

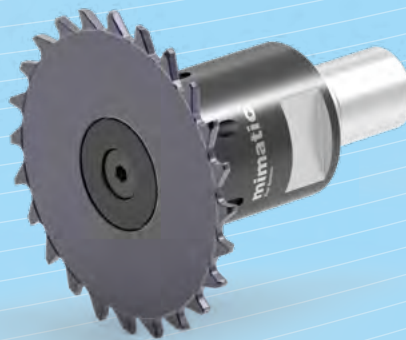
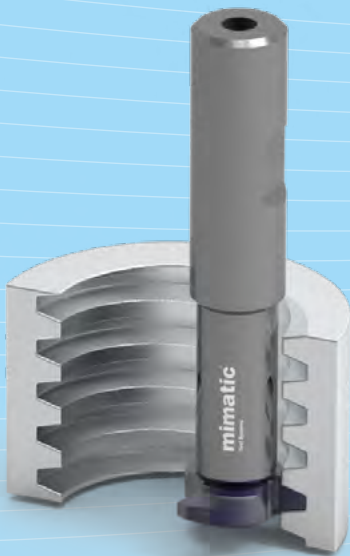
mimatic®

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

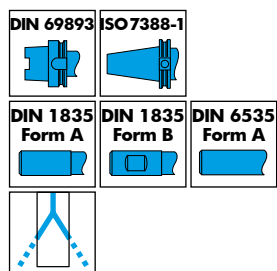
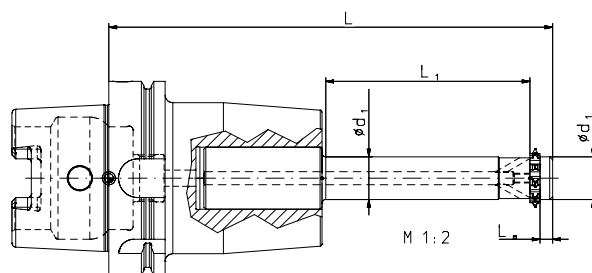
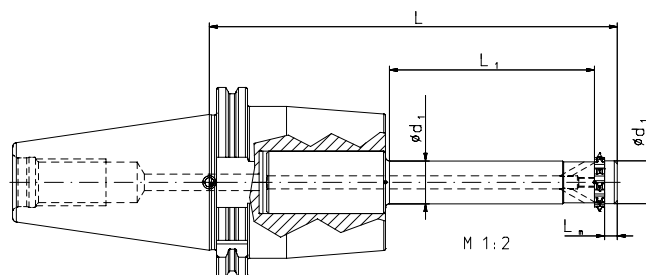
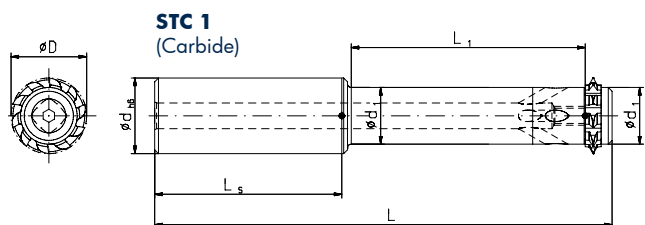
Alpha (α)	Point angle of milling insert	F	Width of trailing chamfer
A	Groove width	H _P	Insert height
A ₁	Basic width in the Groove	H _S	Slider height (Axial grooving tool)
B _{f6}	Insert holder width of axial grooving tool	L	Length of milling tool
B _{H7}	Groove width of axial grooving tool	L ₁	Clamping 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

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

Milling System for Threads from Drill Hole $\varnothing 20,5 \text{ mm} (\geq M24)$

- Cutting data see page 166
- Recommendation plunging movements see page 178



Spare Parts

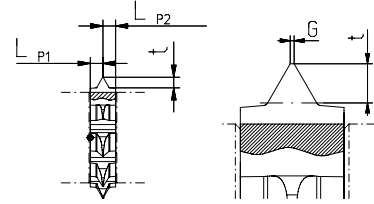
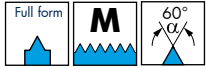
Holder	④ Clamping disc	② Clamping screw	Screw-driver	Screw torques
182043	159784	163852	178296	SW3 6,0 Nm
182042	159785	163852	178296	SW3 6,0 Nm
160178				
156489	159786	114402	178640	SW6 24,5 Nm
156490				
160179				
156487	159787	114523	178640	SW6 24,5 Nm
156488				
160180				
156486	159788	114523	178640	SW6 24,5 Nm
156485				
182044				
182715	182775	114523	178640	SW6 24,5 Nm
182716				

Complete holder without Inserts

Type	Shank	① Order No.	dh6 mm	L mm	L1 mm	Ls mm	LM mm	D mm	d1 mm	③ Thread inserts required
9	DIN 6535 A	182043	20	121	62,9	50	2,9	20	15	1
13	DIN 6535 A	182042	20	141	82,9	50	2,9	24	19	1
	DIN 6535 A	160178	32	180,1	107,4	60	6,5	30	22	1
16	HSK 100	156489	-	229,1	107,4	110	6,5	30	22	1
	SK 50	156490	-	209,1	107,4	90	6,5	30	22	1
	DIN 6535 A	160179	32	200,9	127,15	60	7,0	36	30	1
	HSK 100	156487	-	249,4	127,15	110	7,0	36	30	1
	SK 50	156488	-	229,8	127,15	90	7,0	36	30	1
19	DIN 6535 A	160180	32	221,1	147,9	60	7,0	40	32	1
	HSK 100	156486	-	270	146,9	110	7,0	40	32	1
	SK 50	156485	-	250	146,9	90	7,0	40	32	1
25	DIN 6535 A	182044	40	299	196,4	88	7,4	50	39	1
	HSK 100	182715	-	351	196,4	140	7,4	50	39	1
	SK 50	182716	-	311	196,4	100	7,4	50	39	1

Milling Inserts

Cutting Data see page 166



Type	Pitch mm	Thread	Number of teeth	D mm	t mm	LP1=LP2 mm	Order No TINAMATIC
9	3	M 24 / M 27	10	20	1,702	2,1	159757
13	3,5	M 30	10	24	1,982	2,1	159758
16	4	M 36	10	30	2,263	2,6	159759
	4,5	M 42	10	36	2,553	2,85	159760
19	5	M 48	10	40	2,836	3,1	159761
	5,5	M 56	10	40	3,106	3,1	159762
	6	M 64	10	40	3,415	3,1	159763



Type	Pitch mm	Pitch G/"	Number of teeth	D mm	t mm	G mm	LP1=LP2 mm	Order No TINAMATIC
9	1-3	24-9	10	20	2,25	0,10	2,10	181817
	2,5-5	10-5	10	20	3,20	0,25	2,10	181818
13	1-3	24-9	10	24	2,25	0,10	2,10	181726
	3-4	9-6	10	24	3,20	0,25	2,10	181730
16	1-3	24-9	10	30	2,25	0,10	2,60	181732
	3-4	9-6	10	30	3,80	0,25	2,60	181733
	1-3	24-9	10	36	2,25	0,10	2,85	182040
	3-4	9-6	10	36	3,80	0,25	2,85	182041
19	1-3	24-9	10	40	2,25	0,10	3,10	159836
	3-4	9-6	10	40	3,80	0,25	3,10	180440
	1-3	24-9	10	40	2,25	0,10	3,10	159836
	3-4	9-6	10	40	3,80	0,25	3,10	180440
	1-3	24-9	10	40	2,25	0,10	3,10	159836
25	1-3	24-9	12	50	2,25	0,10	3,60	181735
	3-6	9-4	12	50	3,80	0,25	3,60	181736
	5-8	6-3	12	50	5,30	0,40	3,60	181737



Type	Pitch G/"	Number of teeth	D mm	t mm	LP1=LP2 mm	Thread	Order No TINAMATIC
9	8	10	20	1,809	2,1	1"	180331
	7	10	20	2,043	2,1		156760
	8	10	20	1,809	2,1	>1"	186515
16	6	10	28	2,454	2,6		156761
	5	10	36	2,979	2,85		156762



i STC 2 & STC 3 on request

* Included in delivery

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- Special Cutting Tools



203238 KATALOG-ZW-E09



mimatic®
Tool Systems



mimatic GmbH
Westendstraße 3
D-87488 Betzigau
Tel. +49 (0) 831 / 574 44-0
info@mimatic.de
www.mimatic.de