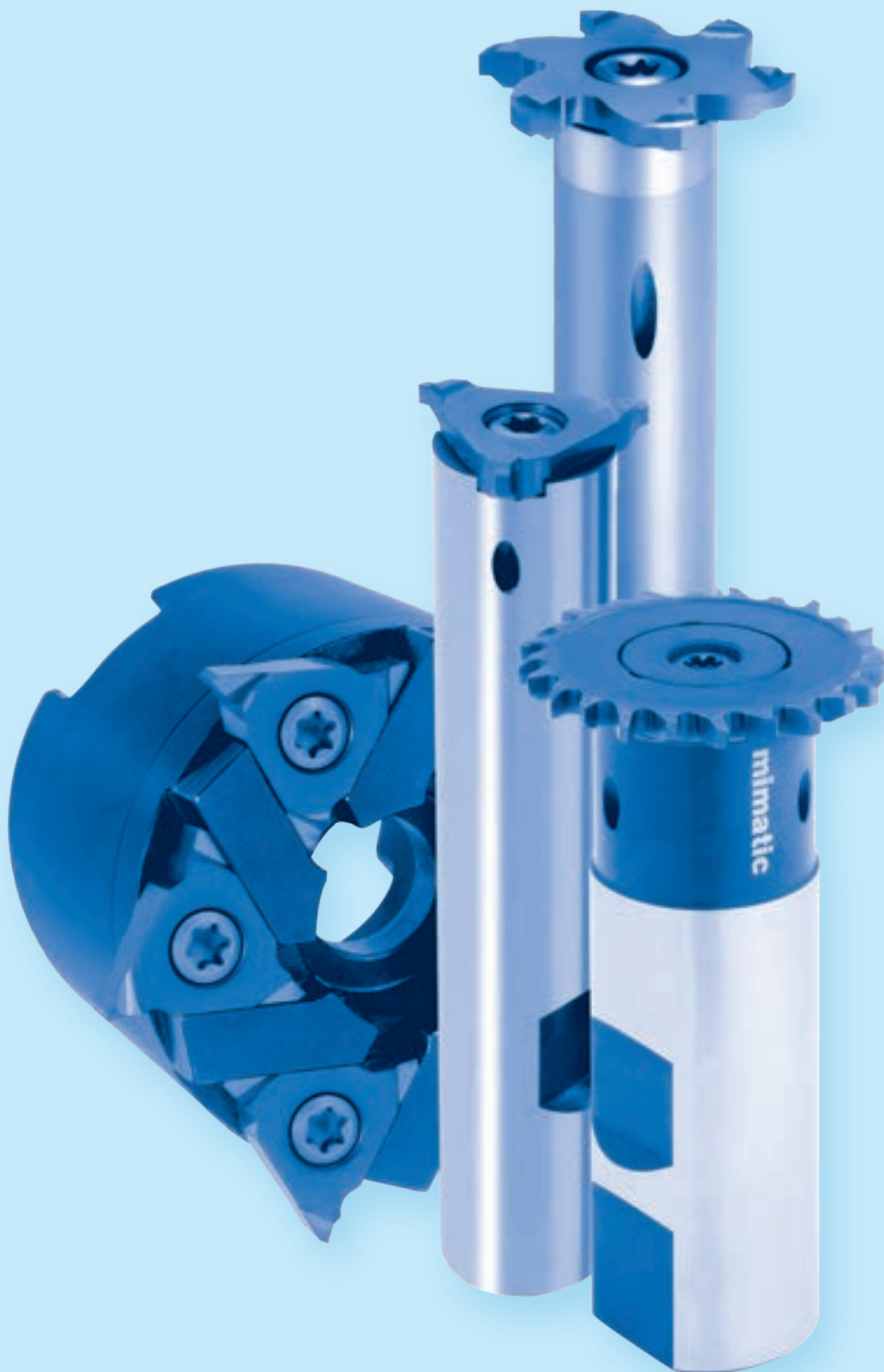


Slot Milling



Milling

Thread Milling



Trapezoid thread
ACME thread
Knuckle thread
TC 50 / TC 80

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1

Face Finish Milling



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2

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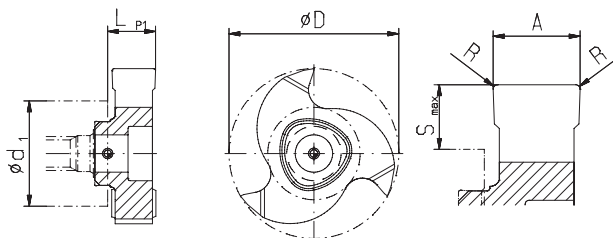
	Type designation		Blank inserts must be equipped with a clearance angle!
	Tool shank without clamping surface		Inserts without profile, ready for use with clearance angle.
	Tool shank with Weldon clamping surface		Inserts for guard ring slots
	Solid carbide shaft without clamping surface		Inserts for 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		Thread depth max.
	Internal coolant supply		Edge radius
			Full radius

Formula for Tool Lengths

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

Slot Milling

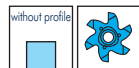
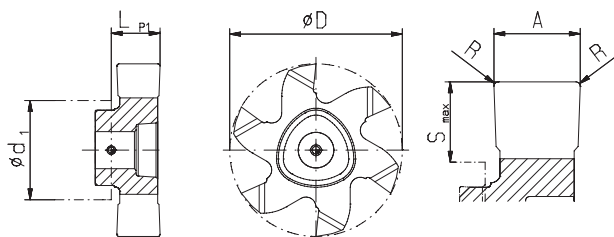
- Insert holder see page 104-106
- Cutting data see page 189



Type		A mm	A inch	D mm	Rake Angle	R mm	LP1 mm	LP2 mm	S _{max} . mm	Number of teeth	Order No. TINAMATIC
P12	P1210	0,74	.029	9,6	6°	0,1	3,25	0,1	1,2	3	171915
	P1210	0,84	.033	9,6	6°	0,1	3,25	0,1	1,2	3	171916
	P1210	1	.039	9,6	6°	0,1	3,25	0,1	1,2	3	171917
	P1210	1,2	.047	9,6	6°	0,1	3,25	0,1	1,2	3	171918
	P1210	1,4	.055	9,6	6°	0,1	3,25	0,1	1,2	3	171919
	P1210	1,5	.059	9,6	6°	0,1	3,25	0,1	1,2	3	171920
	P1210	1,575	.062	9,6	6°	0,1	3,25	0,1	1,2	3	173937
	P1210	1,7	.067	9,6	6°	0,1	3,25	0,1	1,2	3	171921
	P1210	2	.079	9,6	6°	0,1	3,75	–	1,2	3	171922
	P1210	2,5	.098	9,6	6°	0,1	3,75	–	1,2	3	171923
	P1212	1,5	.059	11,7	6°	0,1	3,4	–	2,25	3	171862
	P1212	2	.079	11,7	6°	0,15	3,4	–	2,25	3	171863
	P1212	2,5	.098	11,7	6°	0,15	3,4	–	2,25	3	171865
	P1212	3	.118	11,7	6°	0,15	3,55	–	2,25	3	171866
	P1212	3,175	.125	11,7	6°	0,15	3,75	–	2,25	3	173938
P16	P1616	3,5	.138	16	0°	0,15	4,15	–	3,5	3	142531
	P1616	3,5	.138	16	8°	0,15	4,15	–	3,5	3	142486
	P1616	3,5	.138	16	12°	0,15	4,15	–	3,5	3	142526
	P1616	5	.197	16	0°	0,15	5,65	–	3,5	3	142511
	P1616	5	.197	16	8°	0,15	5,65	–	3,5	3	142541
	P1616	5	.197	16	12°	0,15	5,65	–	3,5	3	142457
P25	P2525	4	.157	25	0°	0,15	4,65	–	5,7	3	142556
	P2525	4	.157	25	8°	0,15	4,65	–	5,7	3	142546
	P2525	4	.157	25	12°	0,15	4,65	–	5,7	3	142579
	P2525	5	.197	25	8°	0,15	5,75	–	5,7	3	142538
	P2525	6	.236	25	8°	0,15	6,90	–	5,7	3	160907 NEW
	P2525	6,35	.250	25	8°	0,15	7,15	–	5,7	3	173939
	P2525	6,5	.256	25	0°	0,15	7,15	–	5,7	3	142582
	P2525	6,5	.256	25	8°	0,15	7,15	–	5,7	3	142610
	P2525	6,5	.256	25	12°	0,15	7,15	–	5,7	3	142574
	P2525	8	.315	25	0°	0,15	8,65	–	5,7	3	142558
	P2525	8	.315	25	8°	0,15	8,65	–	5,7	3	142578
	P2525	8	.315	25	12°	0,15	8,65	–	5,7	3	142588

Slot Milling, Straight Toothed

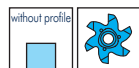
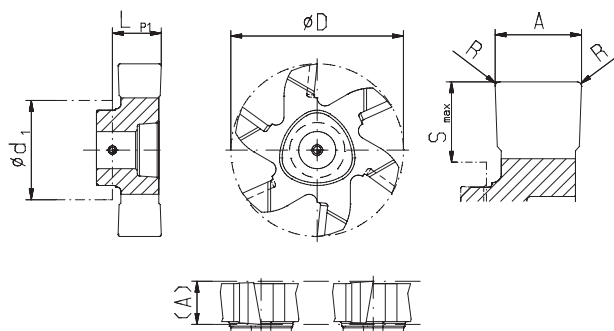
- Insert holder see page 104-106
- Cutting data see page 189



Type		A mm	A inch	D mm	Rake Angle	R mm	LP1 mm	S _{max.} mm	Number of teeth	Order No. TINAMATIC
P16	P1616	3,0	.118	16,0	6°	0,15	3,53	3,5	6	142494
	P1616	3,175	.125	16,0	6°	0,05	3,74	3,5	6	173929
	P1616	4,0	.157	16,0	6°	0,15	4,65	3,5	6	142565
	P1616	5,0	.197	16,0	6°	0,15	5,65	3,5	6	142586
	P1618	1,2	.047	17,7	6°	0,1	4,0	4,0	6	171937
	P1618	1,4	.055	17,7	6°	0,1	4,0	4,0	6	171938
	P1618	1,5	.059	17,7	6°	0,1	3,9	4,0	6	171939
	P1618	1,57	.062	17,7	6°	0,1	3,9	4,0	6	173928
	P1618	1,7	.067	17,7	6°	0,1	4,0	4,0	6	171940
	P1618	2,0	.079	17,7	6°	0,1	3,9	4,0	6	171941
	P1618	2,39	.094	17,7	6°	0,15	4,0	4,0	6	171942
	P1618	2,5	.098	17,7	6°	0,15	3,9	4,0	6	171943
P20	P2020	3,0	.118	20,0	6°	0,15	3,65	4,2	6	168673
	P2020	4,0	.157	20,0	6°	0,15	4,65	4,2	6	168674
	P2020	5,0	.197	20,0	6°	0,15	5,65	4,2	6	142655
	P2022	1,4	.055	21,7	6°	0,1	5,0	5,0	6	171956
	P2022	1,5	.059	21,7	6°	0,1	5,0	5,0	6	171957
	P2022	1,57	.062	21,7	6°	0,1	5,0	5,0	6	173930
	P2022	1,7	.067	21,7	6°	0,1	5,0	5,0	6	171958
	P2022	2,0	.079	21,7	6°	0,1	5,0	5,0	6	171959
	P2022	2,39	.094	21,7	6°	0,15	5,0	5,0	6	171960
	P2022	2,5	.098	21,7	6°	0,15	5,0	5,0	6	171961
	P2022	3,0	.118	21,7	6°	0,15	5,0	5,0	6	171962
	P2022	3,175	.125	21,7	6°	0,15	5,0	5,0	6	171963
	P2022	4,0	.157	21,7	6°	0,15	5,0	5,0	6	182370 NEW
	P2022	5,0	.197	21,7	6°	0,15	6,0	5,0	6	187947 NEW
	P25	P2526	3,0	.118	26,0	6°	0,15	3,65	6,2	6
P2526		3,175	.125	26,0	6°	0,15	3,7	6,2	6	173932
P2526		4,0	.157	26,0	6°	0,15	4,65	6,2	6	142677
P2526		5,0	.197	26,0	6°	0,15	6,9	6,2	6	142589
P2526		6,0	.236	26,0	6°	0,15	7,15	6,2	6	162646 NEW
P2526		6,35	.250	26,0	6°	0,15	6,95	6,2	6	173931
P2526		6,5	.256	26,0	6°	0,15	7,15	6,2	6	142618
P2528		1,5	.059	27,7	6°	0,1	4,9	6,8	6	171981
P2528		2,0	.079	27,7	6°	0,1	4,9	6,8	6	171982
P2528		2,39	.094	27,7	6°	0,15	4,9	6,8	6	171983
P2528		2,5	.098	27,7	6°	0,15	4,9	6,8	6	171984
P2528		3,0	.118	27,7	6°	0,15	4,9	6,8	6	171985
P2528		3,175	.125	27,7	6°	0,15	5,0	6,8	6	171986

Slot Milling, Cross Toothed

- Insert holder see page 104-106
- Cutting data see page 189

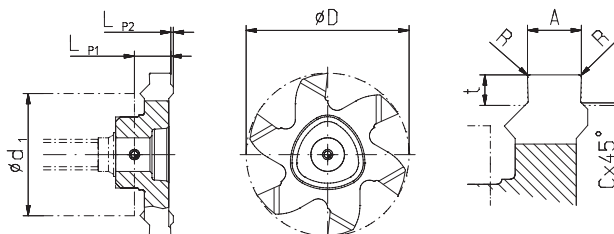


Type		A mm	A inch	D mm	Rake Angle	R mm	LP1 mm	S ^{max.} mm	Number of teeth	Order No.
										TINAMATIC
P16	P1616	5,0	.197	16,0	6°	0,15	5,65	3,5	6	171699
P20	P2020	5,0	.197	20,0	6°	0,15	5,65	4,2	6	171700
	P2022	4,0	.157	21,7	6°	0,15	5,0	5,0	6	163659
	P2022	5,0	.197	21,7	6°	0,15	6,0	5,0	6	187948 
P25	P2526	5,0	.197	26,0	6°	0,15	6,9	6,2	6	171701
	P2526	6,5	.256	26,0	6°	0,15	7,15	6,2	6	171702
	P2528	4,0	.157	27,7	6°	0,15	5,9	6,8	6	177186
	P2528	5,0	.197	27,7	6°	0,15	5,9	6,8	6	177187

i Further slotting widths on request

Circlip Grooves

- With chamfered edge
- Insert holder see page 104-106
- Cutting data see page 189



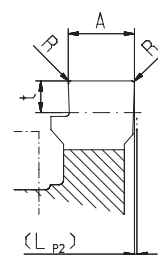
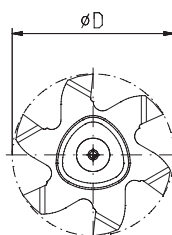
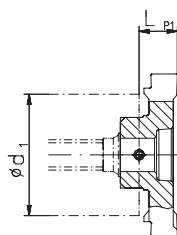
Type		DIN Width ^{H13}	D mm	A _{0,03} mm	t mm	C x 45° mm	R mm	LP1 mm	LP2 mm	Number of teeth	Order No TINAMATIC	
P16	P1616	1,10	16	1,18	0,50	0,10	0,05	3,15	0,675	6	142423	
	P1616	1,30	16	1,38	0,85	0,15	0,05	3,15	0,675	6	142528	
	P1616	1,60	16	1,68	1,00	0,15	0,1	3,15	0,675	6	142561	
	P1616	1,85	16	1,93	1,25	0,20	0,1	3,15	0,675	6	142562	
P20	P2020	1,10	20	1,18	0,50	0,10	0,05	3,15	0,675	6	168675	
	P2020	1,30	20	1,38	0,85	0,15	0,05	3,15	0,675	6	168676	
	P2020	1,60	20	1,68	1,00	0,15	0,1	3,15	0,675	6	168677	
	P2020	1,85	20	1,93	1,25	0,20	0,1	3,15	0,675	6	168678	
	P2022	1,60	21,7	1,68	1,00	0,15	0,1	4,7	0,45	6	171968	
	P2022	1,85	21,7	1,93	1,25	0,20	0,1	4,7	0,45	6	171969	
	P2022	2,15	21,7	2,23	1,50	0,20	0,1	4,7	0,45	6	171970	
	P2022	2,65	21,7	2,73	1,75	0,20	0,2	4,8	0,35	6	171971	
	P25	P2526	1,30	26	1,38	0,85	0,15	0,05	3,4	0,425	6	142646
		P2526	1,60	26	1,68	1,00	0,15	0,1	3,4	0,425	6	142660
P2526		1,85	26	1,93	1,25	0,20	0,1	3,4	0,425	6	142607	
P2526		2,15	26	2,23	1,50	0,20	0,1	3,4	0,425	6	142591	
P2526		2,65	26	2,73	1,75	0,20	0,2	4,25	0,575	6	142597	
P2526		3,15	26	3,23	1,75	0,20	0,2	4,25	0,575	6	142661	
P2526		4,15	26	4,23	2,00	0,20	0,2	6,415	0,560	6	142622	
P2526		4,15	26	4,23	2,50	0,20	0,2	6,415	0,560	6	160893	

NEW

NEW

Circlip Grooves

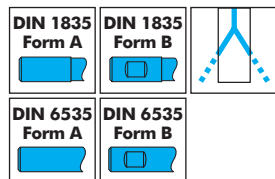
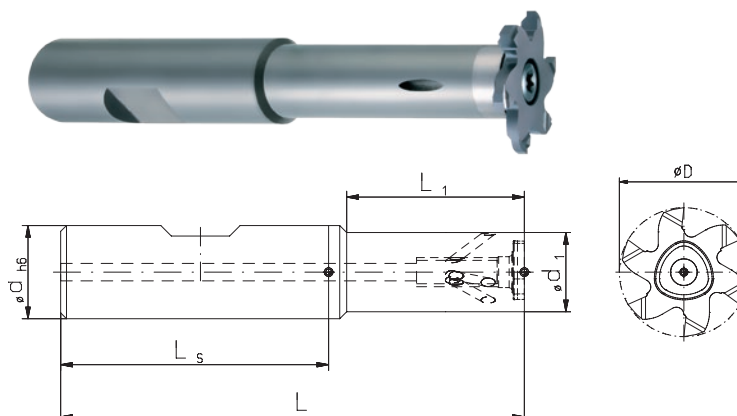
- Without chamfered edge
- Insert holder see page 104-106
- Cutting data see page 189



Type		DIN Width ^{H13}	D mm	A _{0,03} mm	t mm	R mm	LP1 mm	LP2 mm	Number of teeth	Order No TINAMATIC
P12	P1210	0,90	9,6	0,98	1,20	0,05	3,25	0,1	3	172125
	P1212	1,10	11,7	1,18	0,90	0,05	3,55	–	3	171868
	P1212	1,30	11,7	1,38	1,10	0,05	3,55	–	3	171869
	P1212	1,60	11,7	1,68	1,00	0,1	3,55	–	3	171870
P16	P1616	1,10	16,0	1,18	0,90	0,05	3,45	–	6	142548
	P1616	1,30	16,0	1,38	1,10	0,05	3,45	–	6	142509
	P1616	1,60	16,0	1,68	1,25	0,1	3,45	–	6	142533
	P1616	1,85	16,0	1,93	1,25	0,1	3,45	–	6	142536
	P1618	1,10	17,7	1,18	0,90	0,05	4,0	–	6	171945
	P1618	1,30	17,7	1,38	1,10	0,05	4,0	–	6	171946
	P1618	1,60	17,7	1,68	1,25	0,1	3,9	–	6	171947
	P1618	1,85	17,7	1,93	1,25	0,1	4,0	–	6	171948
P20	P2020	1,10	20,0	1,18	0,90	0,05	3,65	–	6	168679
	P2020	1,30	20,0	1,38	1,10	0,05	3,65	–	6	168680
	P2020	1,60	20,0	1,68	1,25	0,1	3,65	–	6	168681
	P2020	1,85	20,0	1,93	1,25	0,1	3,65	–	6	168682
	P2022	1,60	21,7	1,68	1,25	0,1	5,0	–	6	171964
	P2022	1,85	21,7	1,93	1,25	0,1	5,0	–	6	171965
	P2022	2,15	21,7	2,23	1,75	0,1	5,0	–	6	171966
	P2022	2,65	21,7	2,73	1,75	0,2	5,0	–	6	171967
P25	P2526	1,30	26,0	1,38	1,10	0,05	3,65	–	6	142598
	P2526	1,60	26,0	1,68	1,25	0,1	3,65	–	6	142653
	P2526	1,85	26,0	1,93	1,25	0,1	3,65	–	6	142616
	P2526	2,15	26,0	2,23	1,75	0,1	3,65	–	6	142637
	P2526	2,65	26,0	2,73	1,75	0,2	3,65	–	6	142662
	P2526	3,15	26,0	3,23	2,20	0,2	4,55	–	6	142643
	P2526	4,15	26,0	4,23	2,50	0,2	6,80	–	6	160906 NEW

Circular Milling Tools with Polygonal Insert Seat

- Inserts see page 100-103
- Cutting data see page 189



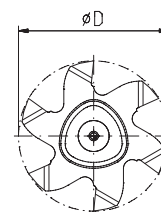
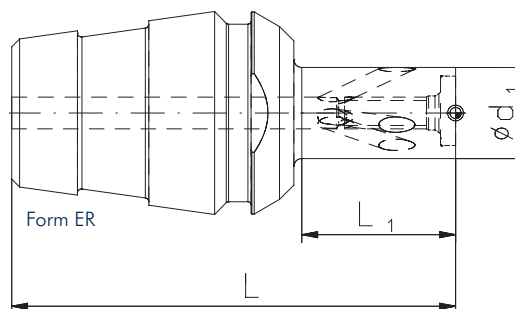
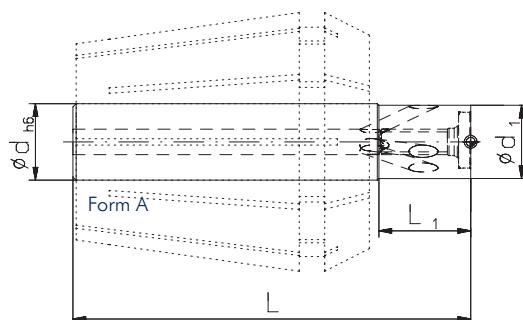
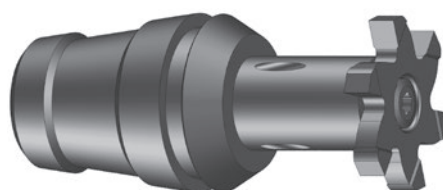
											Spare part No.	
Type	Order No.	Form	Bore Ø min. recom- mended	dh6 mm	d1 mm	Dmax. mm	Smax. (D-d1)/2 mm	L mm	L1 mm	Shaft	Screw- driver	Screw
P12	123619	B	12	12	7,0	11,7	2,35	67,5	20	Steel	T8 IP 111656	M2,5x7 107596
	100228	B	12	12	7,0	11,7	2,35	67,5	20	Carbide		
	171778	A	12	12	7,0	11,7	2,35	67,5	20	Carbide		
	171780	B	12	12	7,0	11,7	2,35	80	30	Carbide		
	171781	A	12	12	7,0	11,7	2,35	80	30	Carbide		
	171783	B	12	12	7,0	11,7	2,35	100	40	Carbide		
	171784	A	12	12	7,0	11,7	2,35	100	40	Carbide		
P16	123573	B	18	12	9,0	17,7	4,35	67,4	21	Steel	T8 IP 111656	M3x12 143158
	123577	B	18	12	9,0	17,7	4,35	67,4	21	Carbide		
	171787	A	18	12	9,0	17,7	4,35	67,4	21	Carbide		
	123580	B	18	12	9,0	17,7	4,35	82,4	36	Carbide		
	171789	A	18	12	9,0	17,7	4,35	82,4	36	Carbide		
	123584	A	18	12	9,0	17,7	4,35	100	30	Carbide		
	123588	A	18	12	12,0	17,7	2,85	82,4	-	Carbide		
P20	123590	A	18	12	12,0	17,7	2,85	122,5	-	Carbide	T15 IP 111671	M4x13 107597
	123615	B	22	16	11,5	21,7	5,1	80	30	Steel		
	123616	B	22	16	11,5	21,7	5,1	80	30	Carbide		
	171794	A	22	16	11,5	21,7	5,1	80	30	Carbide		
	123617	B	22	16	11,5	21,7	5,1	100	50	Carbide		
	171796	A	22	16	11,5	21,7	5,1	100	50	Carbide		
	174314	A	22	16	15,5	21,7	3,1	105,5	21	Carbide		
P25	123592	B	28	16	13,6	27,7	7,05	79,6	30,5	Steel	T20 IP 111594	M5x13,5 107529
	123598	B	28	16	13,6	27,7	7,05	79,6	30,5	Carbide		
	171855	A	28	16	13,6	27,7	7,05	79,6	30,5	Carbide		
	123600	B	28	16	13,6	27,7	7,05	94,6	45,5	Carbide		
	171857	A	28	16	13,6	27,7	7,05	94,6	45,5	Carbide		
	123603	B	28	16	13,6	27,7	7,05	109,6	60,5	Carbide		
	171859	A	28	16	13,6	27,7	7,05	109,6	60,5	Carbide		
	123609	A	28	16	15,5	27,7	6,1	105	21,5	Carbide		
	123611	A	28	16	15,5	27,7	6,1	149,5	21,5	Carbide		
	123613	A	28	20	15,5	27,7	6,1	178,5	21,5	Carbide		

Screw torques max.

107596	T08 IP	1,0 Nm
143158	T08 IP	1,1 Nm
107597	T15 IP	3,8 Nm
107529	T20 IP	5,5 Nm

Circular Milling Tools for Driven Toolholders

- Inserts see page 100-103
- Cutting data see page 189



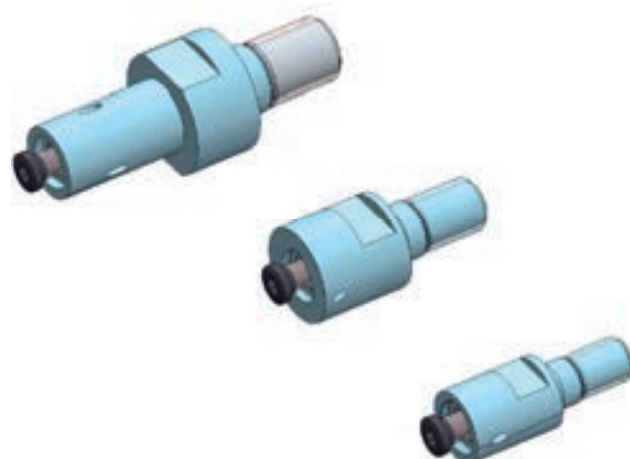
Type	Order No.	Form	Bore $\varnothing$ min. recom- mended	dh6 mm	d1 mm	D max. mm	S max. (D-d1)/2 mm	L mm	L1 mm	Shaft	Spare part No.	
											Screw- driver	Screw
P12	177170	A	12	10	7,0	11,7	2,35	54	8	Steel	T8 IP 111656	M2,5x7 107596
	177172	ER 16	12		7,0	11,7	2,35	37,5	8	Steel		
	177173	ER 20	12		7,0	11,7	2,35	47	13	Steel		
P16	177174	A	18	10	9,0	17,7	4,35	60	11	Steel	T8 IP 111656	M3x12 143158
	177176	ER 16	18		9,0	17,7	4,35	41,4	11	Steel		
	177177	ER 20	18		9,0	17,7	4,35	51	16	Steel		
P20	177178	A	22	12	11,5	21,7	5,1	62,4	14,4	Steel	T15 IP 111671	M4x13 107597
	177180	ER 20	22		11,5	21,7	5,1	49,5	14,5	Steel		
	177181	ER 25	22		11,5	21,7	5,1	56	19,4	Steel		
P25	177182	A	28	16	13,6	27,7	7,05	69,6	20,4	Steel	T20 IP 111594	M5x13,5 107529
	177184	ER 25	28		13,6	27,7	7,05	56	19,4	Steel		
	177185	ER 32	28		13,6	27,7	7,05	73	30,4	Steel		

Screw torques max.

107596	T8 IP	1,0 Nm
143158	T8 IP	1,1 Nm
107597	T15 IP	3,8 Nm
107529	T20 IP	5,5 Nm

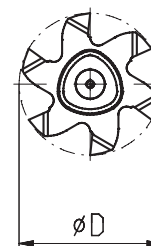
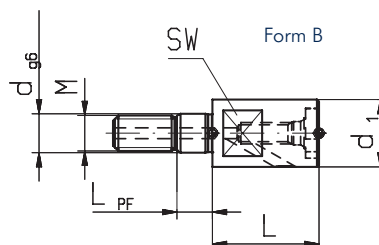
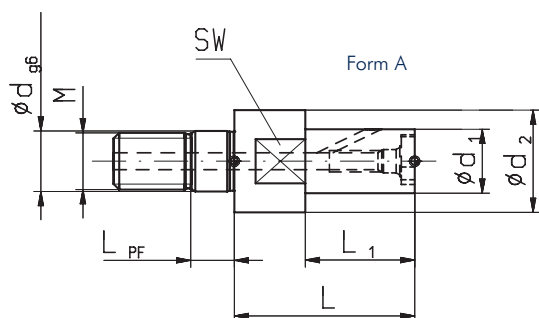
Changing Inserts

Clamp cutter before changing insert. Loosen insert screw. Remove used insert and clean the insert pocket before clamping new insert. Please use the appropriate TIP hex key for the tightening of the inserts and consider the screw tightening torques in the tables.



Circular Milling Tools with Polygonal Insert Seat

- Inserts see page 100-103
- Cutting data see page 189



Please adapt cutting data
to overhangs length

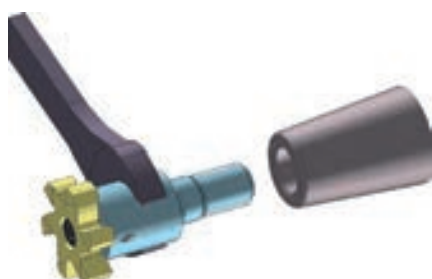
Type	Order No.	Form	Bore Ø min. recommended	d1 mm	d2 mm	Dmax. mm	S _{max.} (D-d1)/2 mm	L mm	L1 mm	M	dg6 mm	L _{PF} mm	Spare part No.	
													Screwdriver	Screw
P12***	177676	B	12	9,5	–	11,7	1,1	13,5	–	M5	5,5	5,0	111656	107596
P16	123586	A	18	9,0	14,4	17,7	4,35	29,5	19,5	M8	8,5	5,5	111656	143158
P16**	177683	B	18	9,5	–	17,7	4,1	18,5	–	M5	5,5	5,0	111656	143158
P16***	177698	B	18	11,0	–	17,7	3,35	18,5	–	M6	6,5	5,0	111656	143158
P20	123618	A	22	11,5	18,0	21,7	5,1	35,0	25,0	M10	10,5	5,5	111671	107597
P20**	177734	B	22	11,5	–	21,7	5,1	20,5	–	M6	6,5	5,0	111671	107597
P20***	177735	B	22	13,5	–	21,7	4,1	20,5	–	M8	8,5	5,5	111671	107597
P25	123605	A	27	13,6	22,5	27,7	7,05	42,5	29,5	M12	12,5	5,5	111594	107529
P25**	177747	B	27	13,6	–	27,7	7,05	22,6	–	M8	8,5	5,5	111594	107529
P25***	177767	B	27	18,0	–	27,7	4,85	22,6	–	M10	10,5	5,5	111594	107529

** Slim design for thread milling
*** Reinforced design

Screw torques max.		
107596	T8 IP	1,0 Nm
143158	T8 IP	1,1 Nm
107597	T15 IP	3,8 Nm
107529	T20 IP	5,5 Nm

Assembling Instructions

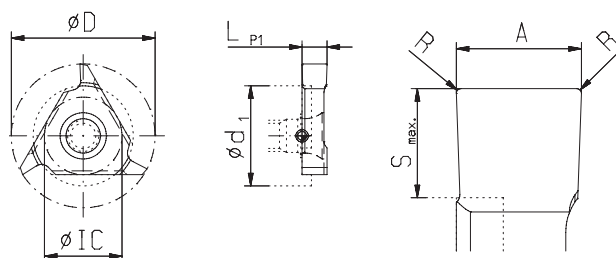
- Recommended tightening torque for
screw-in circular milling body



Thread size (M)	Wrench size mm	Tightening torque Nm
M5	7	8
M6	9	10
M8	11	25
M10	15	40
M12	19	60

Slot Milling

- Insert holder see page 109
- Cutting data see page 189

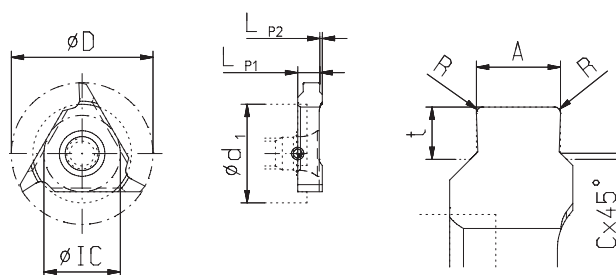


Type	A mm	D mm	IC mm	LP1 mm	S _{max.} mm	R mm	Order No. TINAMATIC
04	2,0	7,9	5,5	2,34	0,35	0,1	141719
03	2,34	10,6	5,5	2,36	1,6	0,15	141642
	3,0	10,6	5,5	3,02	1,6	0,15	141669
	3,5	17,5	9,2	3,52	2,6	0,15	141533
02	5,0	17,5	9,2	5,03	2,6	0,15	141535
	6,0	17,5	9,2	6,02	2,6	0,15	141544
	4,0	23,0	12,4	4,03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

5

Circlip Grooves

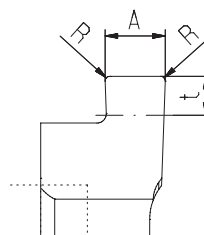
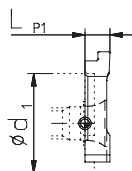
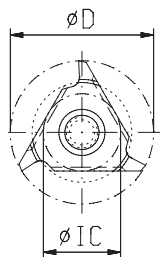
- With chamfered edge
- Insert holder see page 109
- Cutting data see page 189



Type	G-Ring ^{H13}	D mm	E mm	LP1 mm	LP2 mm	A _{-0,03} 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
02	1,10	17,5	9,2	3,1	0,4	1,18	0,5	0,1	0,05	141427
	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
	1,10	23	12,4	3,6	0,4	1,18	0,5	0,1	0,05	141161
01	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

Circlip Grooves

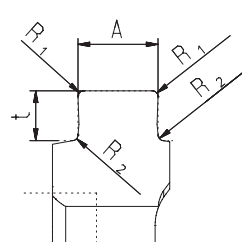
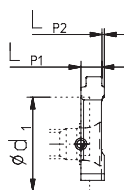
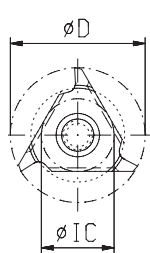
- Without chamfered edge
- Insert holder see page 109
- Cutting data see page 189



Type	G-Ring ^{H13}	D mm	IC mm	LP1 mm	A _{0,03} mm	t mm	R mm	Order No. TINAMATIC
04	0,9	7,9	5,5	2,34	0,98	0,3	0,05	141726
03	0,9	10,6	5,5	2,34	0,98	0,7	0,05	141611
	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
02	0,9	17,5	9,2	3,5	0,98	0,7	0,05	141416
	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
01	0,9	23,0	12,4	4,0	0,98	0,7	0,05	141254
	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

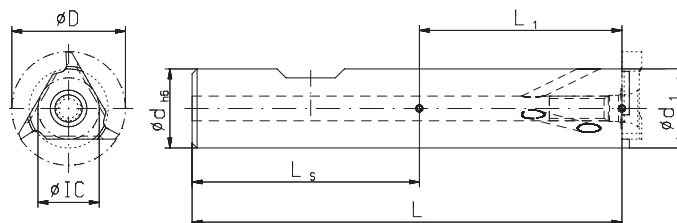
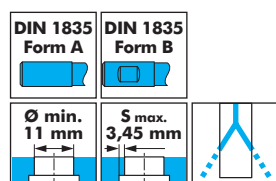
- Insert holder see page 109
- Cutting data see page 189



Type	G-Ring	D mm	IC mm	LP1 mm	LP2 mm	A _{0,03} 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 107-108
- Cutting data see page 189



												Spare part No.	
Type	Order No.	Form	Bore Ø min.	D mm	IC mm	d h6 mm	d1 mm	S max. mm	L mm	L1 mm	Shaft	Screw-driver	Screw
04	123491*	B	8	7,9	5,5	10	7,2	0,35	57,2	17,2	Steel	T6 IP 111705	107530
03	123477*	B	11	10,6	5,5	10	7,4	1,6	57,2	17,2	Steel		
	123478*	B	11	10,6	5,5	12	7,4	1,6	64,66	17,2	Steel		
	123479*	A	11	10,6	5,5	12	7,4	1,6	64,66	17,2	Steel		
	123480	B	11	10,6	5,5	10	7,4	1,6	74,2	34,2	Carbide		
	123489	A	11	10,6	5,5	8	8	1,25	77,66	–	Carbide		
02	123445	B	20	17,5	9,2	12	12	2,6	74,05	28,7	Steel	T15 IP 111671	107547
	123446	B	20	17,5	9,2	16	12	2,6	78,6	28,7	Steel		
	123447	A	20	17,5	9,2	16	12	2,6	78,6	28,7	Steel		
	123448	B	20	17,5	9,2	12	12	2,6	108,7	63,7	Carbide		
	123470	A	20	17,5	9,2	12	12	2,6	79,3	–	Carbide		
	123471	A	20	17,5	9,2	12	12	2,6	96,5	–	Carbide		
01	123474	A	20	17,5	9,2	12	12	2,6	121,5	–	Carbide		
	123412	B	25	23,0	12,4	16	16	3,45	87,0	38,5	Steel	T20 IP 111594	107551
	123414	B	25	23,0	12,4	16	16	3,45	116,0	67,5	Steel		
	123415**	A	25	23,0	12,4	20	17	3,0	93,0	41,0	Steel		
	170320	A	25	23,0	12,4	16	17	3,0	137,0	88,5	Carbide		
	123416	B	25	23,0	12,4	16	17	3,0	137,0	88,5	Carbide		
	123440	A	25	23,0	12,4	16	16	3,45	111,0	–	Carbide		
	123441	A	25	23,0	12,4	16	16	3,45	148,5	–	Carbide		

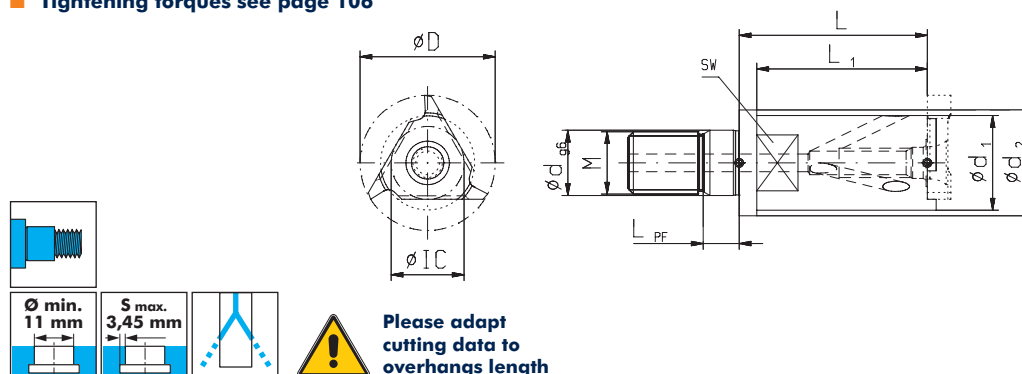
* Without internal coolant supply

** 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 106



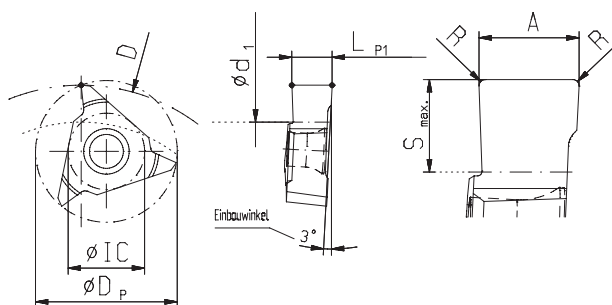
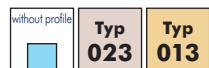
												Spare part No.	
Type	Order No.	Bore Ø min.	D mm	IC mm	d g6 mm	d1 mm	d2 mm	S max. mm	L mm	L1 mm	M	Screw-driver	Screw
03	123481	11	10,6	5,5	6,5	7,4	10,0	1,60	22,66	13,66		111705	107530
02	123450	20	17,5	9,2	8,5	12,2	15,4	2,60	27,5	18,5		111671	107547
01	123419	25	23,0	12,4	10,5	16,1	18,0	3,45	32,0	29,0		111594	107551

Screw torques max.

107530	T6 IP	0,9 Nm
107547	T15 IP	3,8 Nm
107551	T20 IP	5,5 Nm

Slot Milling

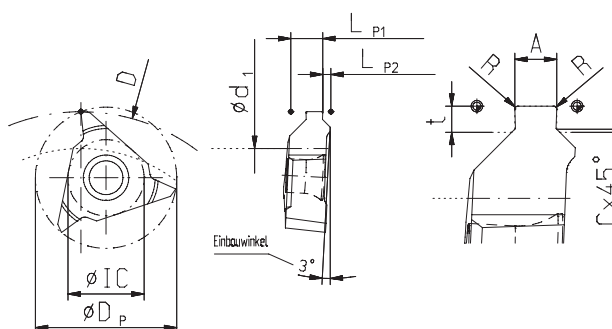
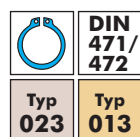
- Insert holder see page 112-113
- Cutting data see page 189



Type	A mm	DP mm	IC mm	LP1 mm	S _{max.} 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 112-113
- Cutting data see page 189

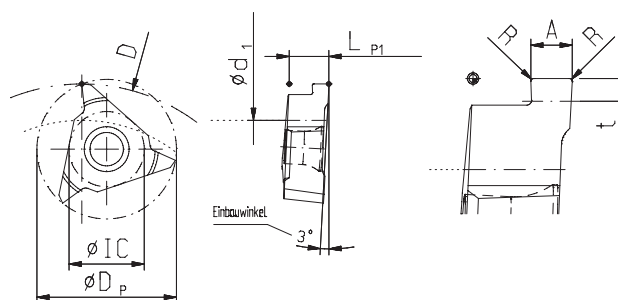
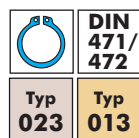


Type	G-Ring ^{H13}	DP mm	E mm	LP1 mm	LP2 mm	A _{±0,03} mm	t mm	C x 45° mm	R mm	Order No. TINAMATIC
023	1,85	17,5	9,2	3,73	1,3	1,93	1,25	0,2	0,1	141946
	2,15	17,5	9,2	3,73	1,3	2,23	1,5	0,2	0,1	141949
	2,65	17,5	9,2	3,73	1,3	2,73	1,5	0,2	0,2	141997
	2,65	17,5	9,2	3,73	1,3	2,73	1,75	0,2	0,2	141970
	3,15	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.

Circlip Grooves

- Without chamfered edge
- Insert holder see page 112-113
- Cutting data see page 189

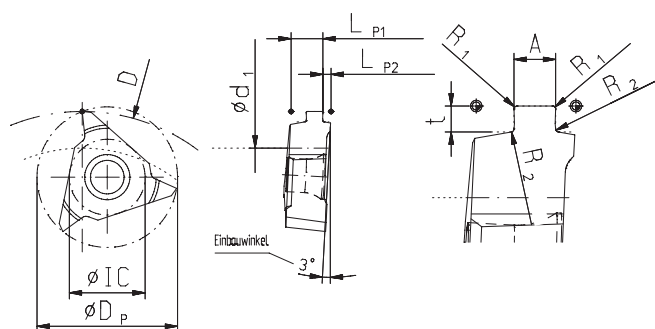


Type	G-Ring ^{H13}	DP mm	IC mm	LP1 mm	A _{0,03} mm	t mm	R mm	Order No. TINAMATIC
023	1,85	17,5	9,2	5,03	1,93	1,25	0,1	141994
	2,15	17,5	9,2	5,03	2,23	1,75	0,1	141980
	2,65	17,5	9,2	5,03	2,73	1,75	0,2	141968
	3,15	17,5	9,2	5,03	3,23	2,2	0,2	142014
013	2,15	23	12,4	6,53	2,23	1,75	0,1	141937
	2,65	23	12,4	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	3,5	0,2	141932

5

O-Ring Grooves

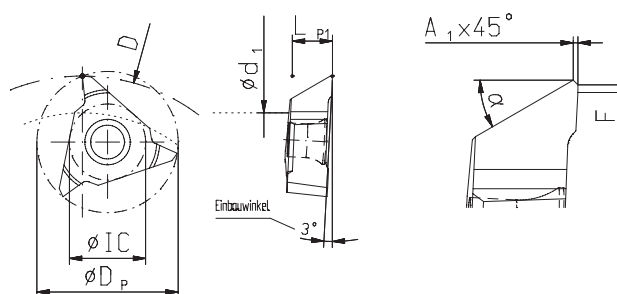
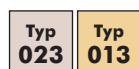
- Insert holder see page 112-113
- Cutting data see page 189



Type	G-Ring	DP mm	IC mm	LP1 mm	LP2 mm	A _{0,03} 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 112-113
- Cutting data see page 189



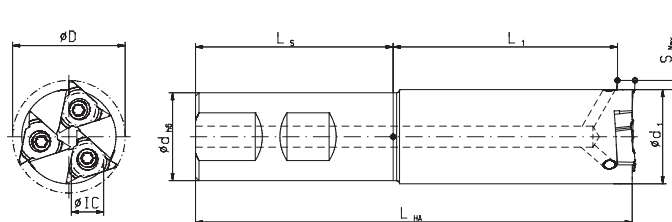
Type	DP mm	IC mm	LP1 mm	A1 x 45° mm	F mm	α	Order No. TINAMATIC
023*	17,5	9,2	5	0,3	0,5	25°	149516
013	23	12,4	6,5	0,3	0,5	28°	149472

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

Circular Milling Tools

- Inserts see page 110-111
- Cutting data see page 189

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



Order No.	Bore Ø min.	D mm	d h6 mm	d1 mm	S max. mm	LHA mm	L mm	L1 mm	Inserts	Shaft
123462	33	32	25	26,8	2,6	124,2	119,97	61,97	3	Steel

Spare part No.

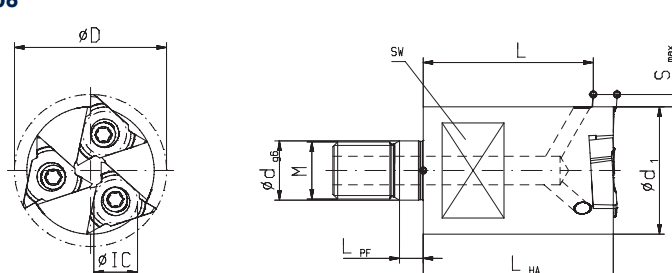
T15 IP Screw-driver	Screw
111671	107547

Screw torque max. 3,8 Nm

- Tightening torques see page 106



Typ 023		IC 9,2
Ø min. 33 mm	S max. 3,4 mm	



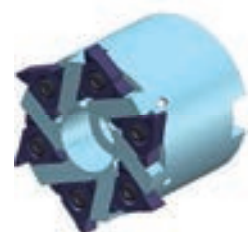
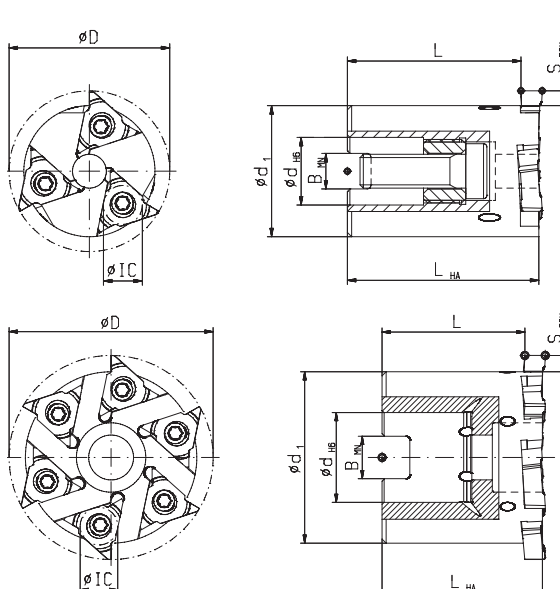
Order No.	Bore Ø min.	D mm	d g6 mm	d1 mm	S max. mm	LHA mm	L mm	Inserts	M
123465	33	32	12,5	24,3	3,8	40	34,97	3	M12

Spare part No.

T15 IP Screw-driver	Screw
111671	107547

Screw torque max. 3,8 Nm

Typ 023		IC 9,2
Ø min. 40 mm	S max. 4,0 mm	



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

Accessories



Key

Spare part No.

T15 IP Screw-driver	Screw
111671	107547
111671	107547

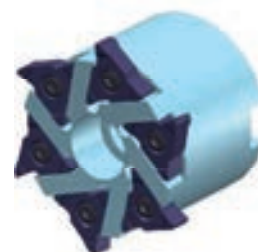
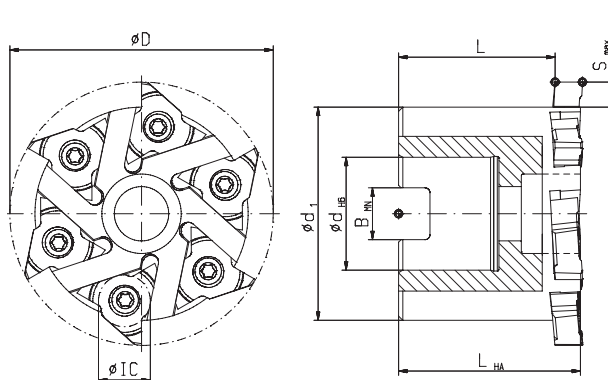
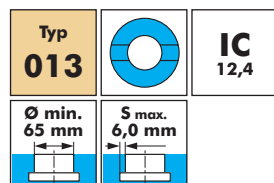
Screw torque max. 3,8 Nm

* Cutter clamping screw internal hexagon

Order No. 114684

Circular Milling Tools

- Inserts see page 110-111
- Cutting data see page 189



Order No.	Bore Ø min.	D mm	d H6 mm	d1 mm	S max. mm	L HA mm	L mm	B MN mm	Inserts
123435	65	63	27	51	6	43,5	37,5	12,4	6

Spare part No.

T20 IP
Screw-driver

Screw

111594

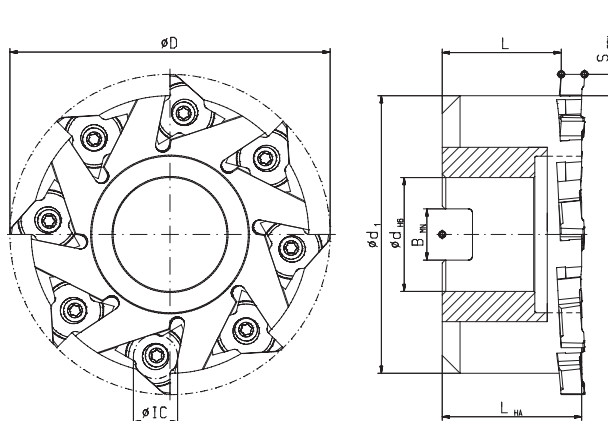
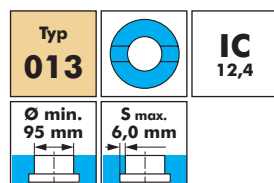
107551

Screw torque 5,5 Nm

Cutter clamping screw internal hexagon

Order No. 114695

5



Order No.	Bore Ø min.	D mm	d H6 mm	d1 mm	S max. mm	L HA mm	L mm	B MN mm	Inserts
123436	95	90	32	78	6	39,2	33,5	14,4	8

Spare part No.

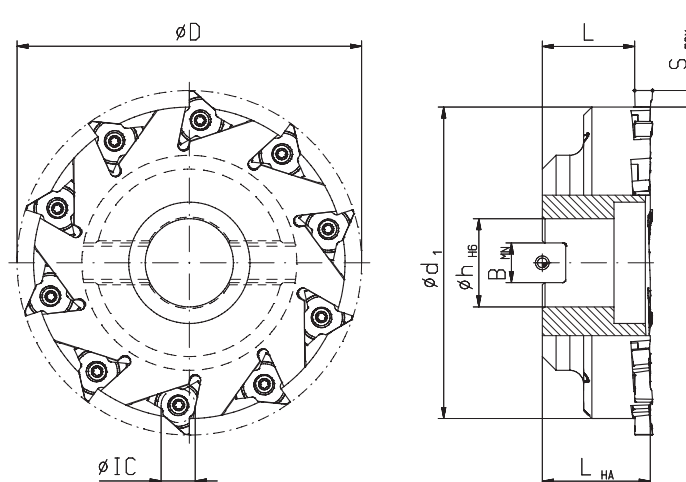
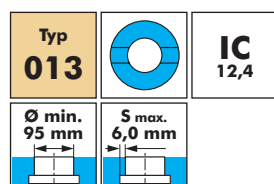
T20 IP
Screw-driver

Screw

111594

107551

Screw torque 5,5 Nm



Order No.	Bore Ø min.	D mm	d H6 mm	d1 mm	S max. mm	L HA mm	L mm	B MN mm	Inserts
134561	130	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

DeepMILL

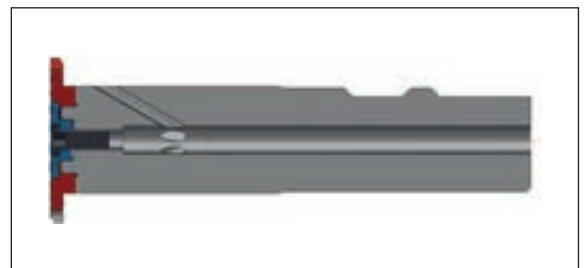
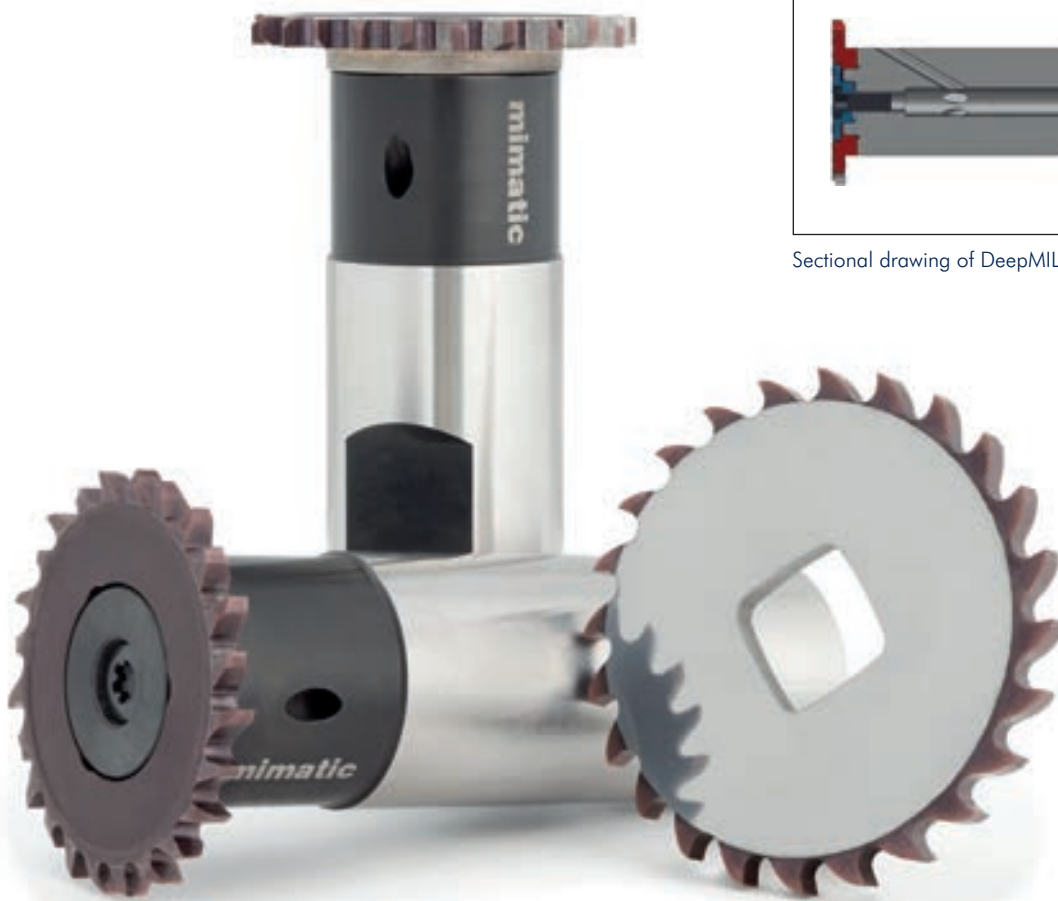
Slot Milling, Grooving, Milling of Cooling Fins

With PolyMILL and TriMILL solid carbide inserts, mimatic sets the bar for grooving and profile milling applications. With more than a decades worth of applications involving industry leading customers Mimatic is an established brand at the forefront of these applications.

mimatic meets the permanent demand for higher power and larger cutting depths with new innovations. With the latest product development DeepMILL, the limit of the impossible has been exceeded again by mimatic - and this time by a quantum leap.

- Larger range of applications
- Defined tooth and cutting edge geometry
- mimatic core competence: Polygon interface → Quadragon interface
- High performance coatings
- Internal coolant direct to the edges
- Clamping with only one center screw
- Special chip space geometry

**The Result of mimatic Development:
DeepMILL with a Up to Tenfold Cutting Performance.**



Sectional drawing of DeepMILL-G

DeepMILL

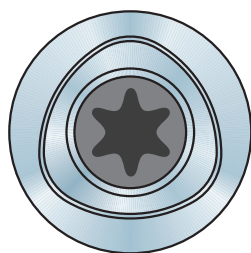
Milling Tools in New Dimensions of Performance



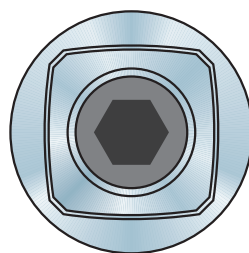
- With DeepMILL can be milled up to shoulders
- Cutting edges on the face can be used for special machining operations
- On request: Increased cutting depths (S) achievable with reductions in speed/feed
- + **Re-sharpen-Service 2x**
- + Minimum distance for operations to shoulders: 0,001 mm

5

The mimatic Polygon Interface – A Success Story with Continuous Evolution: Quadrogon



mimatic
Polygon Interface



mimatic
Quadrogon* Interface

Since their development and launch in 1994, the mimatic polygon interface is the guarantee for high cutting performance with maximum precision and repeatability in the circular milling.

In the tool systems PolyMILL and Poly-REAM, the polygon interface enables the reliable circular thread milling and reaming as well as T-slot milling and

grooving. In many practical applications, the interface has established itself as a key factor for successful milling operations under difficult conditions.

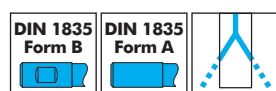
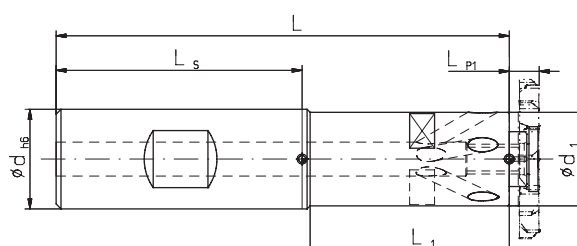
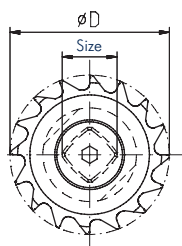
With the development of the new tool systems DeepMILL and PolySAW, the development of the polygon interface has evolved as well. Under the brand name mimatic Quadrogon, the inter-

face has been optimized specifically for the needs of this new mimatic high-performance tool.

* patent-protected.

Basic Holders

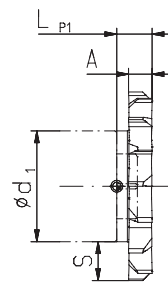
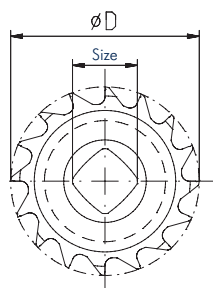
- Cutting data see page 190
- Carbide coating see page 123



							Complete holder	Spare Parts **	
Size	Type	dh6 mm	DIN	L1 mm	L2 mm	d1 mm	Bestell-Nr.	Screwdriver	Size
Ø 32	11	20	1835 B	91	40	18,8	163701	178296	SW 3
	11	20	1835 A	91	40	18,8	160050	178296	SW 3
	13	25	1835 B	105	45	21,6	163702	178297	SW 4
	13	25	1835 A	105	45	21,6	160051	178297	SW 4

Screw torques max.
Type 11 = max. 10,5 Nm
Type 13 = max. 24,5 Nm

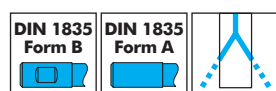
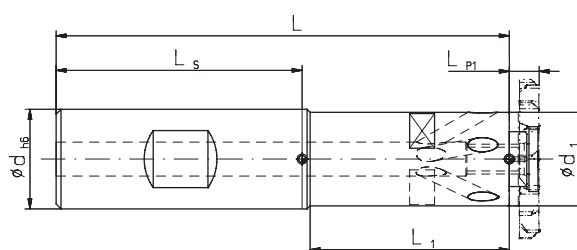
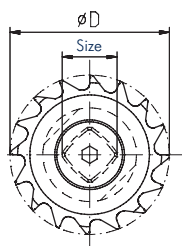
Milling Discs



Size	Type	A* mm	S max. mm	D mm	LP1 mm	Number of teeth	Order No. TINAMATIC	Deliverable
Ø 32	13	2	5,2	32	6	16	164440	on request
	11	2	6,6	32	6	16	164402	on stock
	13	3	5,2	32	6	16	164441	on request
	11	3	6,6	32	6	16	164403	on stock
	13	4	5,2	32	6	16	164404	on stock
	11	4	6,6	32	6	16	164442	on request
	13	5	5,2	32	6	16	164405	on stock
	11	5	6,6	32	6	16	164443	on request

Basic Holders

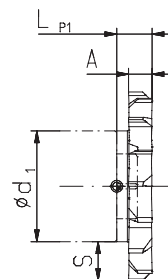
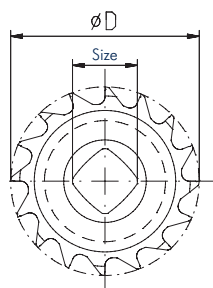
- Cutting data see page 190
- Carbide coating see page 123



							Complete holder	Spare Parts **	
Size	Type	dh6 mm	DIN	L1 mm	L2 mm	d1 mm	Bestell-Nr.	Screwdriver	Size
Ø 40	13	25	1835 B	105	45	21,6	163702	178297	SW 4
	13	25	1835 A	105	45	21,6	160051	178297	SW 4
	16	25	1835 B	110	50	26	163703	178296	SW 3
	16	25	1835 A	110	50	26	160052	178296	SW 3

Screw torques max.
Type 13 = max. 24,5 Nm
Type 16 = max. 6 Nm

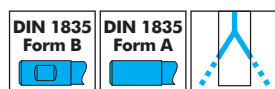
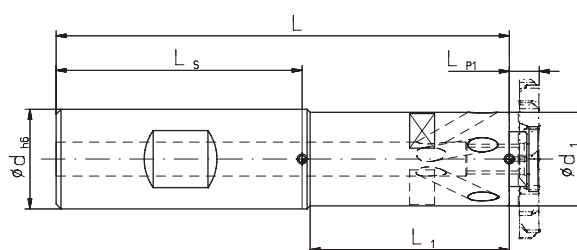
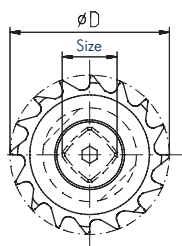
Milling Discs



Size	Type	A* mm	S max. mm	D mm	Lp1 mm	Number of teeth	Order No. TINAMATIC	Deliverable
Ø 40	16	2	7,0	40	6	18	164444	on request
	13	2	9,2	40	6	18	164408	on stock
	16	3	7,0	40	6	18	164445	on request
	13	3	9,2	40	6	18	164409	on stock
	16	4	7,0	40	6	18	164410	on stock
	13	4	9,2	40	6	18	164446	on request
	16	5	7,0	40	6	18	164411	on stock
	13	5	9,2	40	6	18	164447	on request

Basic Holders

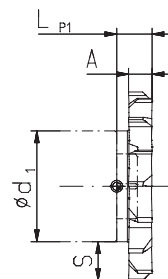
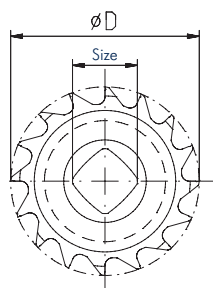
- Cutting data see page 190
- Carbide coating see page 123



Complete holder							Spare Parts **	
Size	Type	dh6 mm	DIN	L1 mm	L2 mm	d1 mm	Bestell-Nr.	Screwdriver
Ø 50	16	25	1835 B	110	50	26	163703	178296 SW 3
	16	25	1835 A	110	50	26	160052	178296 SW 3
	19	32	1835 B	122	55	30	163704	178296 SW 3
	19	32	1835 A	122	55	30	160053	178296 SW 3

Screw torques max.
Type 16 = max. 6 Nm
Type 19 = max. 10,5 Nm

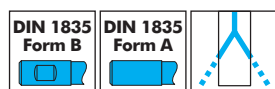
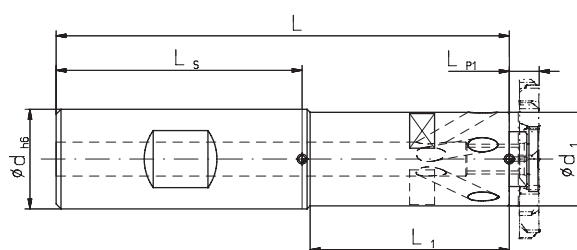
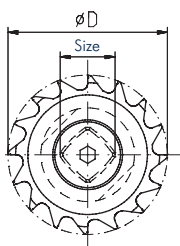
Milling Discs



Size	Type	A* mm	S max. mm	D mm	Lp1 mm	Number of teeth	Order No. TINAMATIC	Deliverable
Ø 50	19	2	10	50	6	24	164448	on request
	16	2	12	50	6	24	164414	on stock
	19	3	10	50	6	24	164449	on request
	16	3	12	50	6	24	164415	on stock
	19	4	10	50	6	24	164416	on stock
	16	4	12	50	6	24	164450	on request
	19	5	10	50	6	24	164417	on stock
	16	5	12	50	6	24	164451	on request

Basic Holders

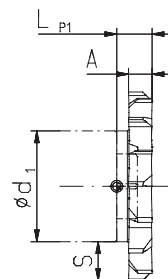
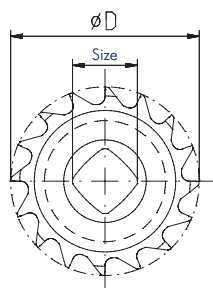
- Cutting data see page 190
- Carbide coating see page 123



							Complete holder	Spare Parts **	
Size	Type	dh6 mm	DIN	L1 mm	L2 mm	d1 mm	Bestell-Nr.	Screwdriver	Size
Ø 63	19	32	1835 B	122	55	30	163704	178296	SW 3
	19	32	1835 A	122	55	30	160053	178296	SW 3
	25	32	1835 B	127	60	38	163705	178297	SW 4
	25	32	1835 A	127	60	38	160054	178297	SW 4

Screw torques max.
Type 19 = max. 10,5 Nm
Type 25 = max. 24,5 Nm

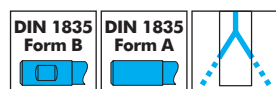
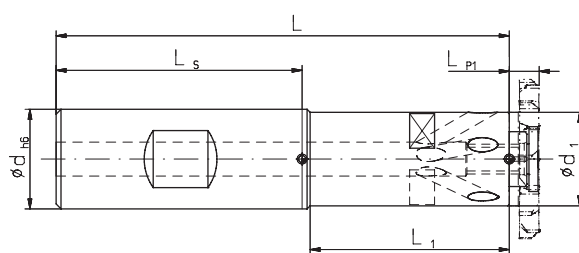
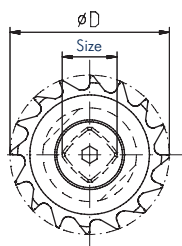
Milling Discs



Size	Type	A* mm	S max. mm	D mm	Lp1 mm	Number of teeth	Order No. TINAMATIC	Deliverable
Ø 63	25	2	12,4	63	6	24	164452	on request
	19	2	16,5	63	6	24	164420	on stock
	25	3	12,4	63	6	24	164453	on request
	19	3	16,5	63	6	24	164421	on stock
	25	4	12,4	63	6	24	164422	on stock
	19	4	16,5	63	6	24	164454	on request
	25	5	12,4	63	6	24	164423	on stock
	19	5	16,5	63	6	24	164455	on request

Basic Holders

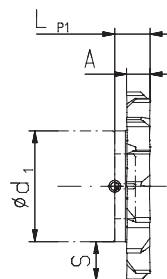
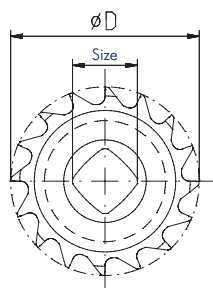
- Cutting data see page 190
- Carbide coating see page 123



							Complete holder	Spare Parts **	
Size	Type	dh6 mm	DIN	L1 mm	L2 mm	d1 mm	Bestell-Nr.	Screwdriver	Size
Ø 80	35	32	1835 B	132	65	49	163706	178297	SW 4
	35	32	1835 A	132	65	49	160055	178297	SW 4
	25	32	1835 B	127	60	38,2	163705	178297	SW 4
	25	32	1835 A	127	60	38,2	160054	178297	SW 4

Screw torques max.
Type 35 = max. 24,5 Nm
Type 25 = max. 24,5 Nm

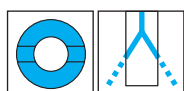
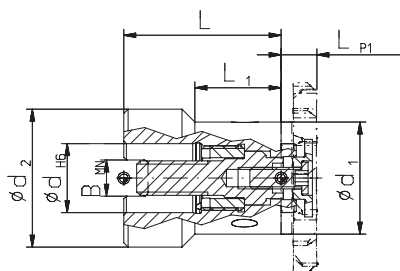
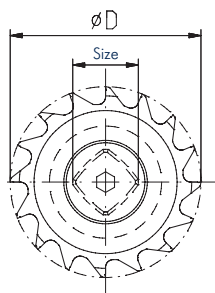
Milling Discs



Size	Type	A* mm	S max. mm	D mm	LP1 mm	Number of teeth	Order No. TINAMATIC	Deliverable
Ø 80	35	2	15,5	80	6	24	164456	on request
	25	2	20,9	80	6	24	164426	on stock
	35	3	15,5	80	6	24	164457	on request
	25	3	20,9	80	6	24	164427	on stock
	35	4	15,5	80	6	24	164428	on stock
	25	4	20,9	80	6	24	164458	on request
	35	5	15,5	80	6	24	164429	on stock
	25	5	20,9	80	6	24	164459	on request

Basic Holders with Location Bore

- Cutting data see page 190
- Carbide coating see page 123



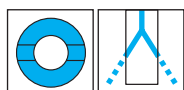
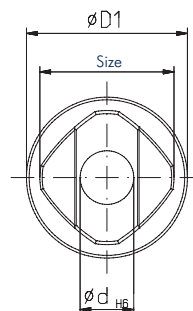
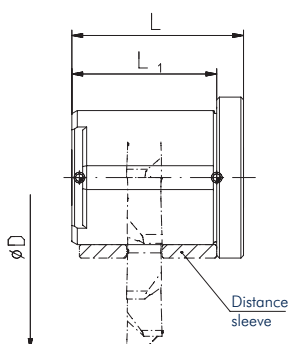
When using PolySaw ECO, as well as DeepMill ECO, the cutting depth is reduced by 6 or 7 mm

Type	dH6 mm	BMN mm	L mm	L1 mm	d1 mm	d2 mm	Complete holder	Spare Parts **	
							Bestell-Nr.	Screwdriver	Size
16	16	8,4	43	20	32	26	179727	178296	SW 3
19	16	8,4	43	20	32	30	179728	178296	SW 3
25	16	8,4	43	20	32	29	156493	178297	SW 4

Screw torques max.
Type 16 = max. 6 Nm
Type 19 = max. 10,5 Nm
Type 25 = max. 24,5 Nm

Saw Blade Arbors for mimatic Saw Blade Holders

- Cutting data see page 190
- Carbide coating see page 123

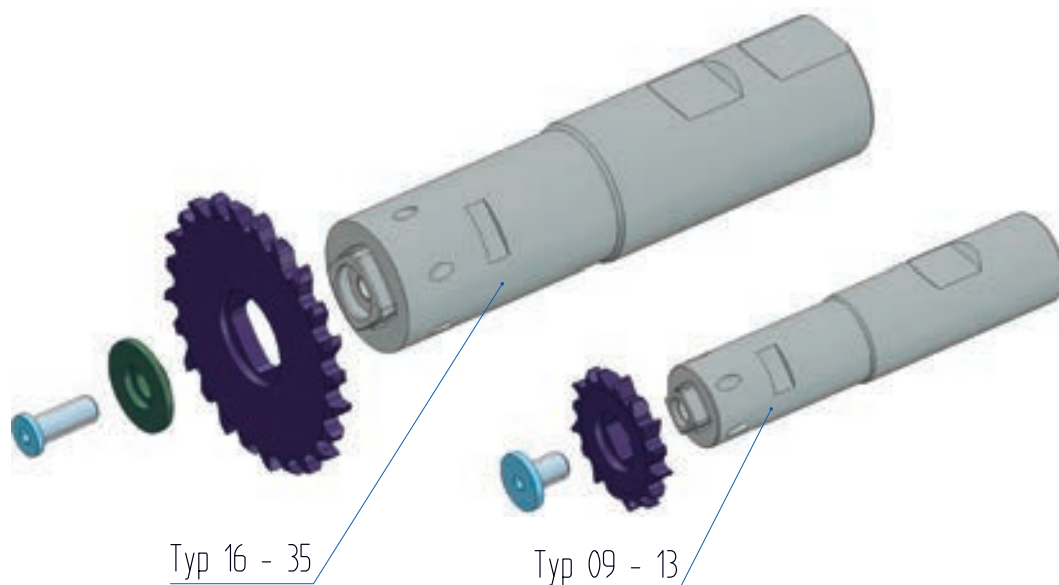


When using PolySaw ECO, as well as DeepMill ECO, the cutting depth is reduced by 6 or 7 mm

System	Typ	dH6 mm	L mm	L1 mm	D1 mm	Complete holder
						Bestell-Nr.
ECO	25	10	32	27	30	179252
	35	10	32	27	30	180316

DeepMILL

Assembly and Spare Parts



Assembly notes

Please tighten the clamping screw with the specified torque.
In the selection of the DeepMILL basic holder and machine tool holder should be chosen the shortest possible setup.

Service

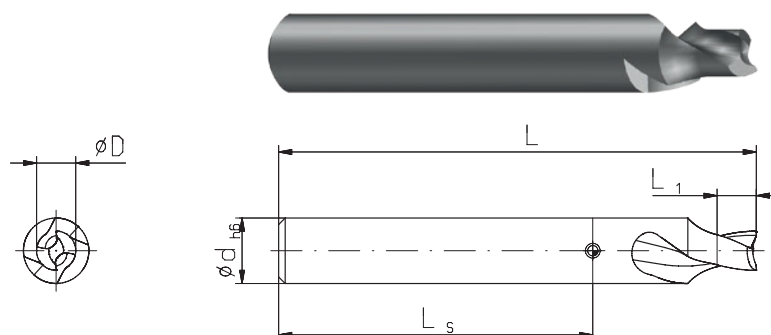
Please don't hesitate to take the advantage of the mimatic service.
Mimatic engineers will offer machining recommendations to optimize your specific applications.

Spare Parts		
Type	Screw	Clamping disc
09	163842	–
11	163843	–
13	163844	–
16	163850	175027
19	163848	163845
25	163849	163846
35	163849	163847

Screw torques max.			
163842	Type 09	M4	3,8 Nm
163843	Type 11	M6	10,5 Nm
163844	Type 13	M8	24,5 Nm
163850	Type 16	M5	6,0 Nm
163848	Type 19	M6	10,5 Nm
163849	Type 24	M8	24,5 Nm
163849	Type 35	M8	24,5 Nm

Keyway Slot Milling Cutters

- CNC-Turning Machines with Y-Axis**
Increased stiffness, higher precision
- CNC-Turning Machines without Y-Axis**
Optimized straight run-out
- Short Process Times**



Type: right-hand cutting
Tool design: double-edged
spiral fluted
15° helix angle
without coolant

Nominal Slot Size D_{P_9} mm	L_1 mm	d_{h6} mm	L mm	Order No.	
				TINAMATIC DIN 6535 HA	TINAMATIC DIN 6535 HB
2	4	8	64,0	164341	164349
3	5	8	64,0	164342	164350
4	6	10	73,0	164343	164351
5	7	10	73,0	164344	164352
6	8	12	74,2	175538	164353
8	9	12	74,2	164345	164354
10	10	12	74,2	164346	164355
12	11	12	74,2	164347	164356
14	12	16	77,0	164348	164357

5

Carbide Grades

K

On request.
Uncoated universal grade for turning unalloyed grey cast iron, black heart castings, alloys and non-ferrous metals with stable machining conditions. High wear resistance.

P

On request.
Uncoated universal grade for turning steel. Good resistance to thermal and mechanical stress with high wear resistance and edge toughness.

FKN

Uncoated grade with fine grain, specifically for titanium and other alloys as well as non-ferrous metals. The homogeneous structure ensures good edge toughness and resistance to wear at high cutting speeds.

TINAMATIC

Grade with multi-layer wear-resistant coating for dry and high-speed machining. Very high thermal and chemical resistance in combination with long service life.

TINAMATIC 2

Grade with multi-layer wear-resistant coating for dry and high-speed machining. Very high thermal and chemical resistance in combination with long service life. Very good for machining of alloyed and stainless steel.

TINAMATIC 3

Grade with multi-layer wear-resistant coating for dry and high-speed machining. Very high thermal and chemical resistance in combination with long service life. Very good for hard machining, stainless steel and materials that are difficult to machine.

TINAMATIC 4

Grade with special coating for machining of aluminum, copper and brass.

Contour and Radius Milling
Chamfering and Deburring



Milling

Thread Milling



Trapezoid thread
ACME thread
Knuckle thread
TC 50 / TC 80

18-79

1

Face Finish Milling



80-85

2

Notch Impact Test



86-91

3

Gear Milling

92-95

4

Slot Milling

96-123

5

Contour and Radius Milling Chamfering, Deburring



Extended
program

124-137

6

Sawing, Slitting

Sawing, Cutting, Slitting

138-149

7

Bore Machining

Drill Milling, Counterboring

150-165

8

Reaming

166-173

9

Axial Grooving

Axial Grooving, adjustable

174-179

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Special Tools

Special- and Combination Tools

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Technical Cutting Data

186-201

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Table of Contents

PolyMILL

NEW Radius milling
extended program



Inserts

Radius milling, concave shapes	127
Radius milling, convex shapes	127
Chamfering and deburring	128

Tool Holders

with cylindrical shank	129
for driven toolholders	130
with tightening shank	131

TriMILL

NEW Radius milling



Inserts

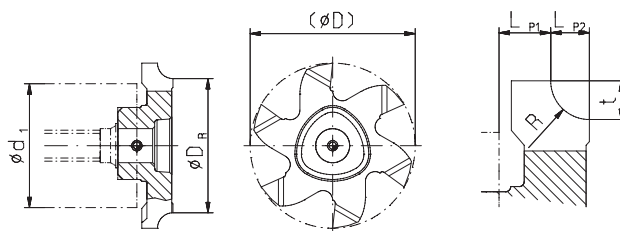
Radius milling, convex shapes	132+134
Chamfering and deburring	132+134

Tool Holders

with cylindrical shank	133+135
with tightening shank	133+135
Face milling cutter	135-136

Radius Milling, Concave Shapes

- Insert holder see page 129
- Cutting data see page 189

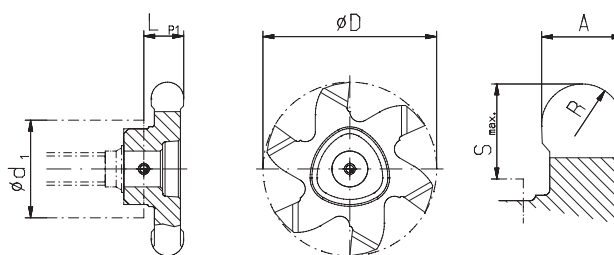


Type		R mm	(D) mm	DR mm	LP1 mm	LP2 mm	t mm	Number of teeth	Order No. TINAMATIC
P25	P2526	0,5	26	25	3,15	0,5	0,5	6	179425
	P2526	1,0	26	24	2,65	1,0	1,0	6	179426
	P2526	1,5	26	23	3,15	1,5	1,5	6	179427
	P2526	2,0	26	22	2,65	2,0	2,0	6	177120
	P2526	2,5	26	21	2,15	2,5	2,5	6	179428
	P2526	3,0	26	20	1,65	3,0	3,0	6	177119
	P2526	4,0	26	18	2,55	4,0	4,0	6	179690
	P2526	5,0	26	16	1,55	5,0	5,0	6	179429

i Inserts for reverse operation on request!

Radius Milling, Convex Shapes

- Insert holder see page 129
- Cutting data see page 189



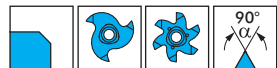
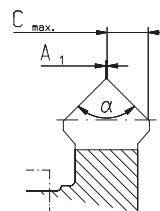
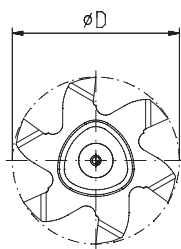
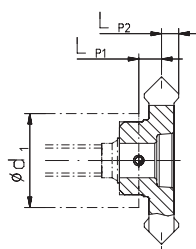
6

Type		A mm	A inch	R mm	D mm	LP1 mm	LP2 mm	S _{max.} mm	Number of teeth	Order No. TINAMATIC
P12	P1210	1,0	.039	0,5	9,6	3,25	0,1	1,2	3	160770 
	P1210	2,2	.087	1,1	9,6	3,3	0,05	1,2	3	171924
	P1212	2,0	.079	1,0	11,7	3,45	–	2,25	3	160445 
	P1212	2,2	.087	1,1	11,7	3,55	–	2,25	3	171874
P16	P1616	1,0	.039	0,5	16	3,55	–	1,5	6	160768 
	P1616	2,0	.079	1,0	16	3,55	–	2,0	6	160431 
	P1616	3,0	.118	1,5	16	3,55	–	3,5	6	160436 
	P1616	4,0	.157	2,0	16	4,65	–	3,5	6	170360 
	P1616	5,0	.197	2,5	16	5,65	–	3,5	6	178162 
	P1618	1,0	.039	0,5	17,7	3,95	–	2,5	6	185358 
	P1618	2,2	.087	1,1	17,7	4,0	–	4,2	6	171953
P20	P2022	2,0	.079	1,0	21,7	4,9	–	5,0	6	171975
	P2022	2,4	.094	1,2	21,7	4,85	–	5,0	6	171976
	P2022	2,6	.102	1,3	21,7	4,95	–	5,0	6	175888
	P2022	2,8	.110	1,4	21,7	5,05	–	5,0	6	171977
	P2022	3,0	.118	1,5	21,7	4,9	–	5,0	6	171978
	P2022	4,0	.157	2,0	21,7	4,95	–	5,0	6	182543 
P25	P2526	2,0	.079	1,0	26	4,9	–	6,2	6	160909 
	P2526	3,0	.118	1,5	26	3,7	–	6,2	6	178289 
	P2526	4,0	.157	2,0	26	4,65	–	6,2	6	160444 
	P2526	5,0	.197	2,5	26	6,9	–	6,2	6	175075
	P2526	6,0	.236	3,0	26	6,9	–	6,2	6	150085 
	P2528	4,0	.157	2,0	27,7	5,9	–	7,05	6	160449 

i Further radius widths on request

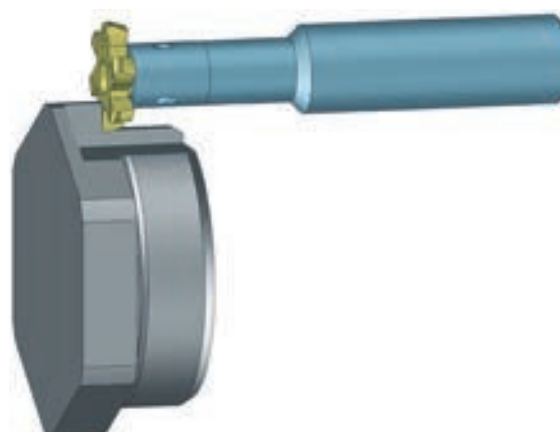
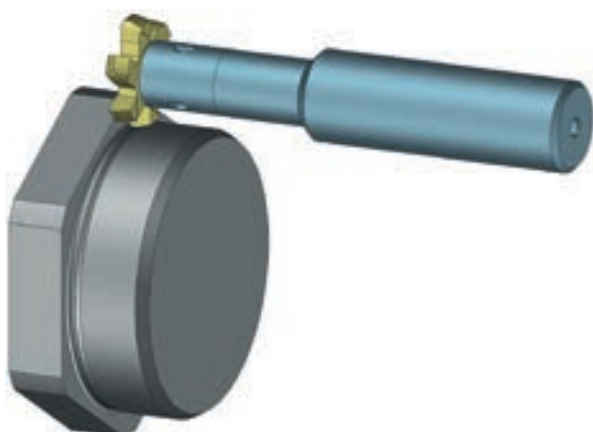
Chamfering and Deburring

- Insert holder see page 129
- Cutting data see page 189

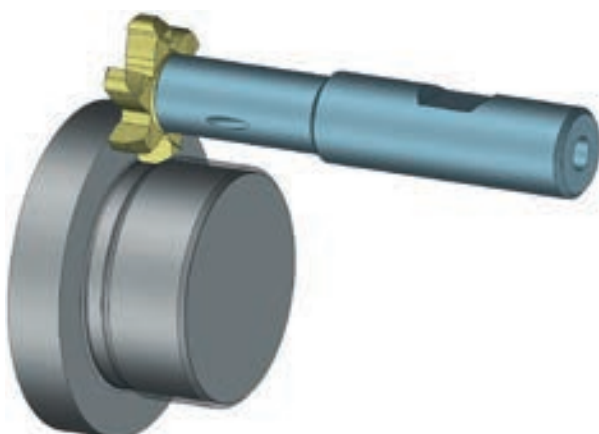


Type		D mm	C _{max.} x 45° mm	A1 mm	α	LP1 mm	LP2 mm	Number of teeth	Order No. TINAMATIC
P12	P1210	9,6	1,2	0,1	90°	2,125	1,525	3	171914
	P1212	11,7	1,5	0,1	90°	2,125	1,525	3	171913
P16	P1616	16,0	1,9	0,1	90°	2,65	1,95	6	142521
	P1618	17,7	1,3	0,1	90°	2,65	1,45	6	171955
P20	P2020	20,0	1,9	0,1	90°	3,15	2,675	6	168689
	P2022	21,7	1,6	0,1	90°	2,95	2,15	6	171979
P25	P2526	26,0	2,1	0,1	90°	2,75	2,075	6	142676

Milling of Special Contours with PolyMILL Inserts



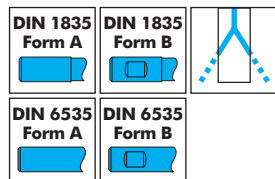
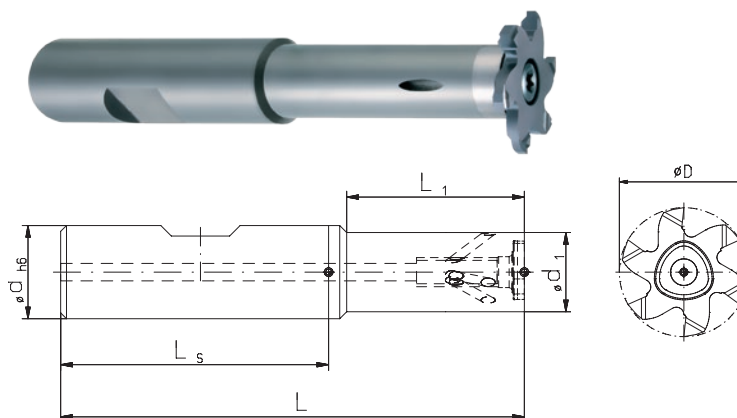
Milling an undercut according to DIN 509 Form E



Milling a thread undercut according to DIN 76

Circular Milling Tools with Polygonal Insert Seat

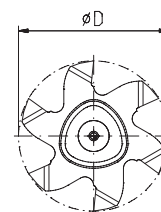
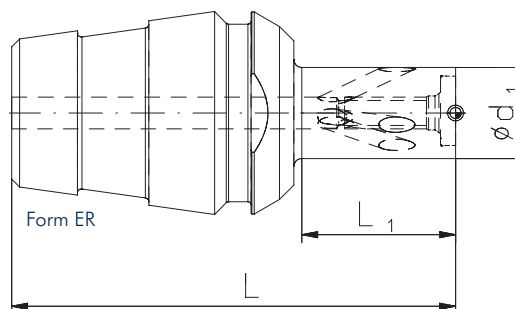
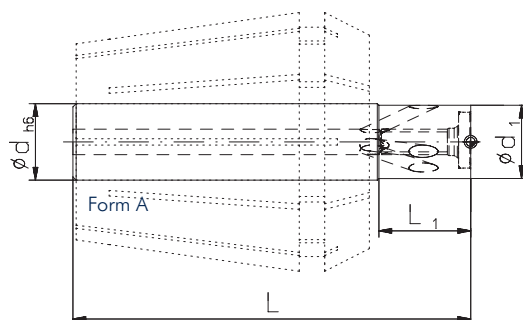
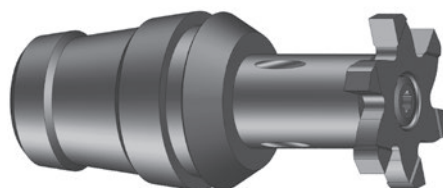
- Inserts see page 127-128
- Cutting data see page 189



											Spare part No.		
Type	Order No.	Form	Bore Ø min. recom- mended	dh6 mm	d1 mm	Dmax. mm	Smax. (D-d1)/2 mm	L mm	L1 mm	Shaft	Screw- driver	Screw	
P12	123619	B	12	12	7,0	11,7	2,35	67,5	20	Steel	T8 IP 111656	M2,5x7 107596	
	100228	B	12	12	7,0	11,7	2,35	67,5	20	Carbide			
	171778	A	12	12	7,0	11,7	2,35	67,5	20	Carbide			
	171780	B	12	12	7,0	11,7	2,35	80	30	Carbide			
	171781	A	12	12	7,0	11,7	2,35	80	30	Carbide			
	171783	B	12	12	7,0	11,7	2,35	100	40	Carbide			
	171784	A	12	12	7,0	11,7	2,35	100	40	Carbide			
P16	123573	B	18	12	9,0	17,7	4,35	67,4	21	Steel	T8 IP 111656	M3x12 143158	
	123577	B	18	12	9,0	17,7	4,35	67,4	21	Carbide			
	171787	A	18	12	9,0	17,7	4,35	67,4	21	Carbide			
	123580	B	18	12	9,0	17,7	4,35	82,4	36	Carbide			
	171789	A	18	12	9,0	17,7	4,35	82,4	36	Carbide			
	123584	A	18	12	9,0	17,7	4,35	100	30	Carbide			
	123588	A	18	12	12,0	17,7	2,85	82,4	-	Carbide			
123590	A	18	12	12,0	17,7	2,85	122,5	-	Carbide				
P20	123615	B	22	16	11,5	21,7	5,1	80	30	Steel	T15 IP 111671	M4x13 107597	
	123616	B	22	16	11,5	21,7	5,1	80	30	Carbide			
	171794	A	22	16	11,5	21,7	5,1	80	30	Carbide			
	123617	B	22	16	11,5	21,7	5,1	100	50	Carbide			
	171796	A	22	16	11,5	21,7	5,1	100	50	Carbide			
	174314	A	22	16	15,5	21,7	3,1	105,5	21	Carbide			
P25	123592	B	28	16	13,6	27,7	7,05	79,6	30,5	Steel	T20 IP 111594	M5x13,5 107529	
	123598	B	28	16	13,6	27,7	7,05	79,6	30,5	Carbide			
	171855	A	28	16	13,6	27,7	7,05	79,6	30,5	Carbide			
	123600	B	28	16	13,6	27,7	7,05	94,6	45,5	Carbide			
	171857	A	28	16	13,6	27,7	7,05	94,6	45,5	Carbide			
	123603	B	28	16	13,6	27,7	7,05	109,6	60,5	Carbide			
	171859	A	28	16	13,6	27,7	7,05	109,6	60,5	Carbide			
	123609	A	28	16	15,5	27,7	6,1	105	21,5	Carbide			
	123611	A	28	16	15,5	27,7	6,1	149,5	21,5	Carbide			
	123613	A	28	20	15,5	27,7	6,1	178,5	21,5	Carbide			
											Screw torques max.		
											107596	T08 IP	1,0 Nm
											143158	T08 IP	1,1 Nm
											107597	T15 IP	3,8 Nm
											107529	T20 IP	5,5 Nm

Circular Milling Tools for Driven Toolholders

- Inserts see page 100-103
- Cutting data see page 189



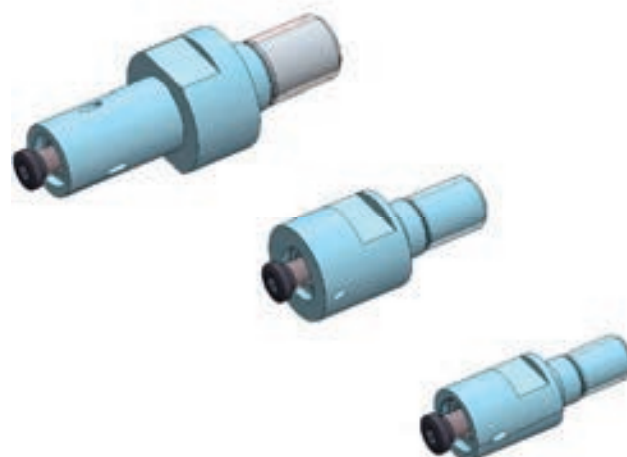
Type	Order No.	Form	Bore Ø min. recom- mended	dh6 mm	d1 mm	D max. mm	S max. (D-d1)/2 mm	L mm	L1 mm	Shaft	Spare part No.	
											Screw- driver	Screw
P12	177170	A	12	10	7,0	11,7	2,35	54	8	Steel	T8 IP 111656	M2,5x7 107596
	177172	ER 16	12		7,0	11,7	2,35	37,5	8	Steel		
	177173	ER 20	12		7,0	11,7	2,35	47	13	Steel		
P16	177174	A	18	10	9,0	17,7	4,35	60	11	Steel	T8 IP 111656	M3x12 143158
	177176	ER 16	18		9,0	17,7	4,35	41,4	11	Steel		
	177177	ER 20	18		9,0	17,7	4,35	51	16	Steel		
P20	177178	A	22	12	11,5	21,7	5,1	62,4	14,4	Steel	T15 IP 111671	M4x13 107597
	177180	ER 20	22		11,5	21,7	5,1	49,5	14,5	Steel		
	177181	ER 25	22		11,5	21,7	5,1	56	19,4	Steel		
P25	177182	A	28	16	13,6	27,7	7,05	69,6	20,4	Steel	T20 IP 111594	M5x13,5 107529
	177184	ER 25	28		13,6	27,7	7,05	56	19,4	Steel		
	177185	ER 32	28		13,6	27,7	7,05	73	30,4	Steel		

Screw torques max.

107596	T8 IP	1,0 Nm
143158	T8 IP	1,1 Nm
107597	T15 IP	3,8 Nm
107529	T20 IP	5,5 Nm

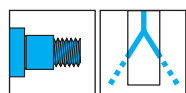
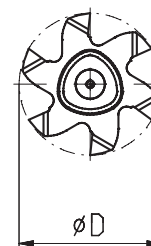
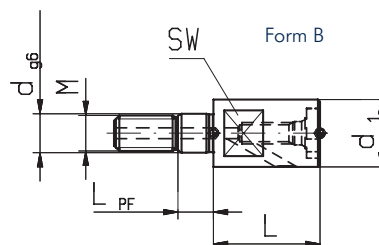
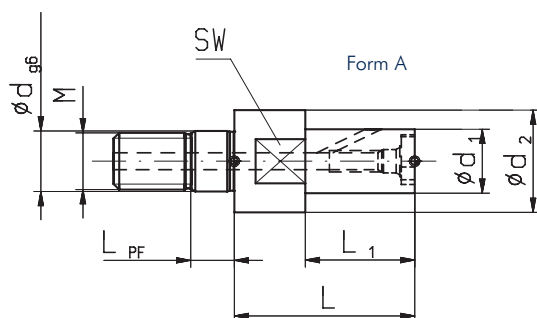
Changing Inserts

Clamp cutter before changing insert. Loosen insert screw. Remove used insert and clean the insert pocket before clamping new insert. Please use the appropriate TIP hex key for the tightening of the inserts and consider the screw tightening torques in the tables.



Circular Milling Tools with Polygonal Insert Seat

- Inserts see page 100-103
- Cutting data see page 189



Please adapt cutting data
to overhangs length

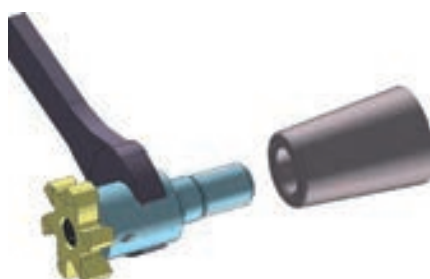
Type	Order No.	Form	Bore Ø min. recommended	d1 mm	d2 mm	Dmax. mm	S _{max.} (D-d1)/2 mm	L mm	L1 mm	M	dg6 mm	L _{PF} mm	Spare part No.	
													Screwdriver	Screw
P12***	177676	B	12	9,5	–	11,7	1,1	13,5	–	M5	5,5	5,0	111656	107596
P16	123586	A	18	9,0	14,4	17,7	4,35	29,5	19,5	M8	8,5	5,5	111656	143158
P16**	177683	B	18	9,5	–	17,7	4,1	18,5	–	M5	5,5	5,0	111656	143158
P16***	177698	B	18	11,0	–	17,7	3,35	18,5	–	M6	6,5	5,0	111656	143158
P20	123618	A	22	11,5	18,0	21,7	5,1	35,0	25,0	M10	10,5	5,5	111671	107597
P20**	177734	B	22	11,5	–	21,7	5,1	20,5	–	M6	6,5	5,0	111671	107597
P20***	177735	B	22	13,5	–	21,7	4,1	20,5	–	M8	8,5	5,5	111671	107597
P25	123605	A	27	13,6	22,5	27,7	7,05	42,5	29,5	M12	12,5	5,5	111594	107529
P25**	177747	B	27	13,6	–	27,7	7,05	22,6	–	M8	8,5	5,5	111594	107529
P25***	177767	B	27	18,0	–	27,7	4,85	22,6	–	M10	10,5	5,5	111594	107529

** Slim design for thread milling
*** Reinforced design

Screw torques max.		
107596	T8 IP	1,0 Nm
143158	T8 IP	1,1 Nm
107597	T15 IP	3,8 Nm
107529	T20 IP	5,5 Nm

Assembling Instructions

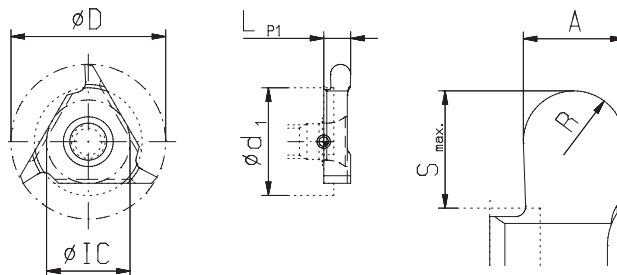
- Recommended tightening torque for
screw-in circular milling body



Thread size (M)	Wrench size mm	Tightening torque Nm
M5	7	8
M6	9	10
M8	11	25
M10	15	40
M12	19	60

Radius Milling, Convex Shapes

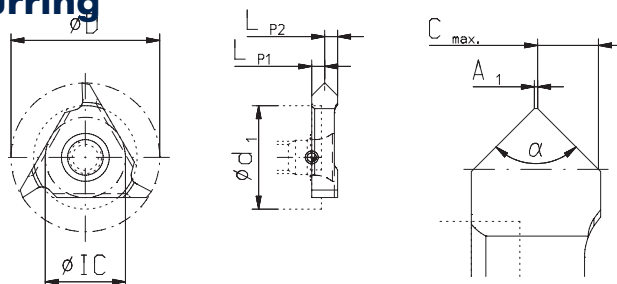
- Insert holder see page 133
- Cutting data see page 189
- Not in stock
- Other sizes on request



Type	A mm	A inch	R mm	D mm	IC mm	LP1 mm	Smax. mm	Order No.
								TINAMATIC
03	1,0	.039	0,50	10,6	5,5	2,34	1,6	160866 NEW
	1,5	.059	0,75	10,6	5,5	2,34	1,6	146583 NEW
	2,0	.079	1,00	10,6	5,5	2,34	1,6	On request NEW
	2,5	.098	1,25	10,6	5,5	3,0	1,6	On request NEW
	3,0	.118	1,50	10,6	5,5	3,02	1,6	151643 NEW
02	1,0	.039	0,50	17,5	9,2	3,5	1,0	On request NEW
	1,5	.059	0,75	17,5	9,2	3,5	1,0	149560 NEW
	2,0	.079	1,00	17,5	9,2	3,5	2,6	On request NEW
	2,5	.098	1,25	17,5	9,2	3,5	2,6	On request NEW
	3,0	.118	1,50	17,5	9,2	3,5	2,6	On request NEW
	3,5	.138	1,75	17,5	9,2	3,52	2,6	182015 NEW
	4,0	.157	2,00	17,5	9,2	5,0	2,6	On request NEW
	5,0	.197	2,50	17,5	9,2	5,02	2,6	150798 NEW
01	1,0	.039	0,50	23,0	12,4	4,0	2,0	On request NEW
	1,5	.059	0,75	23,0	12,4	4,0	2,0	On request NEW
	2,0	.079	1,00	23,0	12,4	4,0	3,45	171373 NEW
	2,5	.098	1,25	12,0	12,4	4,0	3,45	On request NEW
	3,0	.118	1,50	23,0	12,4	4,0	3,45	169226 NEW
	3,5	.138	1,75	23,0	12,4	4,0	3,45	On request NEW
	4,0	.157	2,00	23,0	12,4	4,02	3,45	150617 NEW
	5,0	.197	2,50	23,0	12,4	6,5	3,45	On request NEW
	6,0	.236	3,00	23,0	12,4	6,5	3,45	On request NEW

Chamfering and Deburring

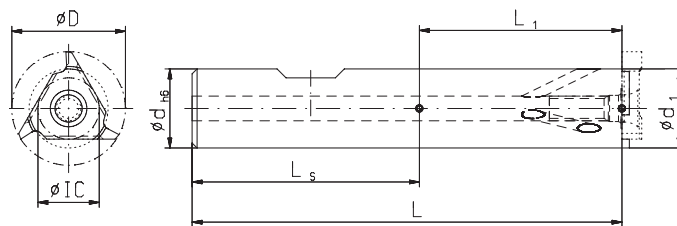
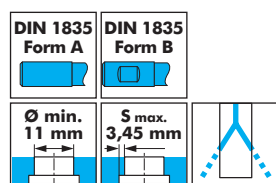
- Insert holder see page 133
- Cutting data see page 189



Type	D mm	IC mm	Cmax. x 45° mm	A1 mm	LP1 mm	LP2 mm	Order No.
							TINAMATIC
04	7,9	5,5	0,3	0,05	1,05	1,29	141690
03	10,6	5,5	1,5	0,05	1,5	1,5	141694
02	17,5	9,2	2,2	0,05	2,5	2,5	141495
01	23,0	12,4	3,1	0,05	3,2	3,3	141382

Circular Milling Tools

- Inserts see page 132
- Cutting data see page 189



												Spare part No.	
Type	Order No.	Form	Bore Ø min.	D mm	IC mm	d h6 mm	d1 mm	S max. mm	L mm	L1 mm	Shaft	Screw-driver	Screw
04	123491*	B	8	7,9	5,5	10	7,2	0,35	57,2	17,2	Steel	T6 IP 111705	107530
03	123477*	B	11	10,6	5,5	10	7,4	1,6	57,2	17,2	Steel		
	123478*	B	11	10,6	5,5	12	7,4	1,6	64,66	17,2	Steel		
	123479*	A	11	10,6	5,5	12	7,4	1,6	64,66	17,2	Steel		
	123480	B	11	10,6	5,5	10	7,4	1,6	74,2	34,2	Carbide		
	123489	A	11	10,6	5,5	8	8	1,25	77,66	–	Carbide		
02	123445	B	20	17,5	9,2	12	12	2,6	74,05	28,7	Steel	T15 IP 111671	107547
	123446	B	20	17,5	9,2	16	12	2,6	78,6	28,7	Steel		
	123447	A	20	17,5	9,2	16	12	2,6	78,6	28,7	Steel		
	123448	B	20	17,5	9,2	12	12	2,6	108,7	63,7	Carbide		
	123470	A	20	17,5	9,2	12	12	2,6	79,3	–	Carbide		
	123471	A	20	17,5	9,2	12	12	2,6	96,5	–	Carbide		
01	123474	A	20	17,5	9,2	12	12	2,6	121,5	–	Carbide		
	123412	B	25	23,0	12,4	16	16	3,45	87,0	38,5	Steel	T20 IP 111594	107551
	123414	B	25	23,0	12,4	16	16	3,45	116,0	67,5	Steel		
	123415**	A	25	23,0	12,4	20	17	3,0	93,0	41,0	Steel		
	170320	A	25	23,0	12,4	16	17	3,0	137,0	88,5	Carbide		
	123416	B	25	23,0	12,4	16	17	3,0	137,0	88,5	Carbide		
	123440	A	25	23,0	12,4	16	16	3,45	111,0	–	Carbide		
	123441	A	25	23,0	12,4	16	16	3,45	148,5	–	Carbide		

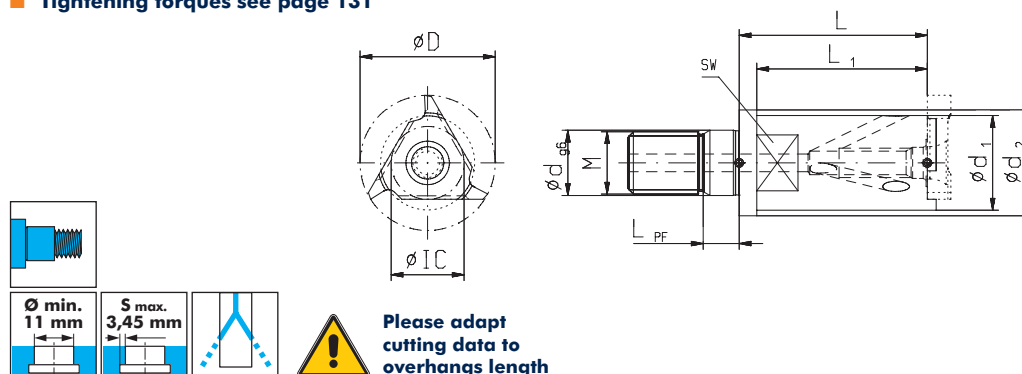
* Without internal coolant supply

** 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 131



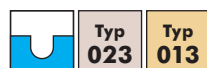
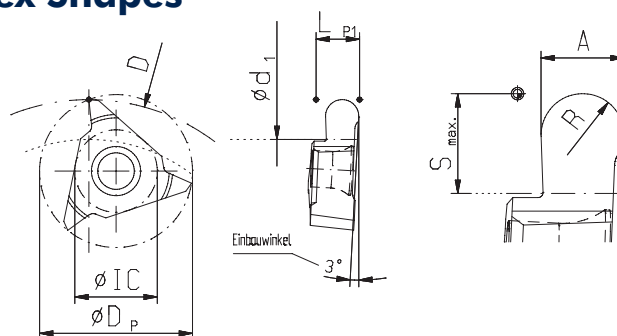
												Spare part No.	
Type	Order No.	Bore Ø min.	D mm	IC mm	d g6 mm	d1 mm	d2 mm	S max. mm	L mm	L1 mm	M	Screw-driver	Screw
03	123481	11	10,6	5,5	6,5	7,4	10,0	1,60	22,66	13,66		111705	107530
02	123450	20	17,5	9,2	8,5	12,2	15,4	2,60	27,5	18,5		111671	107547
01	123419	25	23,0	12,4	10,5	16,1	18,0	3,45	32,0	29,0		111594	107551

Screw torques max.

107530	T6 IP	0,9 Nm
107547	T15 IP	3,8 Nm
107551	T20 IP	5,5 Nm

Radius Milling, Convex Shapes

- Insert holder see page 135-136
- Cutting data see page 189
- Not in stock
- Other sizes on request

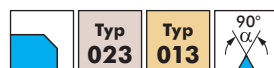
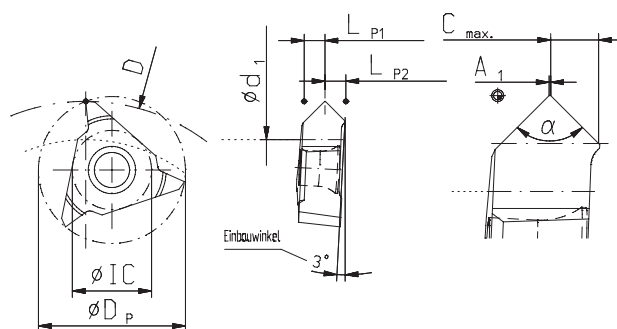


Type	A mm	A inch	R mm	DP mm	IC mm	LP1 mm	LP2* mm	S max. mm	Order No. TINAMATIC
23	1,0	.039	0,50	17,5	9,2	4,03	1	2,0	On request NEW
	1,5	.059	0,75	17,5	9,2	4,03	1	3,0	On request NEW
	2,0	.079	1,00	17,5	9,2	4,03	1	4,0	176709 NEW
	2,5	.098	1,25	17,5	9,2	5,0	–	3,0	159832 NEW
	3,0	.118	1,50	17,5	9,2	5,0	–	2,0	149845 NEW
	3,5	.138	1,75	17,5	9,2	5,03	–	3,0	On request NEW
	4,0	.157	2,00	17,5	9,2	5,03	–	3,0	On request NEW
	5,0	.197	2,50	17,5	9,2	5,43	–	3,0	149780 NEW
	6,0	.236	3,00	17,5	9,2	–	–	4,0	On request NEW
13	1,0	.039	0,50	23,0	12,4	6,53	–	2,0	On request NEW
	1,5	.059	0,75	23,0	12,4	6,53	–	2,0	162406 NEW
	2,0	.079	1,00	23,0	12,4	5,20	1,33	5,00	160730 NEW
	2,5	.098	1,25	12,0	12,4	6,53	–	4,00	On request NEW
	3,0	.118	1,50	23,0	12,4	6,53	–	4,00	160956 NEW
	3,5	.138	1,75	23,0	12,4	6,53	–	4,00	On request NEW
	4,0	.157	2,00	23,0	12,4	6,50	–	2,00	186708 NEW
	5,0	.197	2,50	23,0	12,4	6,08	–	3,00	149838 NEW
	6,0	.236	3,00	23,0	12,4	5,88	–	6,00	149926 NEW

* not face cutting

Chamfering and Deburring

- Insert holder see page 135-136
- Cutting data see page 189

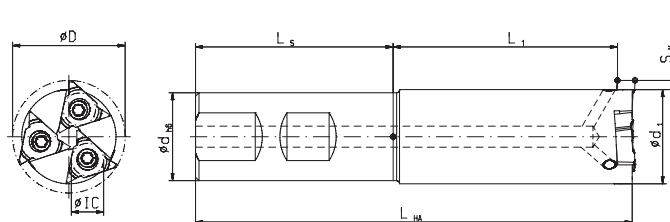


Type	D mm	IC mm	C max. x 45° mm	A1 mm	LP1 mm	LP2 mm	Order No. TINAMATIC
023	17,5	9,2	2,3	0,05	2,52	2,51	142033
013	23,0	12,4	3,0	0,05	3,25	3,28	177222 NEW

Circular Milling Tools

- Inserts see page 134
- Cutting data see page 189

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



Order No.	Bore Ø min.	D mm	d h6 mm	d1 mm	S max. mm	LHA mm	L mm	L1 mm	Inserts	Shaft
123462	33	32	25	26,8	2,6	124,2	119,97	61,97	3	Steel

Spare part No.

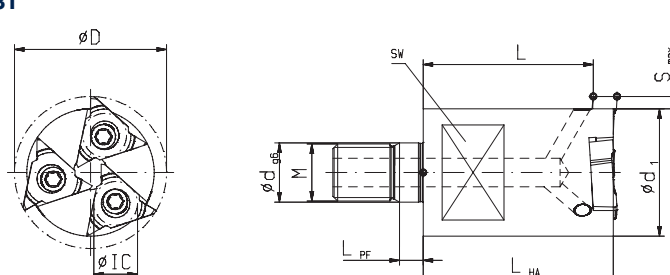
T15 IP Screw-driver	Screw
111671	107547

Screw torque max. 3,8 Nm

- Tightening torques see page 131

Please adapt cutting data to overhangs length

Typ 023		IC 9,2
Ø min. 33 mm	S max. 3,4 mm	



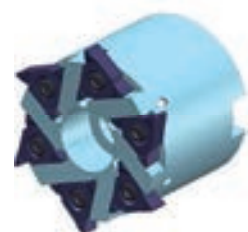
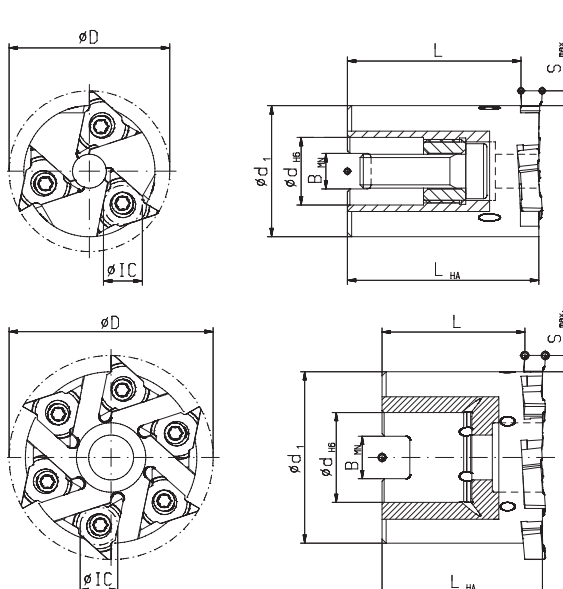
Order No.	Bore Ø min.	D mm	d g6 mm	d1 mm	S max. mm	LHA mm	L mm	Inserts	M
123465	33	32	12,5	24,3	3,8	40	34,97	3	M12

Spare part No.

T15 IP Screw-driver	Screw
111671	107547

Screw torque max. 3,8 Nm

Typ 023		IC 9,2
Ø min. 40 mm	S max. 4,0 mm	



Order No.	Bore Ø min.	D mm	dH6 mm	d1 mm	S max. mm	LHA mm	L mm	BMN mm	Inserts
123464	40	38	16	31	3,4	45,3	40,97	8,4	3
123461*	55	50	22	42	3,9	39,3	34,97	10,4	6

Accessories



Key

Spare part No.

T15 IP Screw-driver	Screw
111671	107547
111671	107547

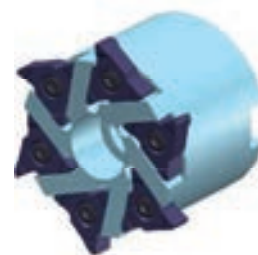
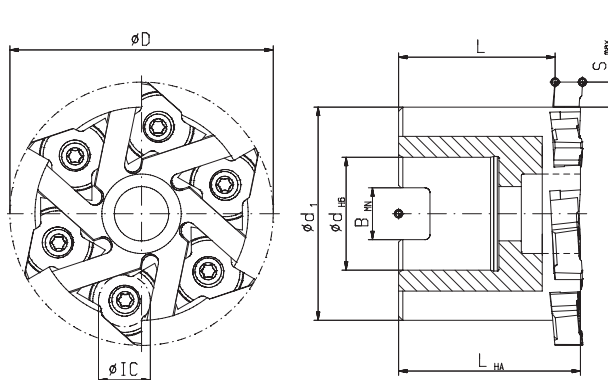
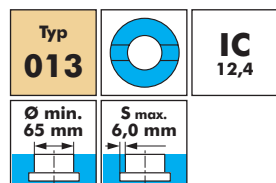
Screw torque max. 3,8 Nm

* Cutter clamping screw internal hexagon

Order No. 114684

Circular Milling Tools

- Inserts see page 134
- Cutting data see page 189



Order No.	Bore Ø min.	D mm	d H6 mm	d1 mm	S max. mm	L HA mm	L mm	B MN mm	Inserts
123435	65	63	27	51	6	43,5	37,5	12,4	6

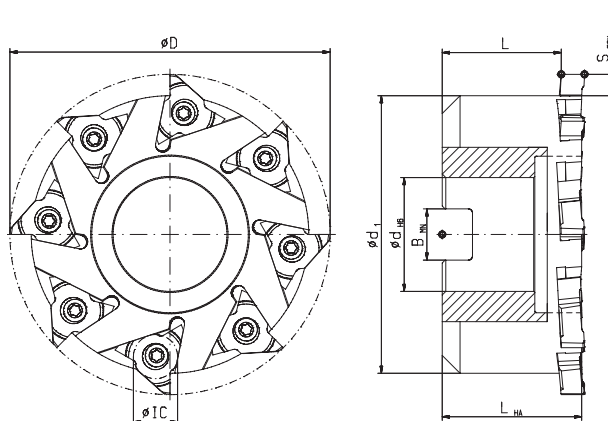
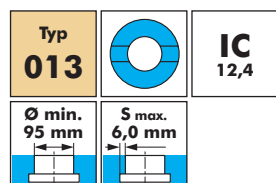
Spare part No.

T20 IP Screw-driver	Screw
111594	107551

Screw torque 5,5 Nm

Cutter clamping screw internal hexagon

Order No. 114695

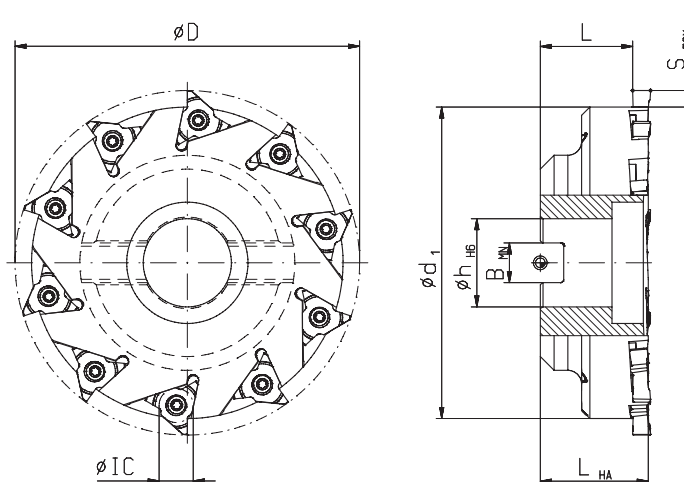
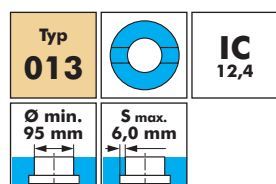


Order No.	Bore Ø min.	D mm	d H6 mm	d1 mm	S max. mm	L HA mm	L mm	B MN mm	Inserts
123436	95	90	32	78	6	39,2	33,5	14,4	8

Spare part No.

T20 IP Screw-driver	Screw
111594	107551

Screw torque 5,5 Nm



Order No.	Bore Ø min.	D mm	d H6 mm	d1 mm	S max. mm	L HA mm	L mm	B MN mm	Inserts
134561 NEW	130	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



Management Service

CERTIFICATE

The Certification Body
of TÜV SÜD Management Service GmbH
certifies that

mimatic[®]
Tool Systems

mimatic GmbH
Westendstraße 3
87488 Betzigau
Germany

has established and applies
a Quality Management System for

**Development, Design, Production, Sales and
Service of Driven Toolholders, Cutting Tools,
Clamping Systems and Special Tools.**

An audit was performed, Report No. **70006182**.
Proof has been furnished that the requirements
according to

ISO 9001:2008

are fulfilled. The certificate is valid from **2014-02-07** until **2017-02-06**.

Certificate Registration No. **12 100 16724 TMS**

M. Wegmann

Product Compliance Management
Munch 2014/01-27



Deutsche
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