

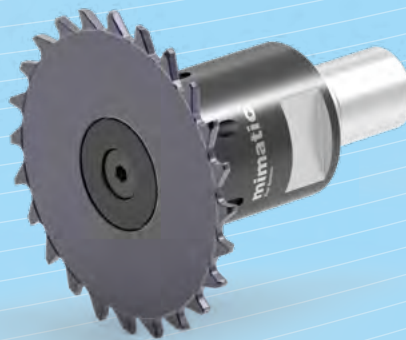
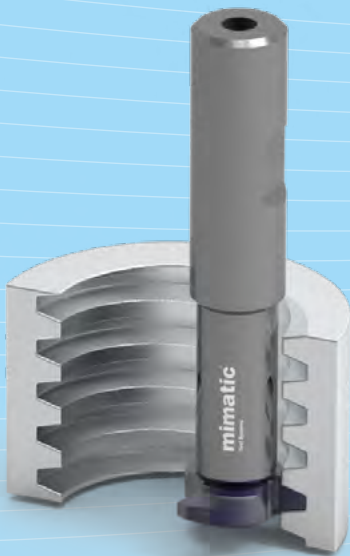
mimatic®

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

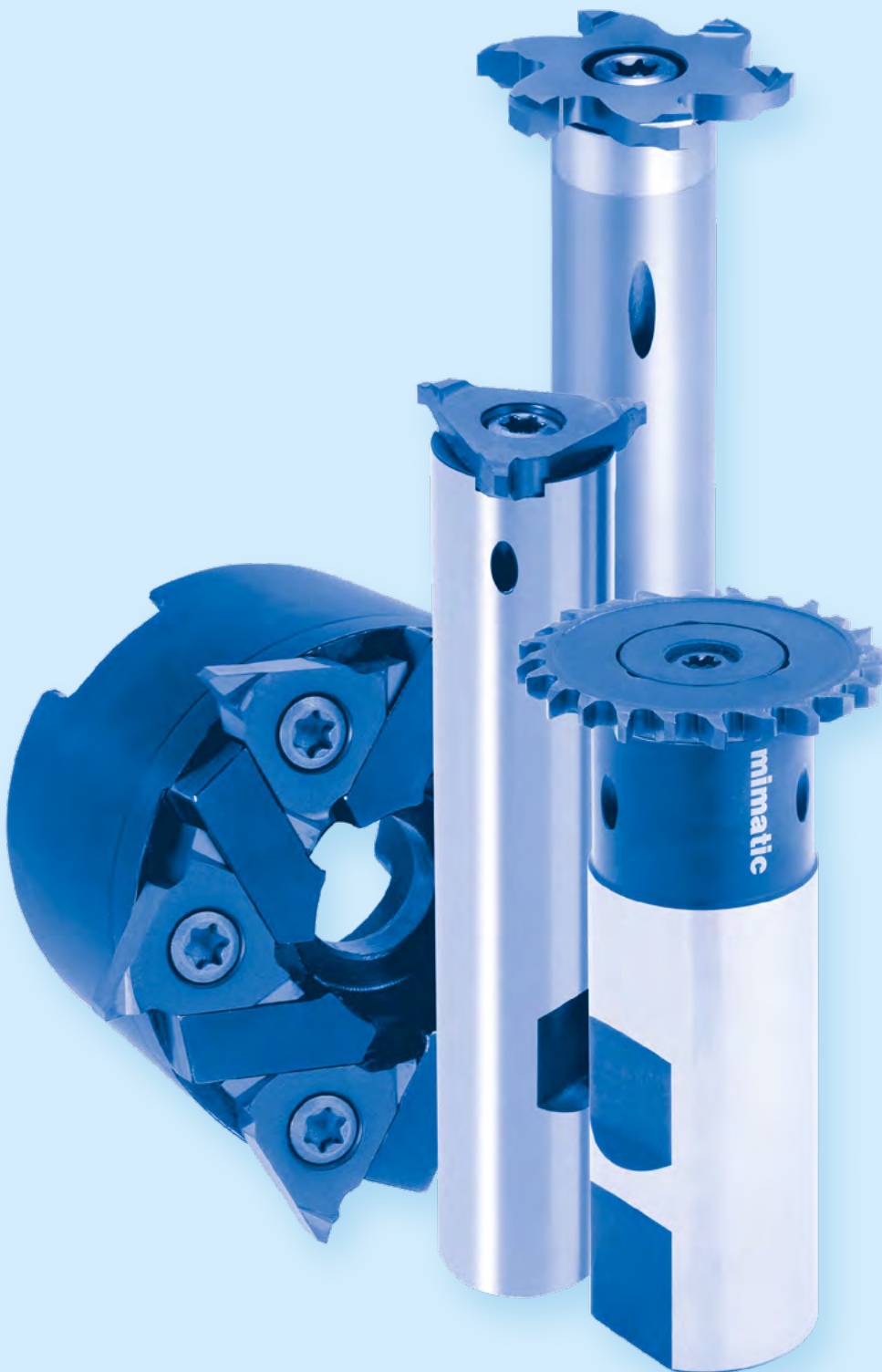


Table of Contents

PolyMILL



Inserts	
Slot Milling	86-88
Circlip grooves	88-89
Toolholders	
with cylindrical shank	90
for driven toolholders	91
with tightening shank	92

TriMILL



Inserts	
Slot Milling	93+96
Circlip grooves	93-97
O-Ring grooves	94+97
Face milling with drag chamfer	97
Toolholders	
with cylindrical shank	95+98
with tightening shank	95+98
Face milling cutter	98-99

DeepMILL



Toolholders and Discs	
Ø 32 mm	102
Ø 40 mm	103
Ø 50 mm	104
Ø 63 mm	105
Ø 80 mm	106
Special Toolholders	
with locating bore	107
Sawblade arbor	108
Assembling instruction	
Cutting data	168

Keyway Slot Milling Cutter


























Keyway Slot Milling Cutter	109
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Technical Data

Tips about circular and thread milling	176
Cutting data	166-169
Carbide grades	179

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

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

DeepMILL

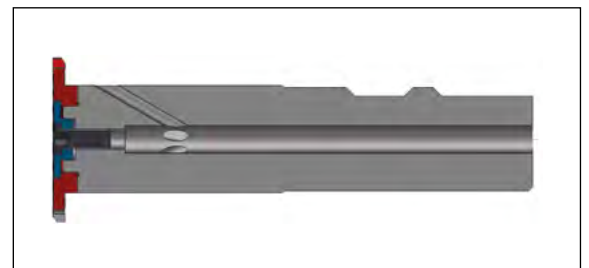
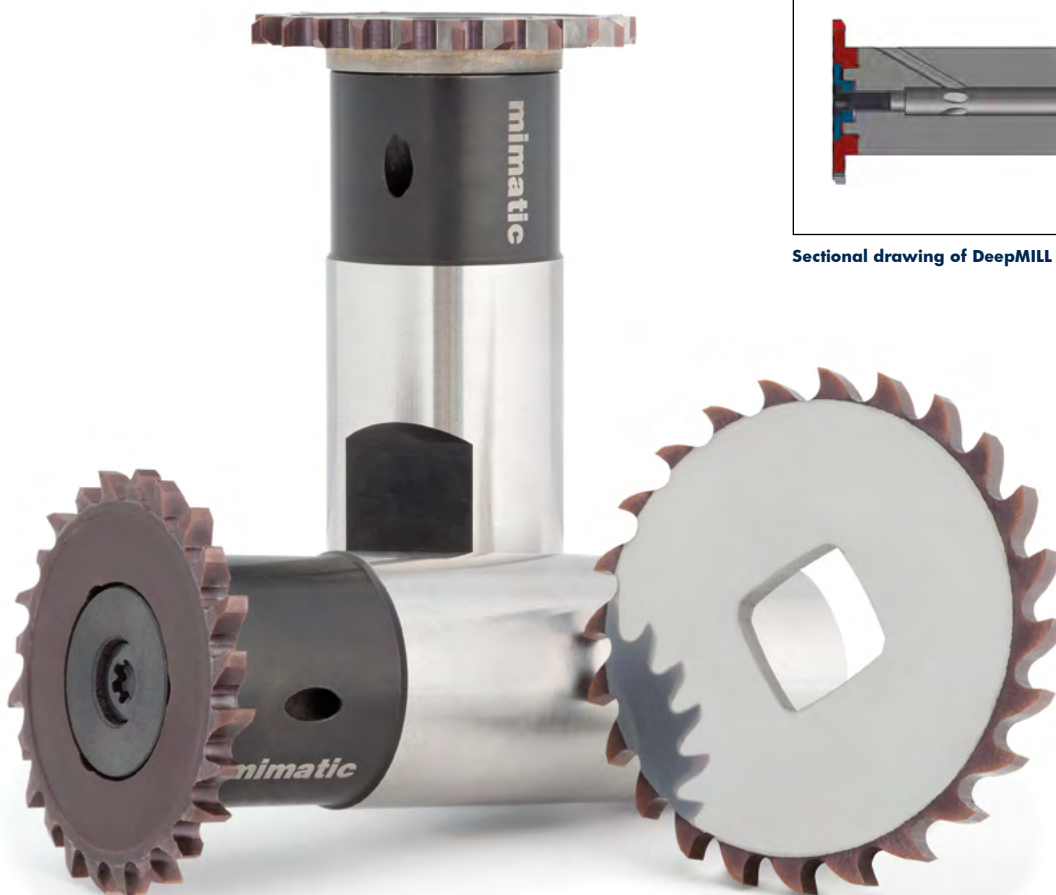
Slot Milling, Grooving, Milling of Cooling Fins

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.

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

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



Sectional drawing of DeepMILL

DeepMILL

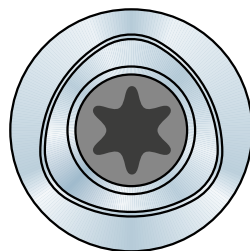
Milling Tools in New Dimensions of Performance



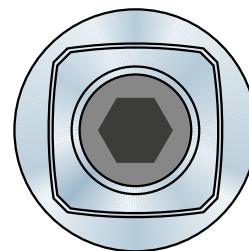
- n With DeepMILL can be milled up to shoulders
- n Cutting edges on the face can be used for special machining operations
- n On request: Increased cutting depths (S) achievable with reductions in speed/feed
- + **Re-sharpen-Service 2x**
- + Minimum distance for operations to shoulders: 0,001 mm

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 PolyREAM, 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

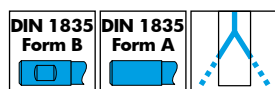
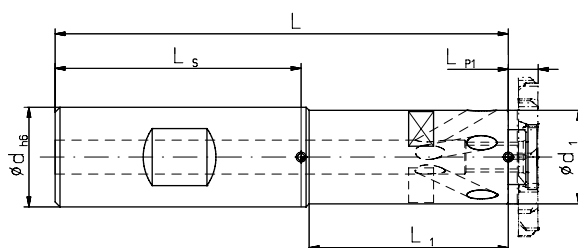
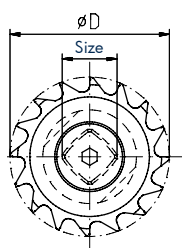
has evolved as well. Under the brand name mimatic Quadrogon, the interface has been optimized specifically for the needs of this new mimatic high-performance tool.

* patent-protected.

DeepMILL Ø 32

Basic Holders

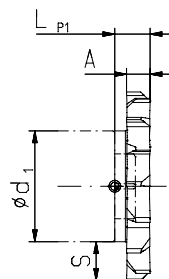
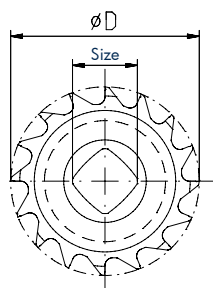
■ Cutting data see page 166



Size	Type	dh6 mm	DIN	L mm	L1 mm	d1 mm	Complete holder	Spare Parts ***	
							Order No.	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.	Deliverable
							TINAMATIC	
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



Milling discs with cutting widths of 1 and 1.5 mm see chapter "Sawing & Slotting"

* Screwdriver and clamping screw included in delivery

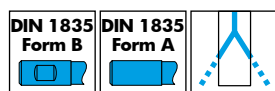
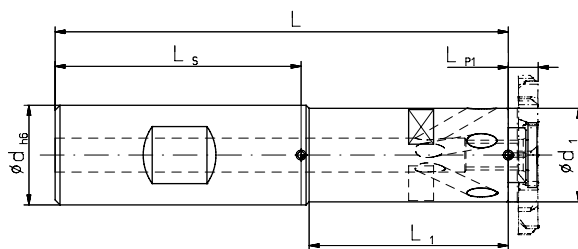
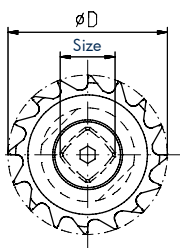
** Narrower widths, see PolySAW see page 134

*** More spare parts see page 108

DeepMILL Ø 40

Basic Holders

Cutting data see page 166

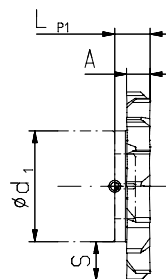
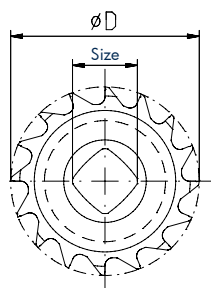


Size	Type	dh6 mm	DIN	L mm	L1 mm	d1 mm	Complete holder	Spare Parts ***	
							Order No.	Screwdriver *	Size
Ø 40	13	25	1835 B	105	45	21,6	163702	178297	SW 4
	13	25	1835 A	105	45	21,6	160051	178297	SW 4
	16	25	1835 B	110	50	26	163703	178296	SW 3
	16	25	1835 A	110	50	26	160052	178296	SW 3

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

5

Milling Discs



Size	Type	A ** mm	S max. mm	D mm	LP1 mm	Number of teeth	Order No.	Deliverable
							TINAMATIC	
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



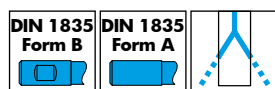
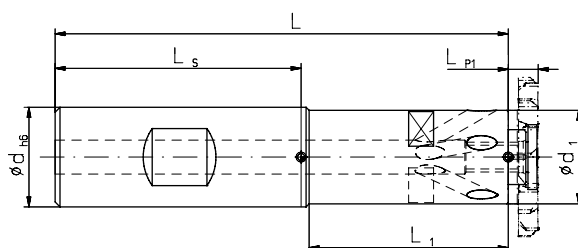
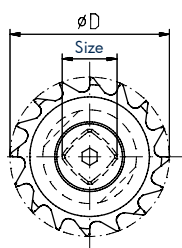
Milling discs with cutting widths of 1 and 1.5 mm see chapter "Sawing & Slotting"

* Screwdriver and clamping screw included in delivery
** Narrower widths, see PolySAW see page 134
*** More spare parts see page 108

DeepMILL Ø 50

Basic Holders

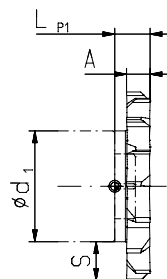
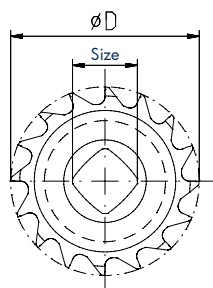
■ Cutting data see page 166



Size	Type	dh6 mm	DIN	L mm	L1 mm	d1 mm	Complete holder	Spare Parts ***	
							Order No.	Screwdriver *	Size
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.	Deliverable
							TINAMATIC	
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



Milling discs with cutting widths of 1 and 1.5 mm see chapter "Sawing & Slotting"

* Screwdriver and clamping screw included in delivery

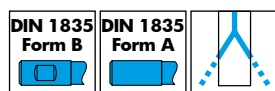
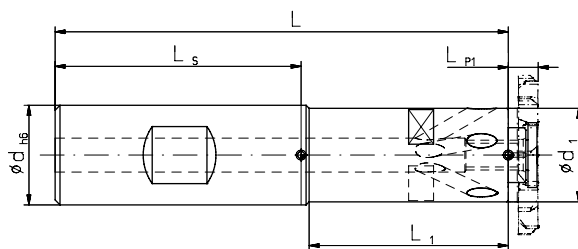
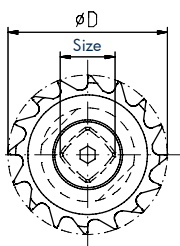
** Narrower widths, see PolySAW see page 134

*** More spare parts see page 108

DeepMILL Ø 63

Basic Holders

■ Cutting data see page 166

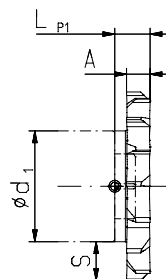
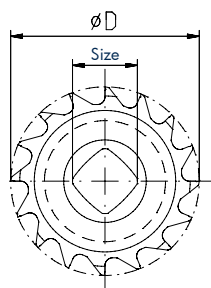


Size	Type	dh6 mm	DIN	L mm	L1 mm	d1 mm	Complete holder	Spare Parts ***	
							Order No.	Screwdriver *	Size
Ø 63	19	32	1835 B	122	55	30	163704	178296	SW 3
	19	32	1835 A	122	55	30	160053	178296	SW 3
	25	32	1835 B	127	60	38	163705	178297	SW 4
	25	32	1835 A	127	60	38	160054	178297	SW 4

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

5

Milling Discs



Size	Type	A ** mm	S max. mm	D mm	LP1 mm	Number of teeth	Order No.	Deliverable
							TINAMATIC	
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



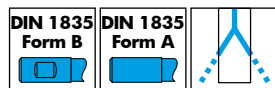
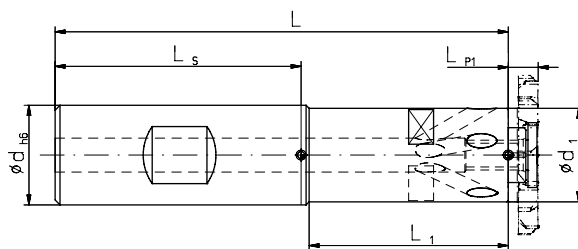
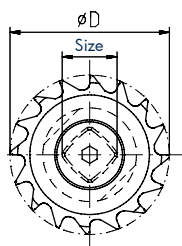
Milling discs with cutting widths of 1 and 1.5 mm see chapter "Sawing & Slotting"

* Screwdriver and clamping screw included in delivery
** Narrower widths, see PolySAW see page 134
*** More spare parts see page 108

DeepMILL Ø 80

Basic Holders

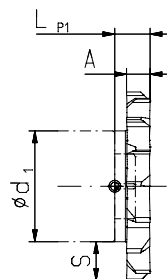
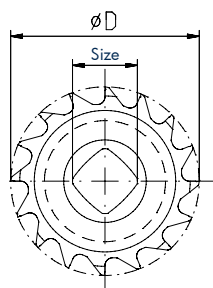
■ Cutting data see page 166



Size	Type	dh6 mm	DIN	L mm	L1 mm	d1 mm	Complete holder	Spare Parts ***	
							Order No.	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.	Deliverable
							TINAMATIC	
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



Milling discs with cutting widths of 1 and 1.5 mm see chapter "Sawing & Slotting"

* Screwdriver and clamping screw included in delivery

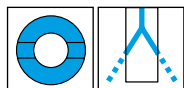
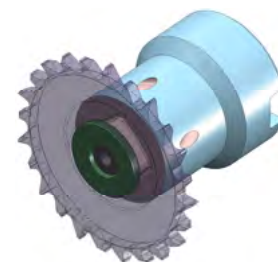
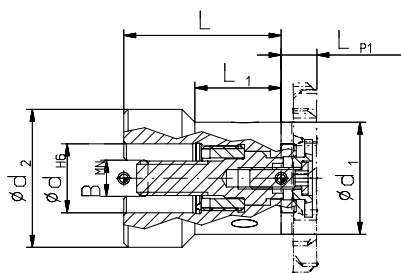
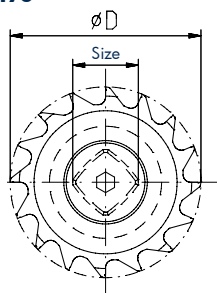
** Narrower widths, see PolySAW see page 134

*** More spare parts see page 108

DeepMILL

Basic Holders with Location Bore

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



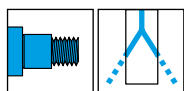
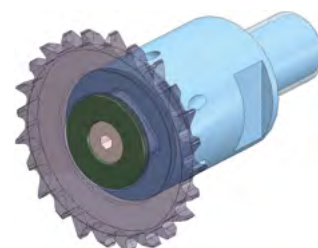
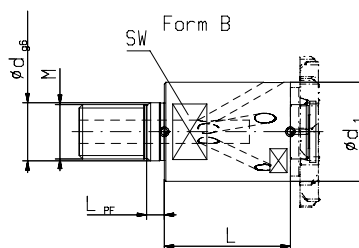
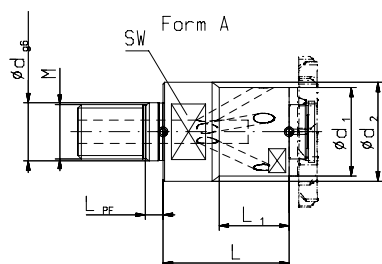
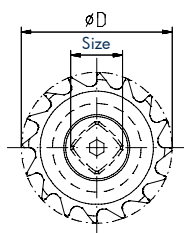
Type	dH6 mm	BMN mm	L mm	L1 mm	d1 mm	d2 mm	Complete holder	Accessories	Spare Parts ***	
							Order No.	Key	Screwdriver *	Size
16	16	8,4	36,5	20	26	32	179727	134984	178296	SW 3
19	16	8,4	36,5	20	30	32	179728	134984	178296	SW 3
25	16	8,4	36,5	20	29	32	156493		178297	SW 4
25	22	10,4	50	20	38,2	40	179817 NEW		178297	SW4

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

5

Basic Holders with Screw-in Thread

- Cutting data see page 166

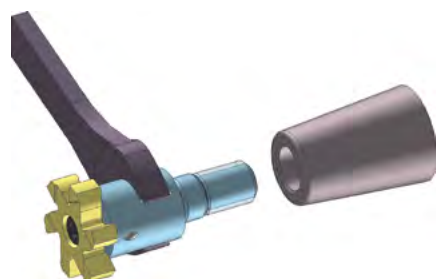


Please adapt cutting data to overhangs length

Type	Order No.	Form	d1 mm	d2 mm	L mm	L1 mm	M	dg6	LPF	Spare part No.	
										Screw-driver *	Size
16	191777 NEW	A	26	29	36,5	20	M16	17	5,5	178296	SW3
19	191778 NEW	B	30	-	36,5	-	M16	17	5,5	178296	SW3

Screw torque max. 3,8 Nm

- Recommended tightening torque for screw-in circular milling body
- End-wrench see page 151



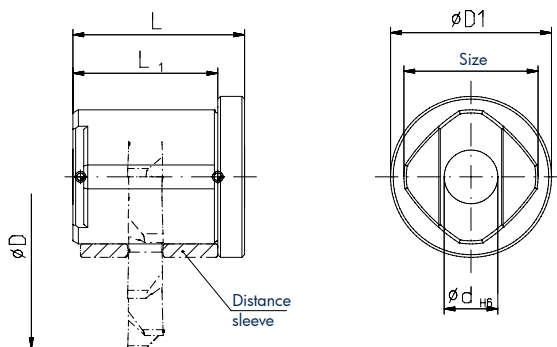
Thread size (M)	Wrench size mm	Tightening torque Nm
M5	7	8
M6	9	10
M8	11	25
M10	15	40
M12	19	60
M16	24	80

* Screwdriver and clamping screw included in delivery
 ** Narrower widths, see PolySAW see page 134
 *** More spare parts see page 108

DeepMILL

Saw Blade Arbors for mimatic Saw Blade Holders

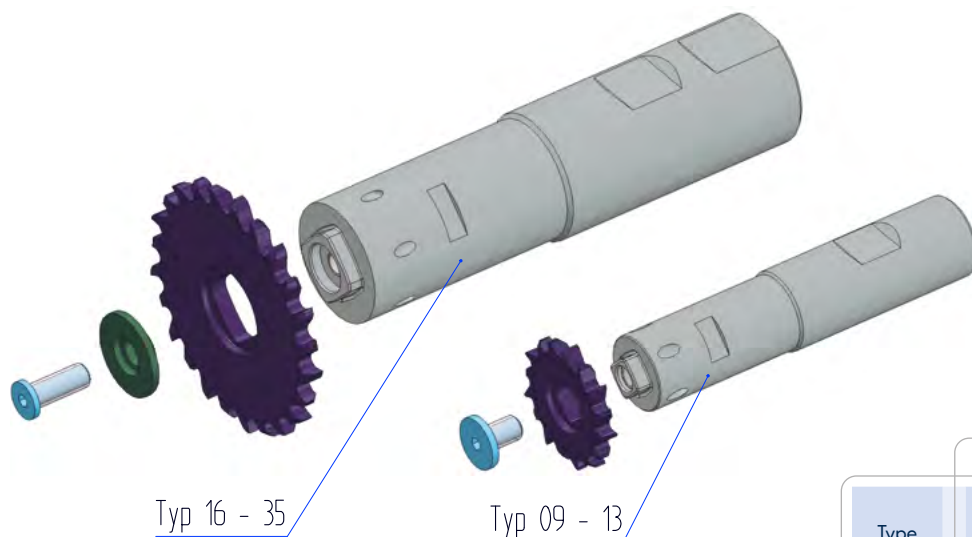
■ Cutting data see page 166



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
ECO	25	10	32	27	30	Order No. 179252
	35	10	32	27	30	180316

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

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