

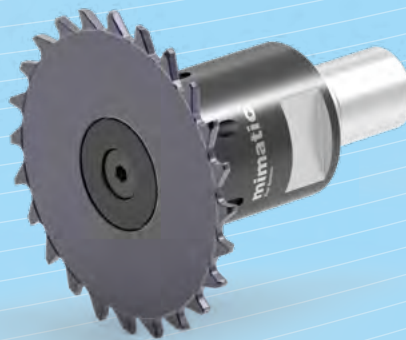
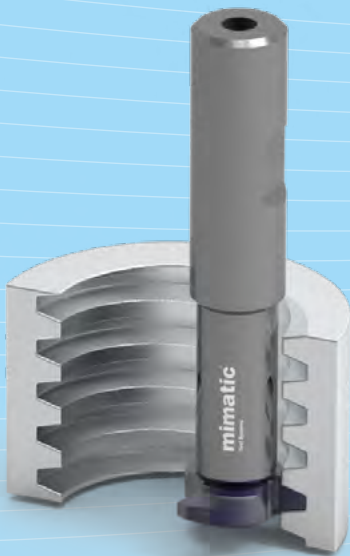
# mimatic®

**Tool Systems**

*Your Partner For Clever Tooling*

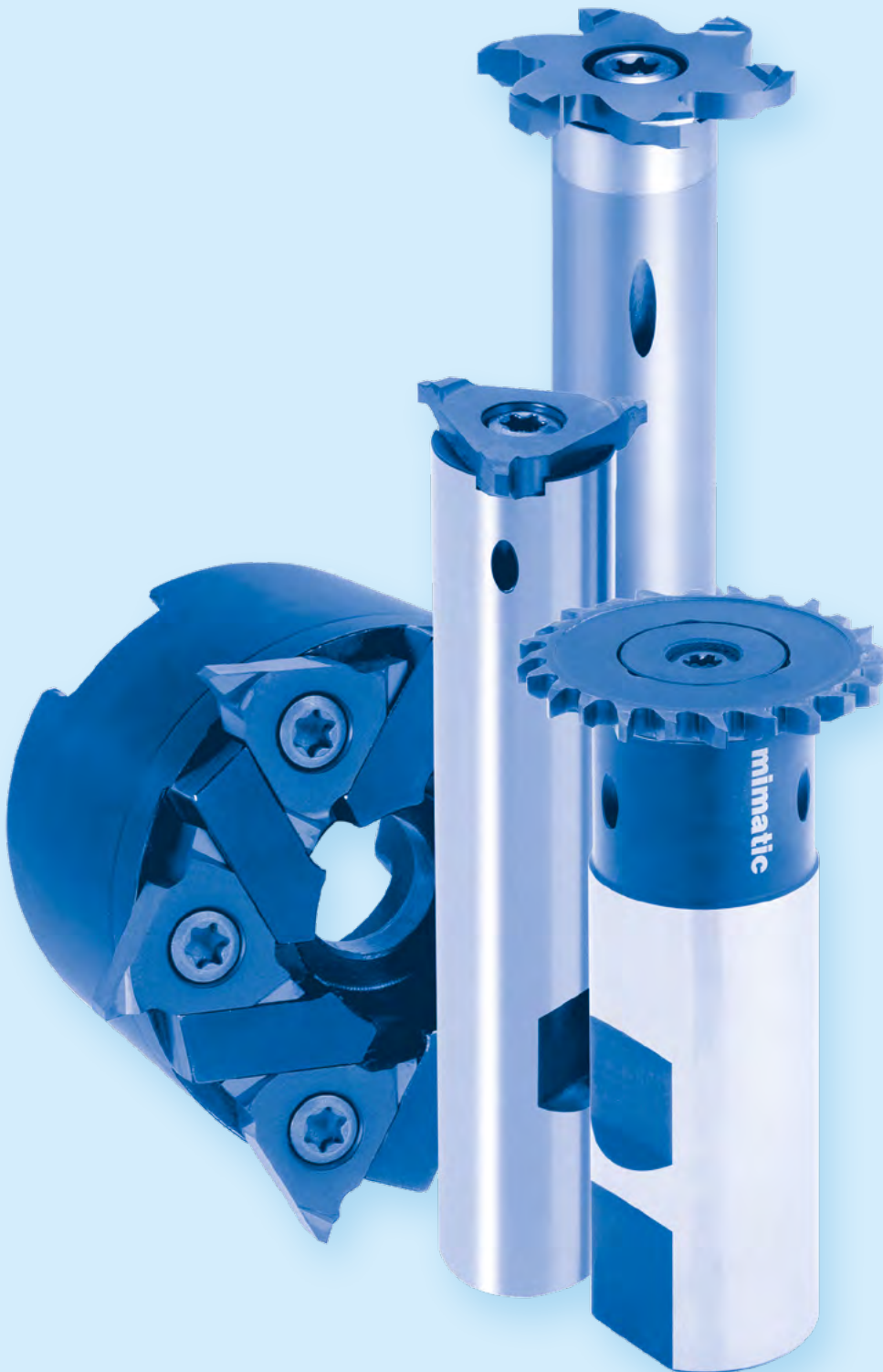
## Cutting Tools

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



Manufacturer of Precision Tools Since 1974

## Slot Milling



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## TriMILL



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## Keyway Slot Milling Cutter


























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## Technical Data

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# Symbols

	Type designation		Blank inserts must be equipped with a clearance angle!
	Tool shank without clamping surface		Inserts without profile, ready for use with clearance angle.
	Tool shank with Weldon clamping surface		Inserts for guard ring slots
	Solid carbide shaft without clamping surface		Inserts for O-ring slots
	Solid carbide shaft with Weldon clamping surface		DIN standard
	Tool with Conical tool shank		Inserts with chamfered edges
	Tool with tightening thread		Inserts with chipbreakers from 5 mm cutting width
	Cutter with cross groove		For chamfering and deburring
	Smallest necessary bore-diameter		Number of inserts (Polygon Cutter)
	Maximum cutting depth		Number of inserts (Polygon Cutter)
	Internal coolant supply		Thread depth max.
			Edge radius
			Full radius
			Milling inserts for cutting off

5

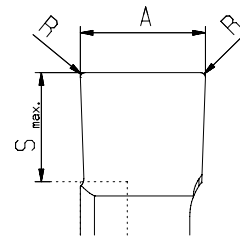
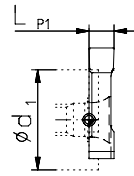
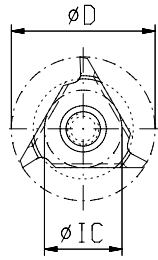
## Formula for Tool Lengths

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

**TriMILL**

**Slot Milling**

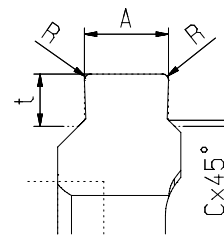
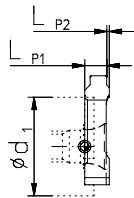
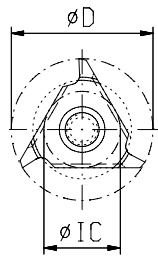
- Insert holder see page 95
- Cutting data see page 166



Type	A mm	D mm	IC mm	LP1 mm	S <sub>max.</sub> mm	R mm	Order No. TINAMATIC
04	2,0	7,9	5,5	2,34	0,35	0,1	141719
03	2,34	10,6	5,5	2,36	1,6	0,15	141642
	3,0	10,6	5,5	3,02	1,6	0,15	141669
02	3,5	17,5	9,2	3,52	2,6	0,15	141533
	5,0	17,5	9,2	5,03	2,6	0,15	141535
	6,0	17,5	9,2	6,02	2,6	0,15	141544
01	4,0	23,0	12,4	4,03	3,45	0,15	141361
	6,5	23,0	12,4	6,53	3,45	0,15	141396

**Circlip Grooves**

- With chamfered edge
- Insert holder see page 95
- Cutting data see page 166



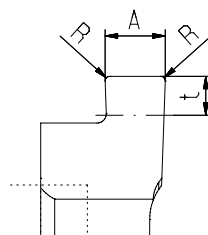
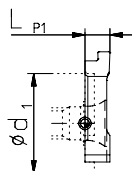
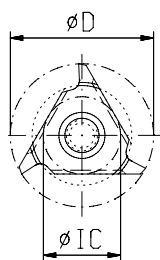
Type	G-Ring <sup>H13</sup> width	D mm	IC mm	LP1 mm	LP2 mm	A <sub>±0,03</sub> mm	t mm	Cx45° mm	R mm	Order No. TINAMATIC
03	1,10	10,6	5,5	2,13	0,21	1,18	0,5	0,1	0,05	141556
	1,10	17,5	9,2	3,1	0,4	1,18	0,5	0,1	0,05	141427
02	1,30	17,5	9,2	3,1	0,4	1,38	0,85	0,15	0,05	141387
	1,60	17,5	9,2	3,1	0,4	1,68	1,0	0,15	0,1	141399
	1,85	17,5	9,2	3,1	0,4	1,93	1,25	0,2	0,1	141409
	2,15	17,5	9,2	3,1	0,4	2,23	1,5	0,2	0,1	141333
	2,65	17,5	9,2	3,1	0,4	2,73	1,5	0,2	0,2	141388
	01	1,10	23	12,4	3,6	0,4	1,18	0,5	0,1	0,05
1,30		23	12,4	3,6	0,4	1,38	0,7	0,15	0,05	141209
1,30		23	12,4	3,6	0,4	1,38	0,85	0,15	0,1	141199
1,60		23	12,4	3,6	0,4	1,68	0,85	0,15	0,1	141237
1,60		23	12,4	3,6	0,4	1,68	1,0	0,15	0,1	141180
1,85		23	12,4	3,6	0,4	1,93	1,25	0,2	0,1	141193
2,15		23	12,4	3,6	0,4	2,23	1,5	0,2	0,1	141215
2,65		23	12,4	3,6	0,4	2,73	1,5	0,2	0,2	141222
2,65		23	12,4	3,6	0,4	2,73	1,75	0,2	0,2	141048
3,15		23	12,4	3,6	0,4	3,23	1,75	0,2	0,2	141186
4,15		23	12,4	5,5	1	4,23	2,0	0,2	0,2	141212

5

TriMILL

Circlip Grooves

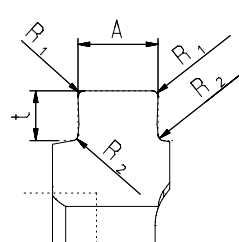
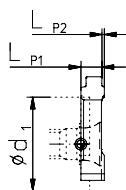
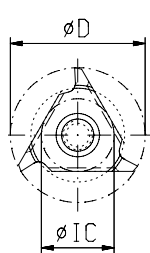
- Without chamfered edge
- Insert holder see page 95
- Cutting data see page 166



Type	G-Ring <sup>H13</sup> width	D mm	IC mm	LP1 mm	A <sub>0,03</sub> mm	t mm	R mm	Order No. TINAMATIC
04	0,9	7,9	5,5	2,34	0,98	0,3	0,05	141726
	0,9	10,6	5,5	2,34	0,98	0,7	0,05	141611
03	1,1	10,6	5,5	2,34	1,18	0,9	0,05	141567
	1,3	10,6	5,5	2,34	1,38	1,1	0,05	141609
	1,6	10,6	5,5	2,34	1,68	1,25	0,1	141630
	1,85	10,6	5,5	2,34	1,93	1,25	0,1	141574
	0,9	17,5	9,2	3,5	0,98	0,7	0,05	141416
02	1,1	17,5	9,2	3,5	1,18	0,9	0,05	141435
	1,3	17,5	9,2	3,5	1,38	1,1	0,05	141431
	1,6	17,5	9,2	3,5	1,68	1,25	0,1	141454
	1,85	17,5	9,2	3,5	1,93	1,25	0,1	141436
	2,15	17,5	9,2	3,5	2,23	1,75	0,1	141437
	2,65	17,5	9,2	3,5	2,73	1,75	0,2	141477
	3,15	17,5	9,2	3,5	3,23	2,2	0,2	141440
	0,9	23,0	12,4	4,0	0,98	0,7	0,05	141254
01	1,1	23,0	12,4	4,0	1,18	0,9	0,05	141245
	1,3	23,0	12,4	4,0	1,38	1,1	0,05	141261
	1,6	23,0	12,4	4,0	1,68	1,25	0,1	141255
	1,85	23,0	12,4	4,0	1,93	1,25	0,1	141269
	2,15	23,0	12,4	4,0	2,23	1,75	0,1	141258
	2,65	23,0	12,4	4,0	2,73	1,75	0,2	141264
	3,15	23,0	12,4	4,0	3,23	2,2	0,2	141293
	4,15	23,0	12,4	6,5	4,23	2,5	0,2	141305

O-Ring Grooves

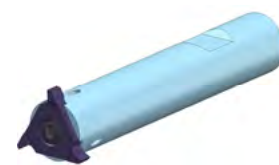
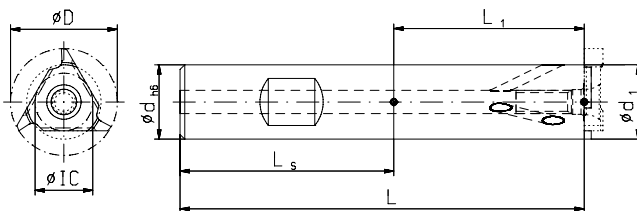
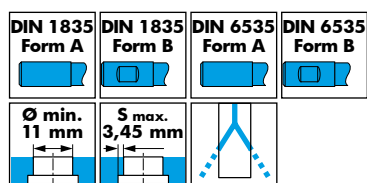
- Insert holder see page 95
- Cutting data see page 166



Type	G-Ring width	D mm	IC mm	LP1 mm	LP2 mm	A <sub>0,03</sub> mm	t mm	R1 mm	R2 mm	Order No. TINAMATIC
03	1,8	10,6	5,5	2,6	0,4	2,28	1,45	0,2	0,2	141654
02	1,8	17,5	9,2	3,0	0,5	2,28	1,45	0,2	0,2	141510
	2,65	17,5	9,2	4,5	0,5	3,08	2,3	0,3	0,2	141470
01	1,8	23,0	12,4	3,5	0,5	2,28	1,45	0,2	0,2	141236
	2,65	23,0	12,4	3,5	0,5	3,08	2,3	0,3	0,2	141277
	3,55	23,0	12,4	5,5	1,0	4,08	3,1	0,4	0,2	141306

# Circular Milling Tools

- Inserts see page 93-94
- Cutting data see page 166

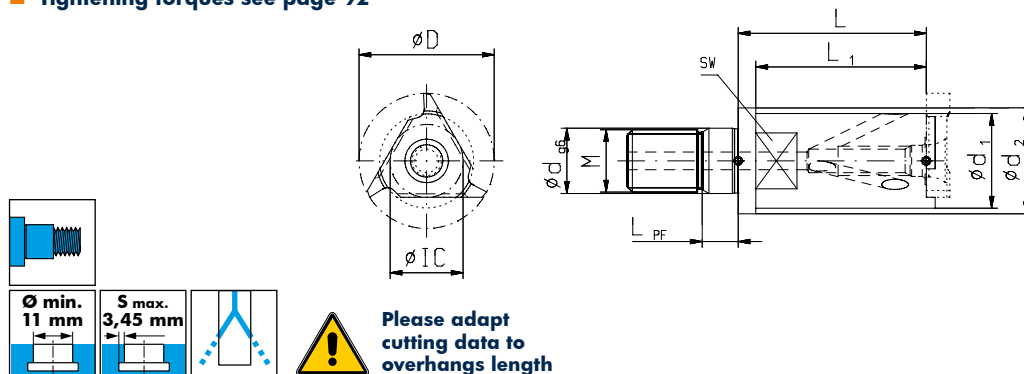


Type	Order No.	Form	D mm	IC mm	dh6 mm	d1 mm	S max. mm	L mm	L1 mm	Shaft	Spare part No.	
											Screw-driver*	Screw*
04	123491 **	B	7,9	5,5	10	7,2	0,35	57,2	17,2	Steel	T6 IP 111705	107530
	123477 **	B	10,6	5,5	10	7,4	1,6	57,2	17,2	Steel		
03	123478 **	B	10,6	5,5	12	7,4	1,6	64,66	17,2	Steel		
	123479 **	A	10,6	5,5	12	7,4	1,6	64,66	17,2	Steel		
	123480	B	10,6	5,5	10	7,4	1,6	74,2	34,2	Carbide		
02	123489	A	10,6	5,5	8	8	1,25	77,66	41,0	Carbide		
	123445	B	17,5	9,2	12	12	2,6	74,05	28,7	Steel		
	123446	B	17,5	9,2	16	12	2,6	78,6	28,7	Steel		
	123447	A	17,5	9,2	16	12	2,6	78,6	28,7	Steel		
	123448	B	17,5	9,2	12	12	2,6	108,7	63,7	Carbide		
	123470	A	17,5	9,2	12	12	2,6	79,3	34,3	Carbide		
01	123471	A	17,5	9,2	12	12	2,6	96,5	51,5	Carbide		
	123474	A	17,5	9,2	12	12	2,6	121,5	76,5	Carbide		
	123412	B	23,0	12,4	16	16	3,45	87,0	38,5	Steel		
	123414	B	23,0	12,4	16	16	3,45	116,0	67,5	Steel		
	123415 ***	A	23,0	12,4	20	17	3,0	93,0	41,0	Steel		
	170320	A	23,0	12,4	16	17	3,0	137,0	88,5	Carbide		
123416	B	23,0	12,4	16	17	3,0	137,0	88,5	Carbide			
123440	A	23,0	12,4	16	16	3,45	111,0	63	Carbide			
123441	A	23,0	12,4	16	16	3,45	148,5	100	Carbide			

\* Without internal coolant supply    \*\* Also suitable as basic body for a tandem cutter.

Screw torques max.		
107530	T6 IP	0,9 Nm
107547	T15 IP	3,8 Nm
107551	T20 IP	5,5 Nm

- Tightening torques see page 92



Type	Order No.	D mm	IC mm	dg6 mm	d1 mm	d2 mm	S max. mm	L mm	L1 mm	M	Spare part No.	
											Screw-driver*	Screw*
03	123481	10,6	5,5	6,5	7,4	10,0	1,60	22,66	13,66	M6	111705	107530
02	123450	17,5	9,2	8,5	12,2	15,4	2,60	27,5	18,5	M8	111671	107547
01	123419	23,0	12,4	10,5	16,1	18,0	3,45	32,0	29,0	M10	111594	107551

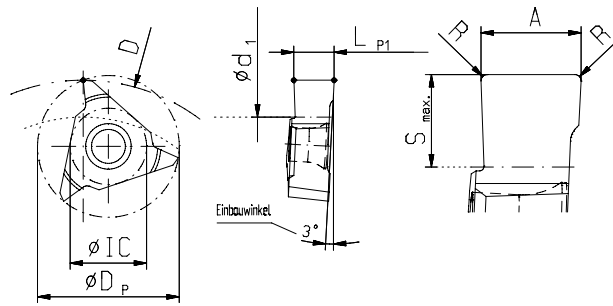
\* Screwdriver and clamping screw included in delivery  
 \*\* Without internal coolant supply  
 \*\*\* Also suitable as basic body for a tandem cutter

Screw torques max.		
107530	T6 IP	0,9 Nm
107547	T15 IP	3,8 Nm
107551	T20 IP	5,5 Nm

**TriMILL**

**Slot Milling**

- Insert holder see page 98-99
- Cutting data see page 166

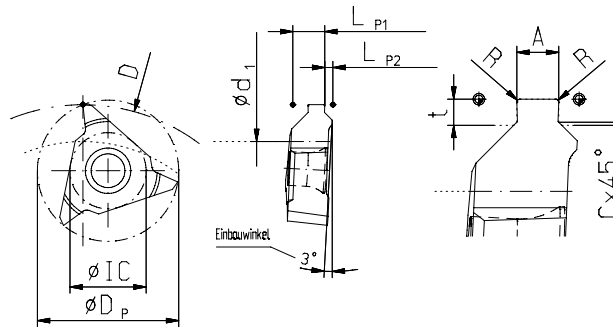


without profile	<b>Typ 023</b>	<b>Typ 013</b>
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Type	A mm	DP mm	IC mm	LP1 mm	S <sub>max.</sub> mm	R mm	Order No. TINAMATIC
023*	5,0	17,5	9,2	5,03	4	0,15	142060
013	6,5	23	12,4	6,53	6	0,15	141972

**Circlip Grooves**

- With chamfered edge
- Insert holder see page 98-99
- Cutting data see page 166



	<b>DIN 471/472</b>
<b>Typ 023</b>	<b>Typ 013</b>

Type	G-Ring <sup>H13</sup> width	DP mm	E mm	LP1 mm	LP2 mm	A <sub>±0,03</sub> mm	t mm	Cx45° mm	R mm	Order No. TINAMATIC
023	1,85	17,5	9,2	3,73	1,3	1,93	1,25	0,2	0,1	141946
	2,15	17,5	9,2	3,73	1,3	2,23	1,5	0,2	0,1	141949
	2,65	17,5	9,2	3,73	1,3	2,73	1,5	0,2	0,2	141997
	2,65	17,5	9,2	3,73	1,3	2,73	1,75	0,2	0,2	141970
	3,15	17,5	9,2	4,23	0,8	3,23	1,75	0,2	0,2	141993
	4,15	17,5	9,2	5,03	1,0	4,23	2,5	0,2	0,2	141973
013	1,85	23,0	12,4	5,2	1,33	1,93	1,25	0,2	0,1	141914
	2,15	23,0	12,4	5,2	1,33	2,23	1,5	0,2	0,1	141892
	2,65	23,0	12,4	5,2	1,33	2,73	1,5	0,2	0,2	141915
	2,65	23,0	12,4	5,2	1,33	2,73	1,75	0,2	0,2	141907
	3,15	23,0	12,4	5,2	1,33	3,23	1,75	0,2	0,2	141924
	4,15	23,0	12,4	5,2	1,33	4,23	2,0	0,2	0,2	141905
	4,15	23,0	12,4	5,2	1,33	4,23	2,5	0,2	0,2	141927


\* Please note the max. cutting depth (S) for insert holders type 023

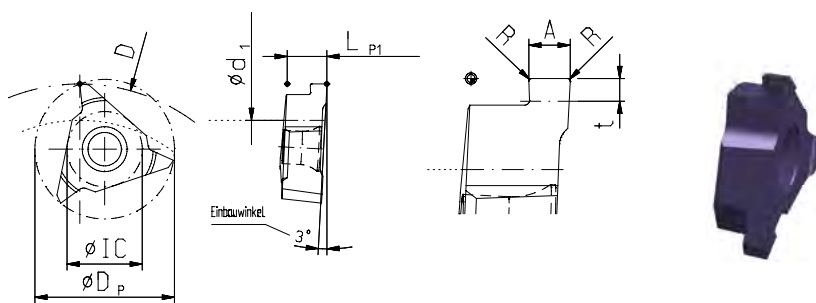


TriMILL

Circlip Grooves

- Without chamfered edge
- Insert holder see page 98-99
- Cutting data see page 166

	DIN 471/ 472
Typ 023	Typ 013

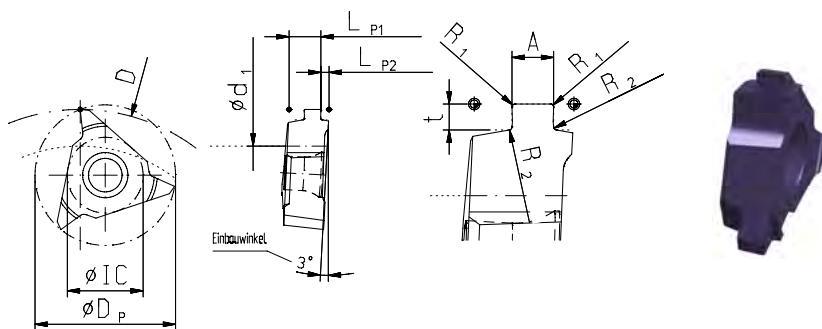


Type	G-Ring <sup>H13</sup> width	DP mm	IC mm	LP1 mm	A <sub>0,03</sub> mm	t mm	R mm	Order No. TINAMATIC
023	1,85	17,5	9,2	5,03	1,93	1,25	0,1	141994
	2,15	17,5	9,2	5,03	2,23	1,75	0,1	141980
	2,65	17,5	9,2	5,03	2,73	1,75	0,2	141968
	3,15	17,5	9,2	5,03	3,23	2,2	0,2	142014
013	2,15	23	12,4	6,53	2,23	1,75	0,1	141937
	2,65	23	12,4	6,53	2,73	1,75	0,2	141925
	3,15	23	12,4	6,53	3,23	2,2	0,2	141930
	4,15	23	12,4	6,53	4,23	2,5	0,2	141934
	5,15	23	12,4	6,53	5,26	4,0	0,2	141932

O-Ring Grooves

- Insert holder see page 98-99
- Cutting data see page 166

	DIN ISO 3601-2
Typ 023	Typ 013

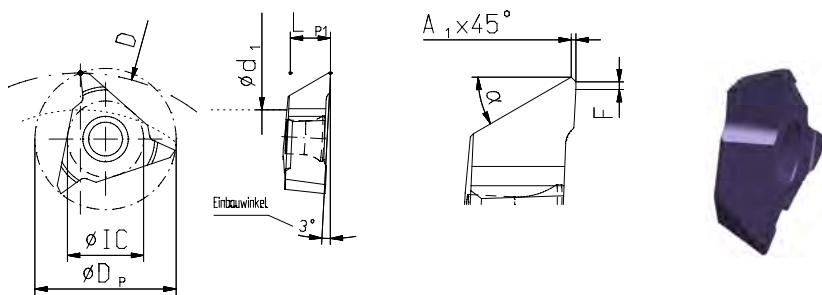


Type	G-Ring width	DP mm	IC mm	LP1 mm	LP2 mm	A <sub>0,03</sub> mm	t mm	R1 mm	R2 mm	Order No. TINAMATIC
023	1,8	17,5	9,2	4,03	1,0	2,28	1,45	0,3	0,2	142012
	2,65	17,5	9,2	4,03	1,0	3,08	2,3	0,3	0,2	142019
013	2,65	23	12,4	5,5	1,03	3,08	2,3	0,3	0,2	141919
	3,55	23	12,4	5,5	1,03	4,08	3,1	0,3	0,2	141916

Slot Milling

- Insert holder see page 98-99
- Cutting data see page 166

Typ 023	Typ 013
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Type	DP mm	IC mm	LP1 mm	A <sub>1 x 45°</sub> mm	F mm	α	Order No. TINAMATIC
023*	17,5	9,2	5	0,3	0,5	25°	149516
013	23	12,4	6,5	0,3	0,5	28°	149472

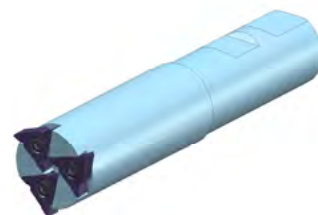
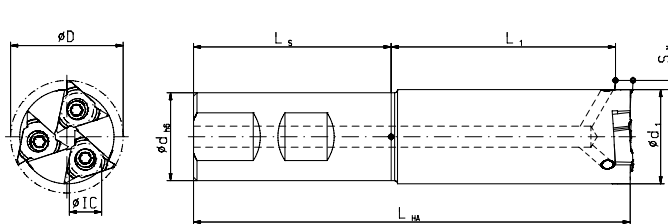
 Further information on face finish milling see from page 76.

TriMILL 023

Circular Milling Tools

- Inserts see page 96-97
- Cutting data see page 166

Typ <b>023</b>	DIN 1835 Form B	IC 9,2
Ø min. 33 mm	S max. 2,6 mm	



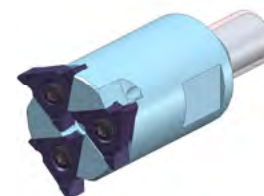
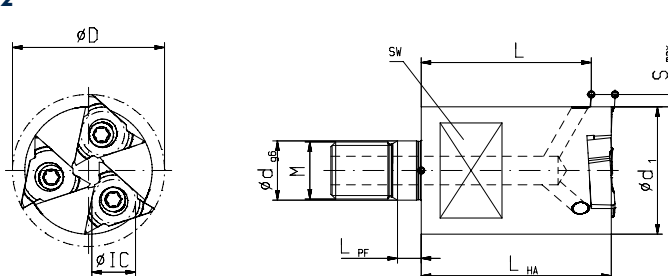
Order No.	D mm	d h6 mm	d1 mm	S max. mm	LHA mm	L mm	L1 mm	Inserts	Shaft
123462	32	25	26,8	2,6	124,2	119,97	61,97	3	Steel

Spare part No.	
T15 IP Screw-driver*	Screw *
111671	107547
Screw torque max. 3,8 Nm	

- Tightening torques see page 92

Please adapt cutting data to overhangs length

Typ <b>023</b>		IC 9,2
Ø min. 33 mm	S max. 3,4 mm	

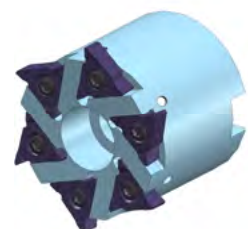
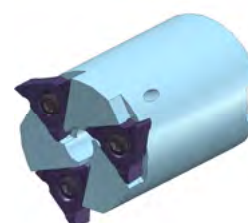
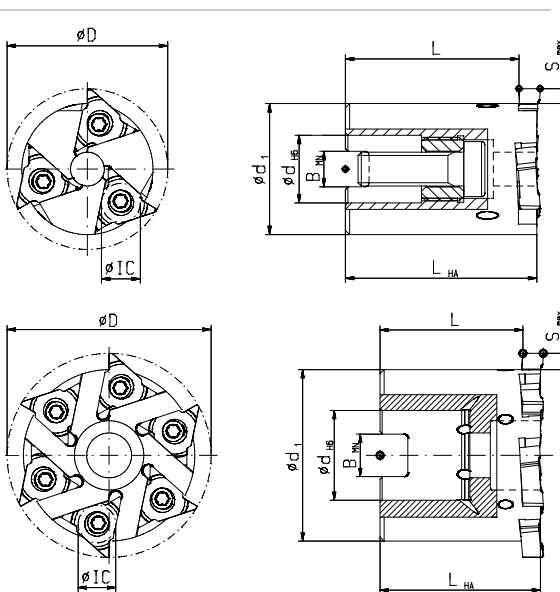


Order No.	D mm	d g6 mm	d1 mm	S max. mm	LHA mm	L mm	Inserts	M
123465	32	12,5	24,3	3,8	40	34,97	3	M12

Spare part No.	
T15 IP Screw-driver*	Screw *
111671	107547
Screw torque max. 3,8 Nm	

- Assembly instruction see page 176

Typ <b>023</b>		IC 9,2
Ø min. 40 mm	S max. 4,0 mm	



Order No.	D mm	d H6 mm	d1 mm	S max. mm	LHA mm	L mm	B MN mm	Inserts
123464	38	16	31	3,4	45,3	40,97	8,4	3
123461*	50	22	42	3,9	39,3	34,97	10,4	6
161485*	63	27	55	4,0	39,3	34,97	12,4	8

Accessories
 Key
134984

Spare part No.	
T15 IP Screw-driver*	Screw *
111671	107547
111671	107547
111671	107547
Screw torque max. 3,8 Nm	


\* Screwdriver and clamping screw included in delivery



\* Cutter clamping screw internal hexagon  
Order No. 114684

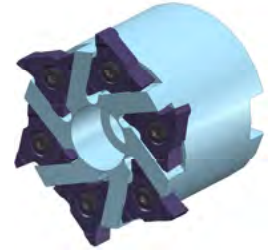
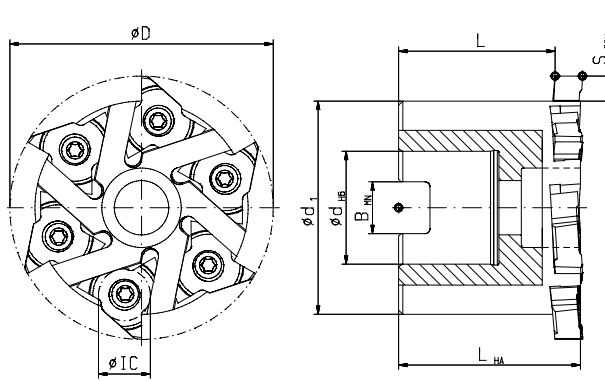
TriMILL 013

Circular Milling Tools

- Inserts see page 96-97
- Cutting data see page 166

Typ **013**  **IC 12,4**

Ø min. **65 mm**  S max. **6,0 mm** 



Order No.	D mm	dH6 mm	d1 mm	S max. mm	LHA mm	L mm	B MN mm	Inserts
123435	63	27	51	6	43,5	37,5	12,4	6


Spare part No.



T20 IP Screw-driver*	Screw *
111594	107551

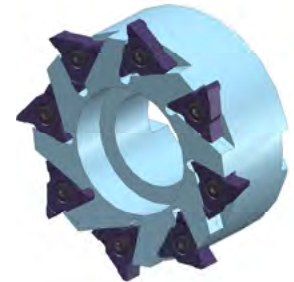
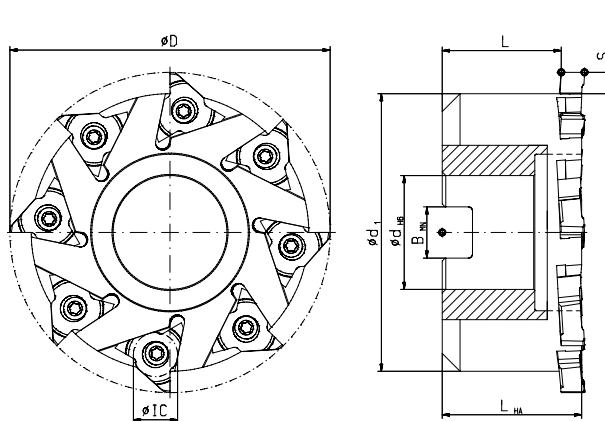
Screw torque 5,5 Nm

Cutter clamping screw internal hexagon

Order No. 114695

Typ **013**  **IC 12,4**

Ø min. **95 mm**  S max. **6,0 mm** 






Order No.	D mm	dH6 mm	d1 mm	S max. mm	LHA mm	L mm	B MN mm	Inserts
123436	90	32	78	6	39,2	33,5	14,4	8

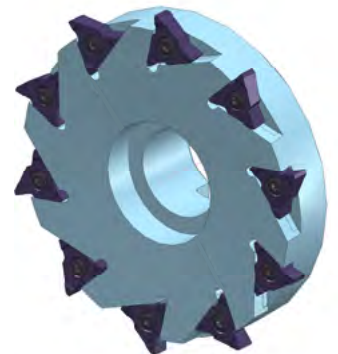
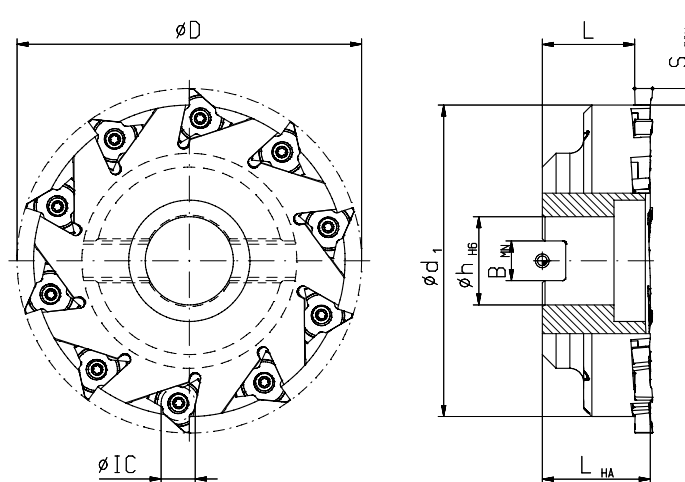
Spare part No.

T20 IP Screw-driver*	Screw *
111594	107551

Screw torque 5,5 Nm

Typ **013**  **IC 12,4**

Ø min. **95 mm**  S max. **6,0 mm** 



Order No.	D mm	dH6 mm	d1 mm	S max. mm	LHA mm	L mm	B MN mm	Inserts
134561	125	32	113	6,0	39,2	33,5	14,4	10

Spare part No.

T20 IP Screw-driver*	Screw *
111594	107551

Screw torque 5,5 Nm

\* Screwdriver and clamping screw included in delivery

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