

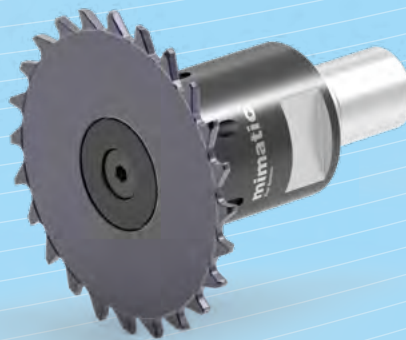
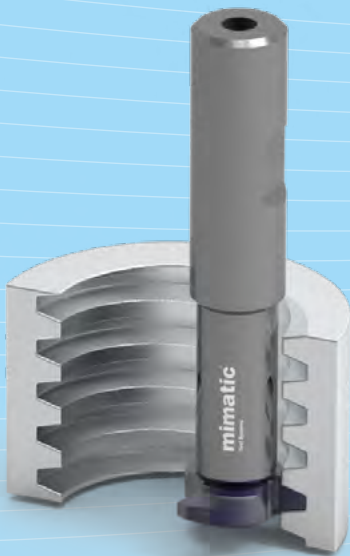
mimatic®

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)

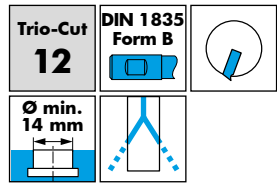
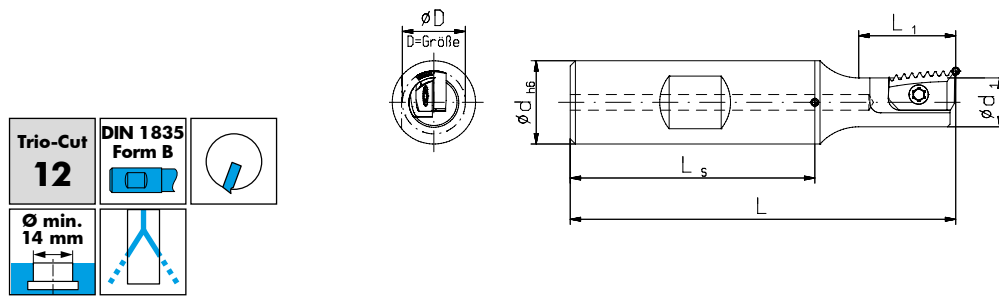
Formula for Tool Lengths

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

TrioCUT

Circular 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	Shaft	Spare part No.	
							T8 IP Screw- driver*	Screw *
123620	12	16	9,4	74	18	Steel	111656	115567

Screw torque max. 1,1 Nm

Circular Milling Inserts

Note:
Type 12 milling tools can only be used with type 12 milling inserts!



M				DIN 13		IR/IL		Full form		Pitch mm	HP mm	LG* mm	Teeth	LP2* mm	Order No. TINAMATIC
60°															
										1,5	7,5	10,5	8	0,75	142694

G		DIN 228/1		BSW		BSF		IR/IL	AR/AL	Full form	Pitch mm	Pitch/"	HP mm	LG* mm	Teeth	LP2* mm	Order No. TINAMATIC
55°																	
								1,814	14	7,5	9,07	6	0,9	142632			

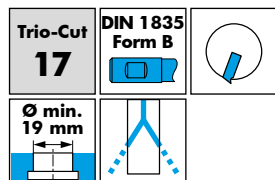
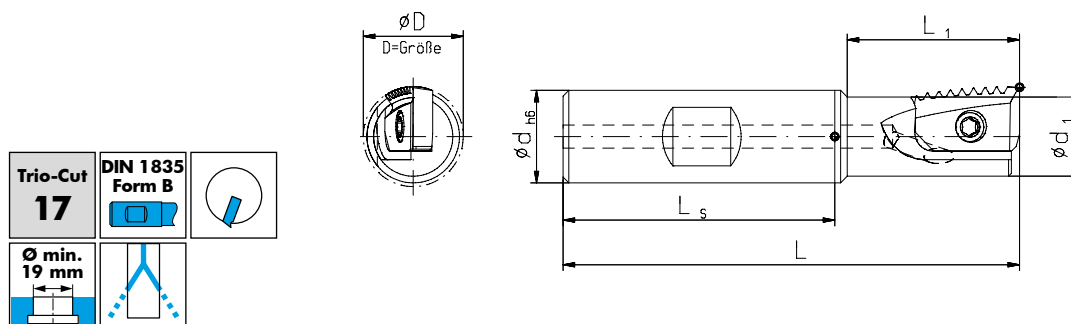
PG		DIN 40430		IR/IL		AR/AL		Full form	Pitch mm	Pitch/"	HP mm	LG* mm	Teeth	LP2* mm	Thread	Order No. TINAMATIC
80°																
								1,588	16	7,5	11,11	8	0,8	21-48	142664	

* Screwdriver and clamping screw included in delivery
 ** The length "LG" and "LP2" of the Thread Milling Insert are measured when the insert is clamped in the holder.

TrioCUT

Circular Milling Tools

- Inserts see page 38-39
- Cutting data see page 166



Order No.	D mm	d _{h6} mm	d ₁ mm	L mm	L ₁ mm	Shaft	Spare part No.	
							T15 IP Screw-driver*	Screw *
123631	17	16	13,7	79	30	Steel	111671	115628
123633	17	20	13,7	92	30	Steel	111671	115628

Screw torque max. 3,8 Nm

Circular Milling Inserts

Note:
Type 17 milling tools can only be used with type 17 milling inserts!



M		DIN 13	IR/IL	Pitch mm	HP mm	LG** mm	Teeth	LP2** mm	Order No.						
Full form	60° α		TINAMATIC												
				1,0	11	16,0	17	0,55	142731						
				1,5	11	16,5	12	0,75	142720						
				2,0	11	16,0	9	1,0	142651						
				1,5	11	16,5	12	0,75	142721						
M		DIN 13	IR/IL	Pitch mm	HP mm	LG** mm	Teeth	LP2** mm	R mm	Order No.					
Full form	60° α		TINAMATIC												
				1,0	11	14,0	15	3,6	0,4	142668					
				1,5	11	13,5	10	4,1	0,4	142650					
				2,0	11	12,0	7	3,6	0,4	142672					
				G		DIN 228/1	BSW	Pitch mm	Pitch /"	HP mm	LG** mm	Teeth	LP2** mm	Thread	Order No.
				IR/IL	AR/AL	BSF	TINAMATIC								
				2,309	11	11	16,16	8	1,16	all	142685				
				1,814	14	11	16,33	10	0,95	5/8-3/4-7/8"	142732				

* Screwdriver and clamping screw included in delivery

** The length "LG" and "LP2" of the Thread Milling Insert are measured when the insert is clamped in the holder.

TrioCUT

Circular Milling Inserts



Trio-Cut
17

 G	 DIN 228/1	 BSW	 IR/IL Full form	 BSF	 55° α		Pitch mm	Pitch/"	HP mm	LG** mm	Teeth	LP2** mm	Thread	Order No. TINAMATIC		
							1,814	14	11	16,33	10	0,95	G 1/2"	142652		
 G	 DIN 228/1	 BSW	 IR/IL Full form	 AR/AL	 BSF	 55° α		Pitch mm	Pitch/"	HP mm	LG** mm	Teeth	LP2** mm	R mm	Thread	Order No. TINAMATIC
								2,309	11	11	11,54	6	4,6	0,4	all	142725
								1,814	14	11	12,69	8	3,5	0,4	5/8-3/4-7/8"	142717
								1,814	14	11	12,69	8	3,5	0,4	only 1/2"	142669
 PG	 DIN 40430	 AR/AL	 IR/IL Full form	 80° α		Pitch mm	Pitch/"	HP mm	LG** mm	Teeth	LP2** mm	Thread	Order No. TINAMATIC			
						1,411	18	11	16,92	12	0,7	11-16	142674			
						1,588	16	11	15,88	11	0,8	21-48	142675			
 PG	 DIN 40430	 AR/AL	 IR/IL Full form	 80° α		Pitch mm	Pitch/"	HP mm	LG** mm	Teeth	LP2** mm	R mm	Thread	Order No. TINAMATIC		
						1,411	18	11	14,1	11	3,9	0,4	11-16	142684		
						1,588	16	11	12,7	9	3,7	0,4	21-48	142714		

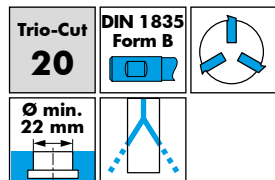
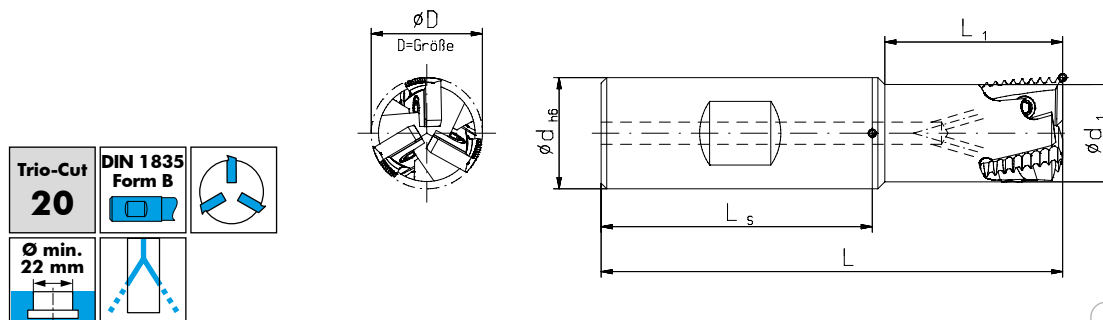
* Internal thread only

** The length "LG" and "LP2" of the Thread Milling Insert are measured when the insert is clamped in the holder.

TrioCUT

Circular Milling Tools

- Inserts see below
- Cutting data see page 166

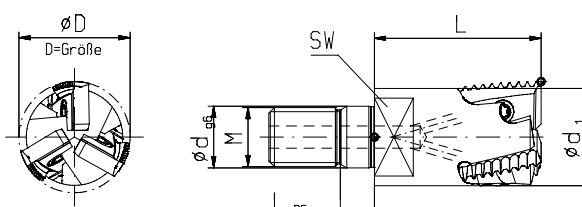
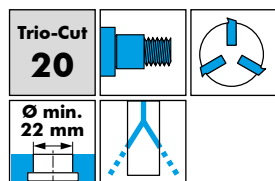


Order No.	D mm	d _{h6} mm	d ₁ mm	L mm	L ₁ mm	Shaft	Spare part No.	
							T8 IP Screw-driver*	Screw *
123622	20	20	17,5	83	32	Steel	111656	115567

Screw torque max. 1,1 Nm

- Tightening torques see page 29

! Please adapt cutting data to overhangs length



Order No.	D mm	d _{g6} mm	M	L _{PF} mm	d ₁ mm	L mm	Shaft	Spare part No.	
								T8 IP Screw-driver*	Screw *
123623	20	10,5	10	5	17,5	21	Steel	111656	115567

Screw torque max. 1,1 Nm

Circular Milling Inserts



Note:
Type 20 milling tools can only be used with type 20 milling inserts!

M		DIN 13		Pitch mm	HP mm	LG** mm	Teeth	LP2** mm	Order No.
IR/IL	Full form								
60°		1,0		7,5	12,0	13	0,5	142690	
		1,5		7,5	10,5	8	0,75	142633	

G		DIN 228/1		BSW		Pitch mm	Pitch/°	HP mm	LG** mm	Teeth	LP2** mm	Thread	Order No.
IR/IL	AR/AL	BSF		TINAMATIC									
Full form		1,814	14	7,5	9,07	6	0,9	142707					
	55°	1,814	14**	7,5	9,07	6	0,9	G 3/4"	142666				

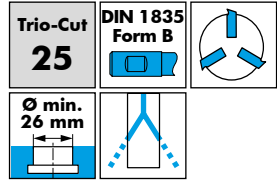
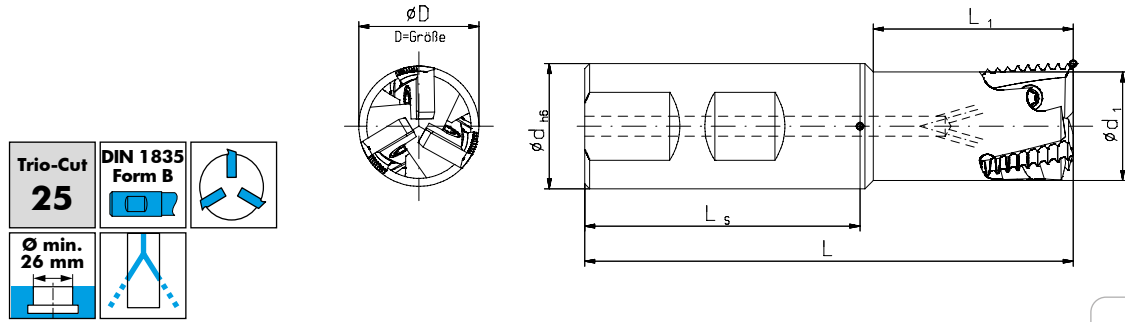
** for internal threads only

* Screwdriver and clamping screw included in delivery
 ** The length "LG" and "LP2" of the Thread Milling Insert are measured when the insert is clamped in the holder.

TrioCUT

Circular Milling Tools

- Inserts see page 42
- Cutting data see page 166

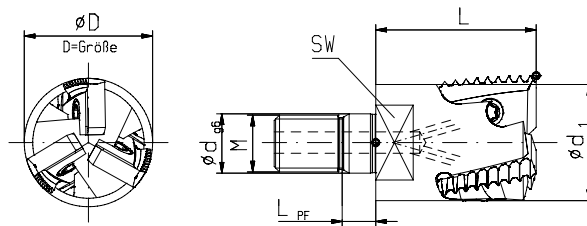
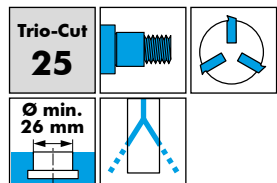


Order No.	D mm	d _{h6} mm	d ₁ mm	L mm	L ₁ mm	Shaft	Spare part No.	
							T15 IP Screw-driver*	Screw *
123638	25	25	21,7	107,6	50	Steel	111671	115628
123639	25	25	21,7	142,6	85	Heavy metal	111671	115628

Screw torque max. 3,8 Nm

- Tightening torques see page 29

! Please adapt cutting data to overhangs length



Order No.	D mm	d _{g6} mm	M	L _{PF} mm	d ₁ mm	L mm	Shaft	Spare part No.	
								T15 IP Screw-driver*	Screw *
166204	25	10,5	10	5	21,7	30	Steel	111671	115628

Screw torque max. 3,8 Nm

i TrioCUT 25 inserts see next page

* Screwdriver and clamping screw included in delivery
 ** The length "L_G" and "L_{P2}" of the Thread Milling Insert are measured when the insert is clamped in the holder.

TrioCUT

Circular Milling Inserts



Note:
Type 25 milling tools can only be used with type 25 milling inserts!

Trio-Cut
25

<p>M DIN 13 IR/IL Full form 60°</p>		Pitch mm	HP mm	LG** mm	Teeth	LP2** mm	Order No. TINAMATIC	
		1,0	11	16,0	17	0,5	142754	
		1,5	11	16,5	12	0,75	142722	
2,0	11	16,0	9	1,11	142723			
<p>M DIN 13 AR/AL Full form 60°</p>		Pitch mm	HP mm	LG** mm	Teeth	LP2** mm	Order No. TINAMATIC	
		1,5	11	16,5	12	0,75	142772	
<p>G DIN 228/1 BSW IR/IL AR/AL BSF Full form 55°</p>		Pitch mm	Pitch/"	HP mm	LG** mm	Teeth	LP2** mm	Order No. TINAMATIC
		2,309	11	11	16,16	8	1,16	142743
		1,814	14	11	16,33	10	0,95	142798

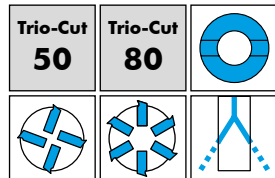
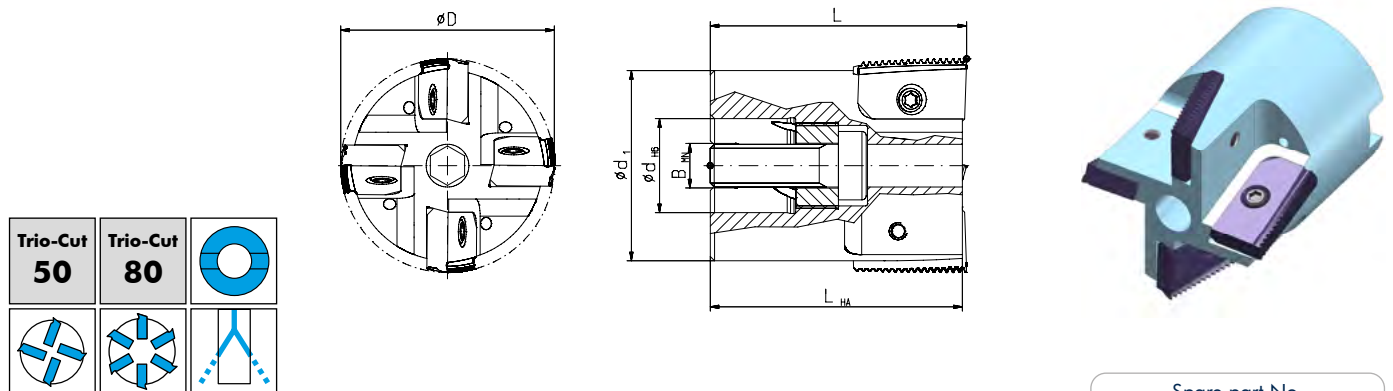


** The length "LG" and "LP2" of the Thread Milling Insert are measured when the insert is clamped in the holder.

TrioCUT

Circular Milling Tools

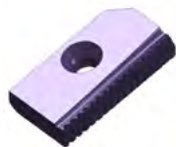
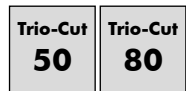
- Inserts see below
- Cutting data see page 166
- Assembly instruction see page 176



Order No.	Size	D mm	d _{h6} mm	B _{MN} mm	d ₁ mm	L mm	L _{HA} mm	Inserts	Spare part No.	
									T15 IP Screw-driver*	Screw *
135203	50	50	22	10,4	44,5	60	59	4	111671	107559
172159	80	80	32	14,4	75	60	59	6	111671	107559

Screw torque max. 3,8 Nm

Circular Milling Inserts



Hinweis:
Type 50 milling tools can only be used with type 50 milling inserts!
Type 80 milling tools can only be used with type 80 milling inserts!

M DIN 13	IR/IL Full form	60° α		Pitch mm	Size	HP mm	LG** mm	Teeth	LP2** mm	Order No.
				TINAMATIC						
				1,5	50	18,4	22,5	16	0,75	150114
				1,5	80	18,4	22,5	16	0,75	148871
				2,0	80	18,4	22,0	12	1,0	171636

* Screwdriver and clamping screw included in delivery
** The length "LG" and "LP2" of the Thread Milling Insert are measured when the insert is clamped in the holder.

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Tool Systems

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- Static Toolholders for CNC Turning Machines
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- Special Cutting Tools



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