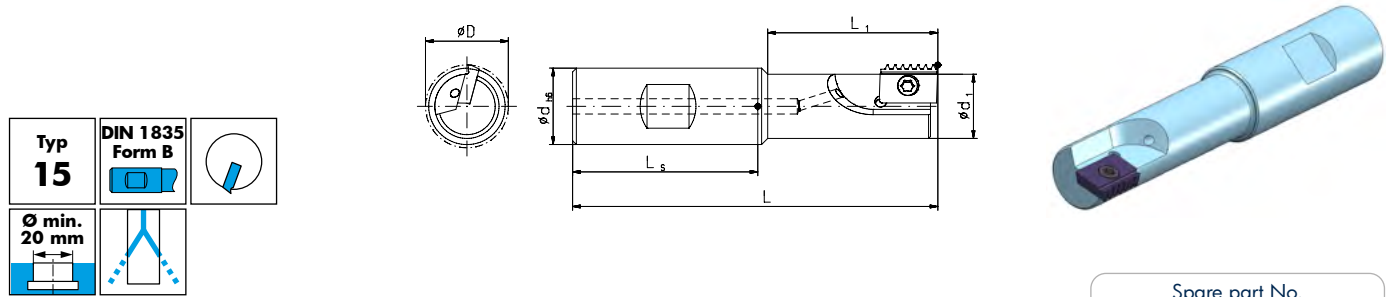


	Pitch mm	HP mm	LG mm	LP2 mm	Thread	Teeth	Order No. TINAMATIC	
	0,5	10	13,50	0,62		28	142117	
	0,75	10	13,50	0,62		19	142048	
	1,0	10	13,00	0,95		14	142037	
	1,25	10	12,50	0,95		11	142067	
	1,5	10	12,00	1,05		9	142053	
	1,75	10	12,25	1,05		8	142080	
	2,0	10	12,00	1,05		7	142136	
	2,5	10	10,00	1,75	M20x2,5	5	142129	
2,5	10	10,00	1,75		5	142069		
	Pitch mm	HP mm	LG mm	LP2 mm		Teeth	Order No. TINAMATIC	
	1,0	10	13	0,71		14	142177	
	1,5	10	12	0,78		9	142186	
	2,0	10	12	1,22		7	142167	
	Pitch mm	Pitch/"	HP mm	LG mm	LP2 mm		Teeth	Order No. TINAMATIC
	1,058	24	10	12,70	1,02		13	142218
	1,270	20	10	12,70	1,02		11	142213
	1,337	19	10	12,03	1,02		10	142234
	1,411	18	10	11,28	1,63		9	142145
	1,588	16	10	11,11	1,6		8	142152
	1,814	14	10	12,70	1,05		8	142203
	2,117	12	10	10,58	1,31		6	142181
2,309	11	10	11,54	1,35		6	142159	
	Pitch mm	Pitch/"	HP mm	LG mm	LP2 mm		Teeth	Order No. TINAMATIC
	0,635	40	10	13,33	0,74		22	142124
	0,794	32	10	12,70	0,91		17	142286
	0,907	28	10	12,70	0,99		15	142223
	1,058	24	10	12,70	0,83		13	142273
	1,270	20	10	12,70	0,95		11	142285
	1,411	18	10	12,69	0,93		10	142216
	1,588	16	10	12,70	1,03		9	142147
	1,814	14	10	10,88	1,47		7	142221
2,117	12	10	10,58	1,32		6	142243	
2,309	11	10	11,55	1,24		6	142237	
	Pitch mm	Pitch/"	HP mm	LG mm	LP2 mm	Thread	Teeth	Order No. TINAMATIC
	1,411	18	10	12,69	3,18	PG 11-16	10	142263
	1,588	16	10	11,16	3,18	PG 21-48	8	142257

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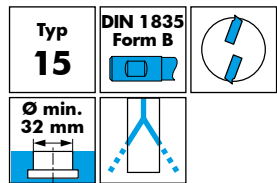
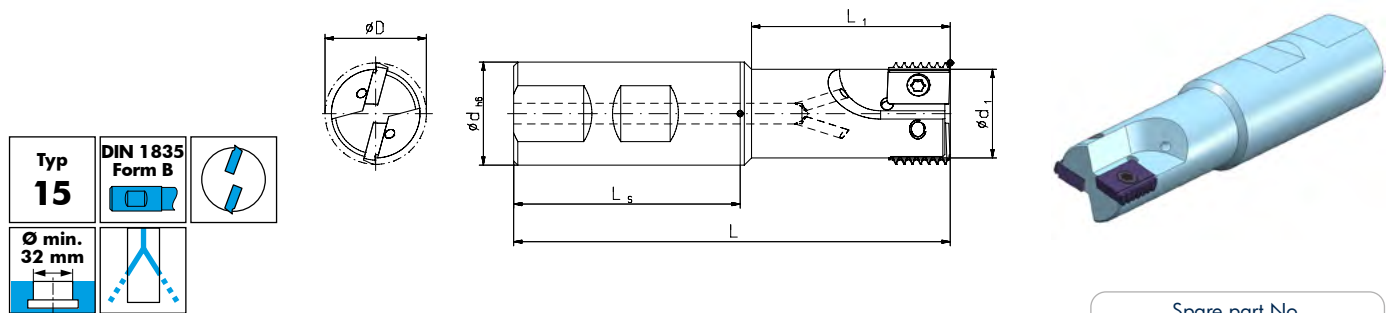
Circular Thread Milling Tools

- Inserts see below
- Cutting data see page 166



Order No.	D mm	d _{h6} mm	d ₁ mm	L mm	L ₁ mm	Type	Shaft	Spare part No.	
								T15 IP Screw-driver*	Screw*
123550	18	16	12,7	79	30	short	Steel	111671	107571
123551	22	20	16,8	110	60	long	Steel	111671	107571

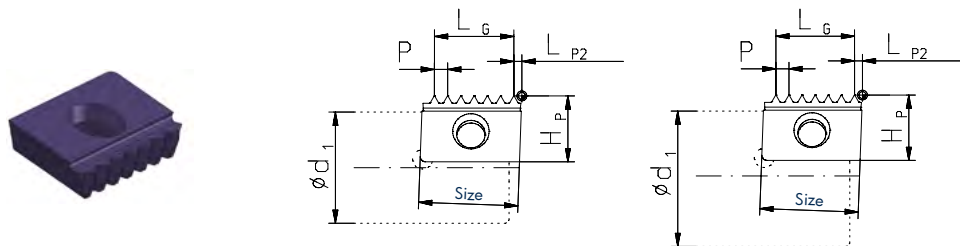
Screw torque max. 3,8 Nm



Order No.	D mm	d _{h6} mm	d ₁ mm	L mm	L ₁ mm	Type	Shaft	Spare part No.	
								T15 IP Screw-driver*	Screw*
123555	25	25	21,5	106	48,2	short	Steel	111671	107552

Screw torque max. 3,8 Nm

Circular Thread Milling Inserts



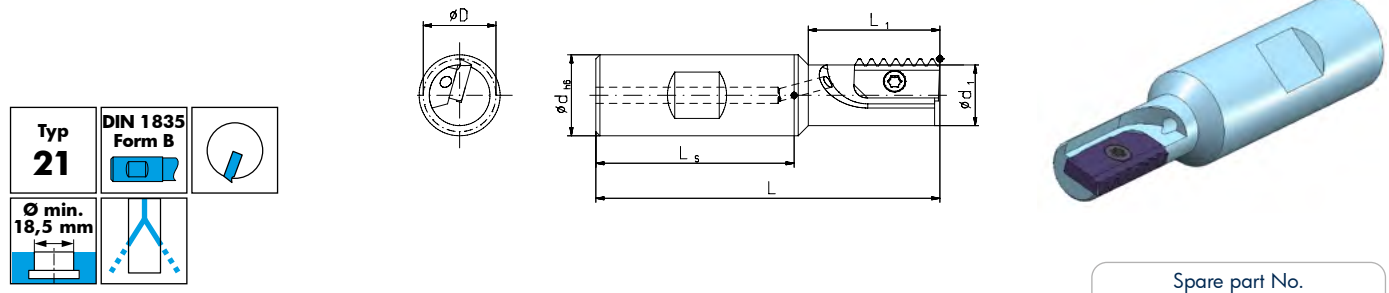
Pitch mm	HP mm	L _G mm	L _{P2} mm	Teeth	Order No.
					TINAMATIC
3,0	10,5	12,0	1,52	5	142269
3,5	10,5	10,5	1,74	4	142231

* Screwdriver and clamping screw included in delivery

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Circular Thread Milling Tools

- Inserts see page 48
- Cutting data see page 166

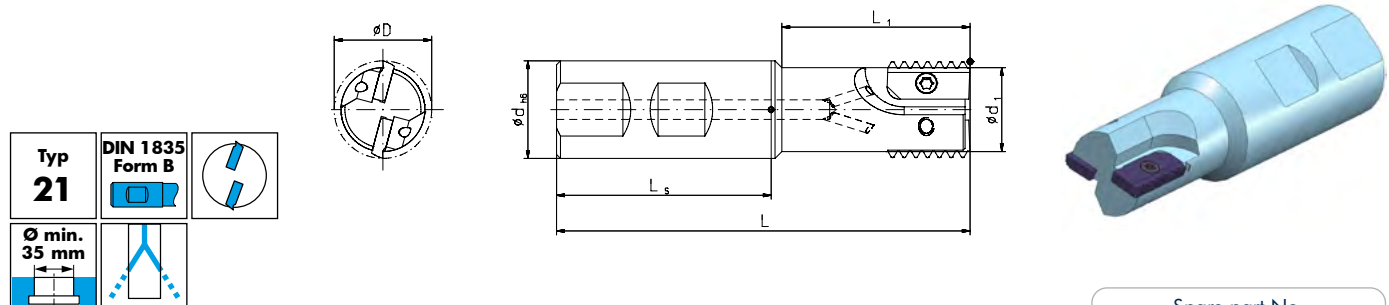


Typ 21
DIN 1835 Form B

\varnothing min. 18,5 mm

Order No.	D mm	d _{h6} mm	d ₁ mm	L mm	L ₁ mm	Type	Shaft	Spare part No.	
								T15 IP Screw-driver *	Screw *
123557	16	20	12,7	85	31,3	short	Steel	111671	107571
123560	18	20	15,0	85	31,3	short	Steel	111671	107571
123558	22	25	18,7	92	32,8	short	Steel	111671	107571
123559	22	25	18,7	122	62,8	long	Heavy metal	111671	107552

Screw torque max. 3,8 Nm



Typ 21
DIN 1835 Form B

\varnothing min. 35 mm

Order No.	D mm	d _{h6} mm	d ₁ mm	L mm	L ₁ mm	Type	Shaft	Spare part No.	
								T15 IP Screw-driver *	Screw *
123564	28	32	24,7	102	38,3	short	Steel	111671	107552
123566	28	32	24,5	142	78,3	long	Heavy metal	111671	107552

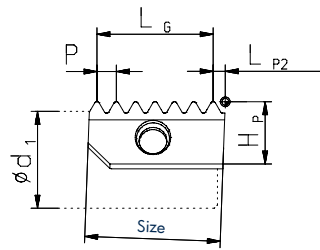
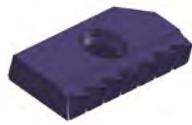
Screw torque max. 3,8 Nm

i Type 21 inserts see next page

* Screwdriver and clamping screw included in delivery

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Circular Thread Milling Inserts



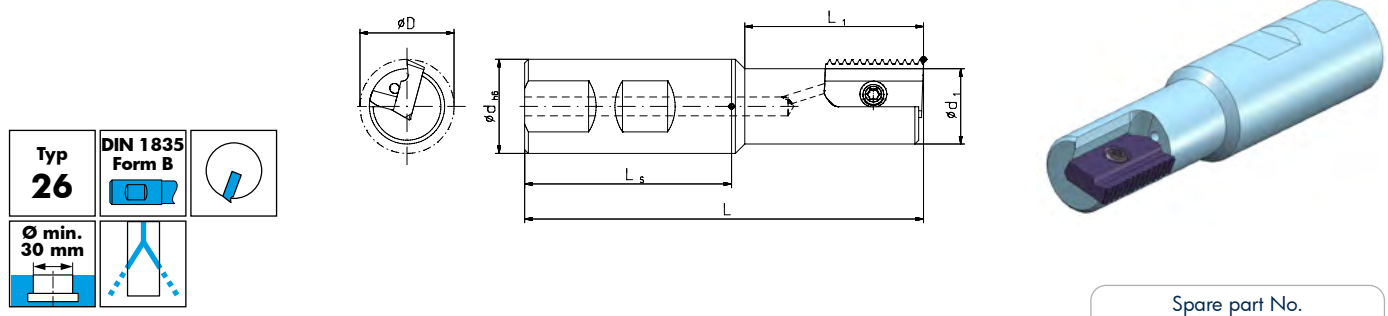
	Pitch mm	HP mm	LG mm	LP2 mm	Teeth	Order No.	
						TINAMATIC	
	1,0	10	19,0	0,83	20	142334	
	1,5	10	19,5	0,83	14	142366	
	2,0	10	18,0	1,07	10	142341	
	Pitch mm	HP mm	LG mm	LP2 mm	Teeth	Order No.	
						TINAMATIC	
	1,5	10	18	0,98	13	142325	
	Pitch mm	Pitch / "	HP mm	LG mm	LP2 mm	Teeth	Order No.
							TINAMATIC
	2,309	11	10	18,47	1,28	9	142398
	1,814	14	10	18,14	1,07	11	142376
	Pitch mm	Pitch / "	HP mm	LG mm	LP2 mm	Teeth	Order No.
							TINAMATIC
	1,588	16	10	19,05	0,83	13	142402
	1,814	14	10	18,14	1,07	11	142446
	2,117	12	10	18,04	1,07	10	142416



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Circular Thread Milling Tools

- Inserts see below
- Cutting data see page 166



Typ **26**

DIN 1835 Form B

Ø min. 30 mm

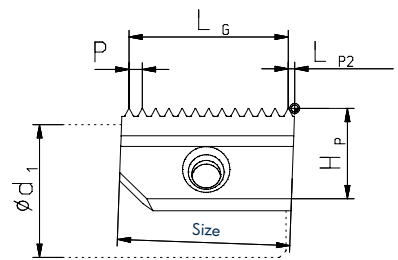
Order No.	D mm	dh6 mm	d1 mm	L mm	L1 mm	Type	Shaft
123569	25	25	20	107	48,5	short	Steel

Spare part No.

T15 IP Screw-driver*	Screw *
111671	107559

Screw torque max. 3,8 Nm

Circular Thread Milling Inserts



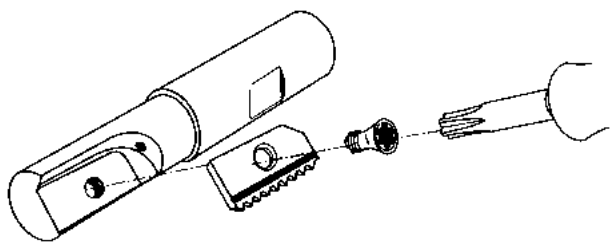
M	DIN 13	IR/IL	Pitch mm	HP mm	LG mm	LP2 mm	Teeth	Order No.
Full form	60°		1,5	15	24	1,03	17	142417
			2,0	15	24	1,03	13	142452
			3,0	15	21	1,88	8	142489
			3,5	15	20	2,41	7	142445
			4,0	15	20	2,91	6	142449

G	DIN 228/1	BSW	BSF	Pitch mm	Pitch /"	HP mm	LG mm	LP2 mm	Teeth	Order No.
IR/IL	AR/AL	Full form	55°	2,309	11	15	23,09	1,46	11	142450

Assembling Instructions

Changing Thread Milling Inserts

Put in the insert firmly into insert pocket. Hold the insert in position while clamping.



* Screwdriver and clamping screw included in delivery

mimatic®

Tool Systems

Your Partner For Clever Tooling

- Circular- and Thread Milling Tools
- RPK-Reamers with Polygonal Interface
- Driven Toolholders for CNC Machining Centers
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- Static Toolholders for CNC Turning Machines
- Precision Chucks
- Special Cutting Tools



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