

SOMATEC®

Components for mech. engineering



Drilling unit B63 R + D
Tapping unit /
Drilling + tapping unit

Drilling unit B80 / B100
Drilling spindle ER25 / ER32
Milling spindle SK40 / HSK-C63
HSK-C50 / ER32

Multispindle drill heads
Fixed + adjustable spindles
Reduction gear

Turret stop PRVA/ Robust
Rotary switching element
Rotational stop PRVA-NT

Pressure booster -NT
Pressure booster EW / DW
Special Pressure booster

Hydropneumatic
Power cylinder
Embossing/ riveting cylinder

Oil brake cylinder
Hydropneumatic
Rapid cylinder

Safety clamping cylinder
Customized cylinders

Foot valve
Hand valve
Switching valve

www.somatec-mb.de
info@somatec-mb.de
Tel. +49(0)7558 / 92140

Additional products specifically for window machine manufacturing (not included in this brochure)

Punching units



Olive unit + Olive drill head



Fixed corner drilling heads also with spring-loaded drilling guide



Drilling unit B63



B63 belt drive with a special spindle

B63 direct drive

Our B 63 drilling unit offers versatile application options in mechanical engineering for drilling metal, wood and plastic.

Special features:

The B63 can be equipped with a cam bar to skip cavities. This is attached to head and cover of the unit on side of the air connections. This results in much shorter drilling times.

Another special feature is that the oil brake cylinder can drive the full stroke of the drilling unit in feed and rapid mode. (In the standard version, the feed is switched on by an adjustable stop, or for an additional charge as a snap-action rapid traverse feed.).

For the drilling unit, an auxiliary cylinder can be used at any time with very little effort, for example, when the force for multiple spindle drilling is not enough.

Design:

The drilling unit is mostly made of anodized aluminium and corrosion-free or corrosion-resistant material. Seals and guides are maintenance-free, so the unit can be operated without oiler and with clean and dry air.

Drilling unit B 63/125 R with oil brake cylinder belt drive

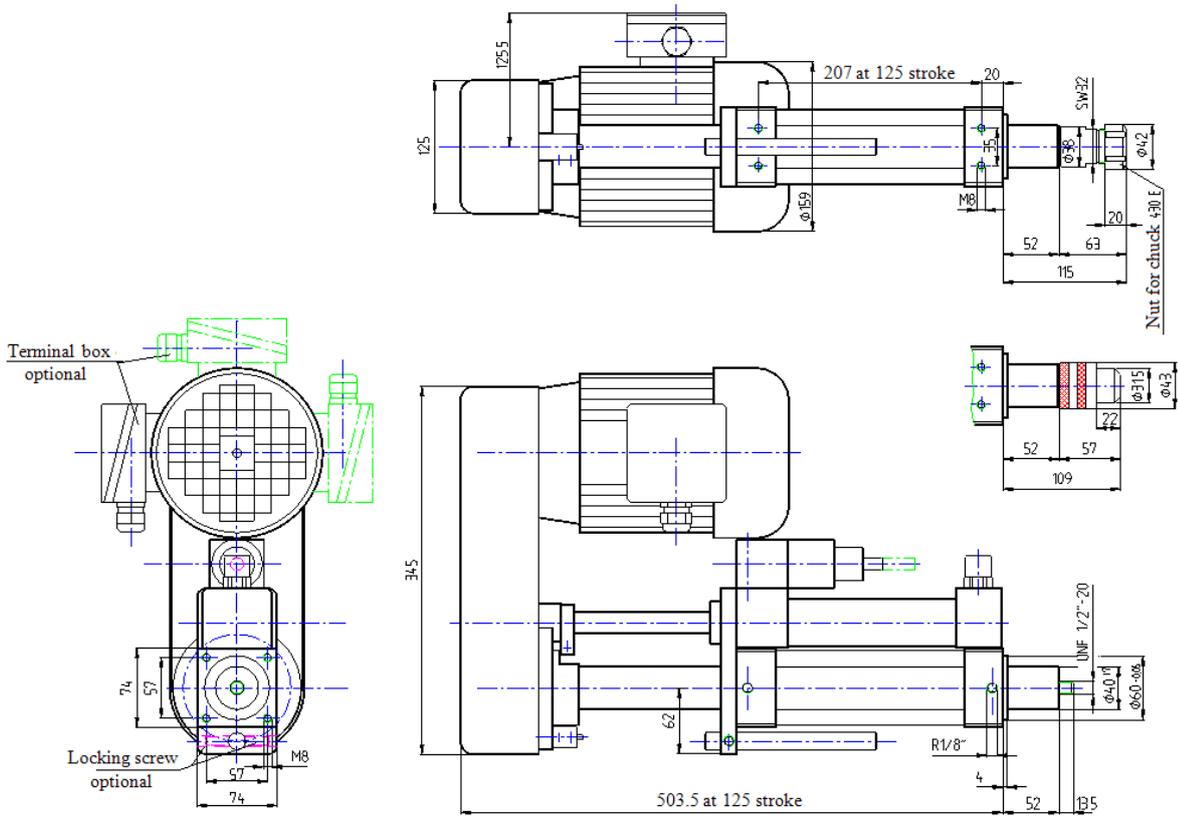
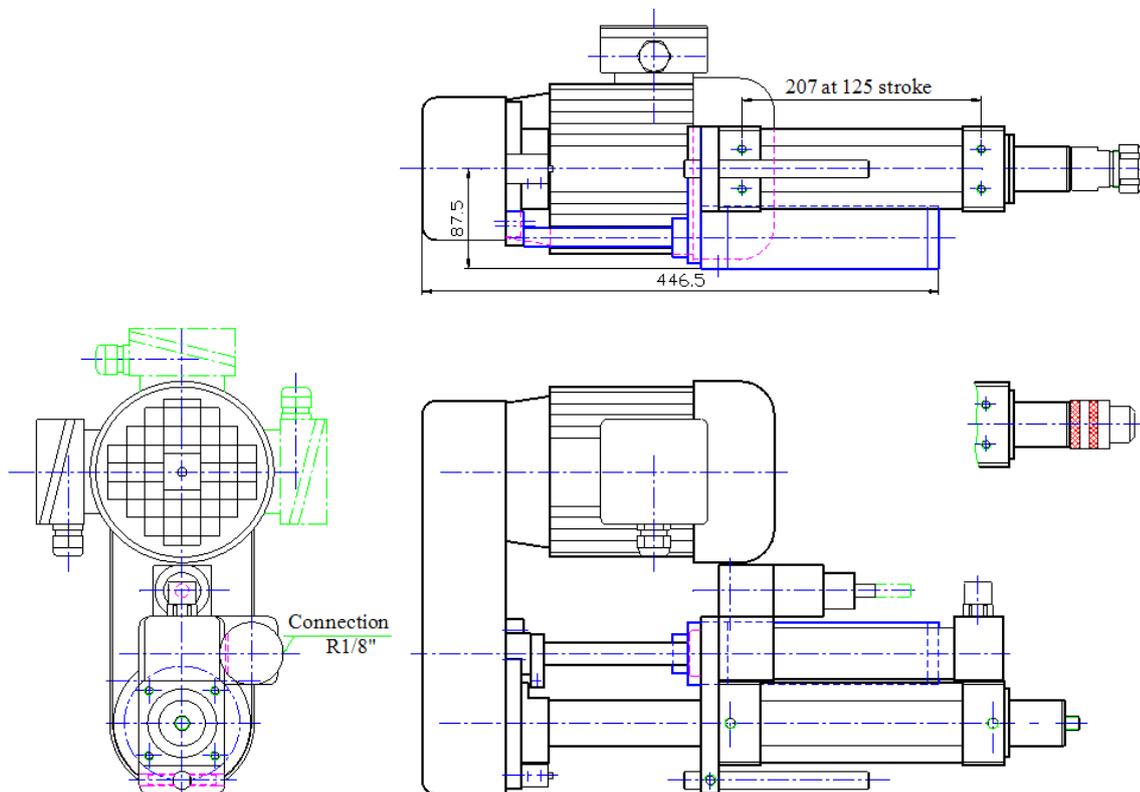


Illustration with auxiliary cylinder



Drilling unit B 63/125 R with oil brake cylinder belt drive

Drive power:	optionally 0.75 KW or 1.1 KW as a special design up to 2.2 KW
Spindle speed:	at 0.75 KW between 470 and 8000 Rpm at 1.1 KW between 900 and 8000 Rpm
Drive:	three-phase motor with V-ribbed belt
Feed:	pneumatic max. 200 mm with oil brake cylinder, the standard stroke is 125 mm
Feed force:	at 6 bar 1120 N at 8 bar 1490 N
Feed force with Auxiliary cylinder:	at 6 bar 2300 N at 8 bar 3050 N
Tool holder:	UNF 1/2"-20 threads for drill chuck, Gang-style spindle head and chuck holder
Weight:	approx. 24,5 kg
Assembly:	on the head 4 x M8 with centering spigot $\varnothing 60$ mm and pitch circle $\varnothing 80$ mm or head and cover 4 x M8 (see drawing)
Application:	drilling of metal, wood and plastic.

Design:

The drilling unit is mostly made of anodized aluminium and corrosion-free/corrosion-resistant material.

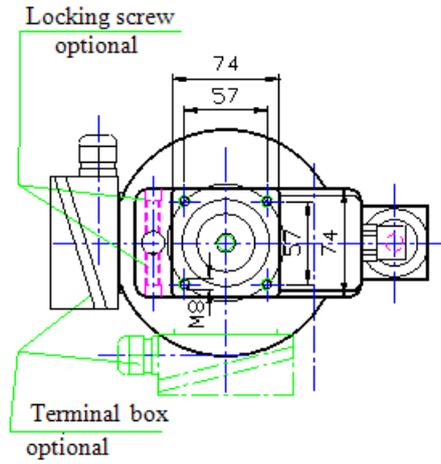
Seals and guides are maintenance-free, so that the unit can be operated without oiler and with clean and dry air..

Equipment:

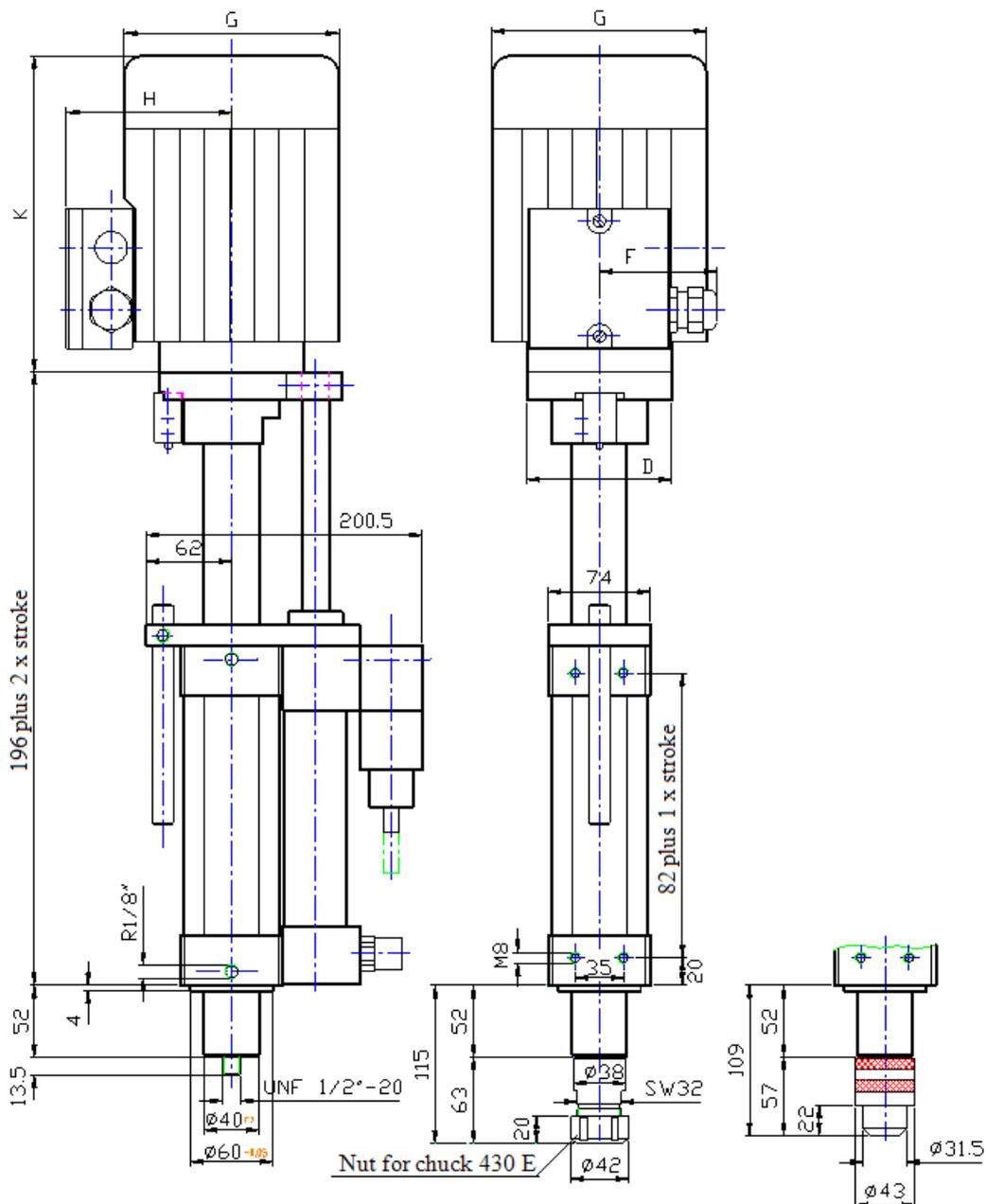
Equipped with an adjustable power stroke, oil brake cylinder, depth stop, pneumatic depth switch-off and signalling, as standard.

- On request:
- Fitting groove and pin holes
 - Return stroke limitation control ring
 - Inductive sensor for bore depth
 - 1 reed switch for starting position
 - Rapid motion feed switching valve

Drilling unit B 63/125 D with oil brake cylinder Direct drive



Motor construction dimensions	G	H	K	D	F
71	140	106	220	Ø105	75
80	159	125,5	230	Ø120	85
90	190	137	258	Ø140	-



Drilling unit B 63/125 D with oil brake cylinder Direct drive

Drive power:	optionally 0.37 KW or 2.2 KW
Spindle speed:	between 750 and 3000 Rpm
Drive:	direct three-phase motor
Feed:	pneumatic from 80 to max. 160 mm with oil brake cylinder, the standard stroke is 125 mm
Feed force:	at 6 bar 1120 N at 8 bar 1490 N
Max. drilling capacity in steel:	Ø11 mm, St 50
Tool holder:	UNF 1/2"-20 threads for drill chuck, Gang-style spindle head and chuck holder
Weight:	between 16 and 24.5 kg
Assembly:	on the head 4 x M8 with centering spigot Ø60 mm and pitch circle Ø80 mm or head and cover 4 x M8 (see drawing)
Application:	for drilling metal, wood and plastic.

Special feature:

The B63 can be equipped with a cam bar to skip cavities. This is attached to head and cover of the unit on side of the air connections. This results in much shorter drilling times.

Another special feature is that the oil brake cylinder can drive the full stroke of the drilling unit in feed and rapid motion.

On the standard version, the feed is switched on by means of signalling and a reed switch.

Design:

The drilling unit is mostly made of anodized aluminium and corrosion-free/corrosion-resistant material. Seals and guides are maintenance-free, so the unit can be operated without oiler and with clean and dry air.

Equipment:

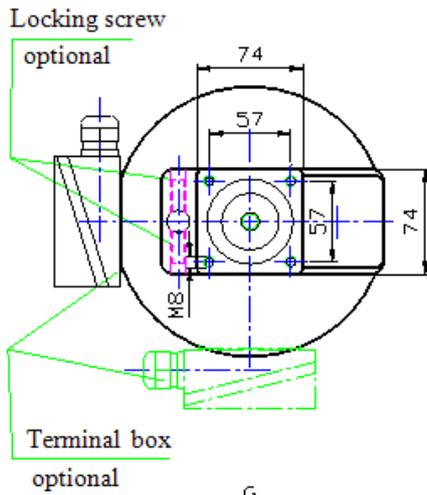
Serienmäßig with oil brake cylinder, Tiefenanschlag, pneum. Tiefenabschaltung und Signalgabe.

Equipped with oil brake cylinder, depth stop, pneumatic depth switch-off and signalling, as standard.

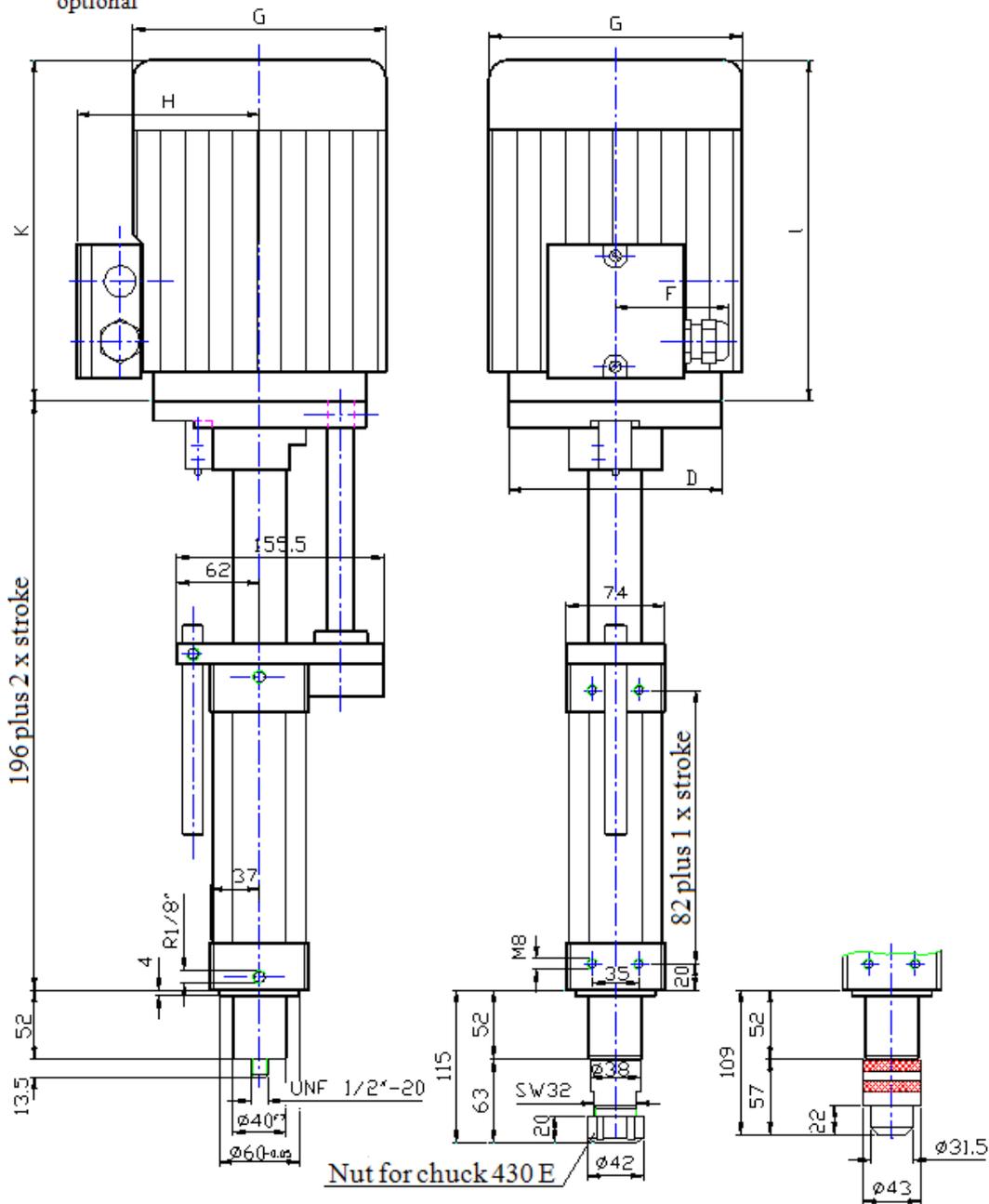
On request	- Fitting groove and pin holes - Return stroke limitation control ring - Inductive sensor for bore depth - 1 reed switch for starting position and feed switch-on - Rapid motion feed switching valve
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Drilling unit B 63/125 D

Direct drive without oil brake cylinder



Motor construction dimensions	G	H	K	D	F
71	140	106	220	Ø105	75
80	159	125,5	230	Ø120	85
90	190	137	258	Ø140	-



Drilling unit B 63/125 D
Direct drive
without oil brake cylinder

Drive power:	optionally 0.37 KW or 2.2 KW
Spindle speed:	between 750 and 3000 rpm
Drive:	direct three-phase motor
Feed:	pneumatic from 80 to max. 160 mm, the standard stroke is 125 mm
Feed force:	at 6 bar 1120 N at 8 bar 1490 N
Tool holder:	UNF 1/2"-20 threads for drill chuck, Multi-spindle drilling heads and chuck holder
Weight:	between 16 and 24.5 kg
Assembly:	on the head 4 x M8 with centering spigot $\varnothing 60$ mm and pitch circle $\varnothing 80$ mm or head and cover 4 x M8 (see drawing)
Application:	for drilling wood.

Design:

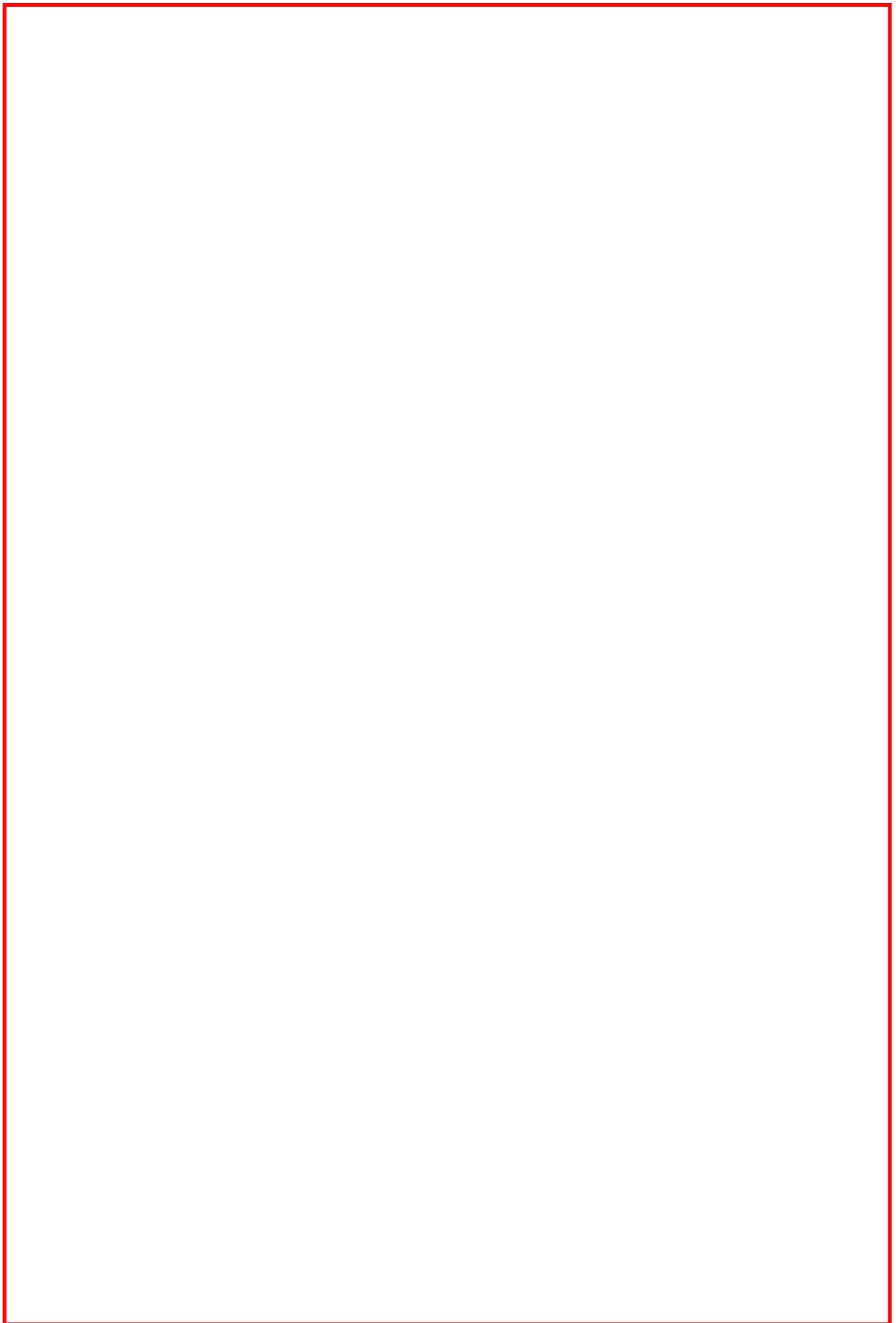
The drilling unit is mostly made of anodized aluminium and corrosion-free/ corrosion-resistant material. Seals and guides are maintenance-free, so that the unit can be operated without oiler and with clean and dry air.

Equipment:

Equipped with depth stop and pneumatic depth switch-off and signalling, as standard.

On request

- Fitting groove and pin holes
- Return stroke limitation control ring
- Inductive sensor for bore depth
- 1 reed switch for starting position



Drilling unit B63 multi-spindle 125 stroke with oil brake cylinder



Application:

The B63 drilling unit offers versatile application options for drilling metal, wood and plastic.

Special features:

The B63 can be equipped (depending on the spindle spacing) with a cam bar to skip cavities. This is attached to head and cover of the unit on side of the air connections. This results in much shorter drilling times.

Another special feature is that the oil brake cylinder can drive the full stroke of the drilling unit in feed and rapid motion. In the standard version, the feed is switched on by an adjustable stop, or for an additional charge as a snap-action rapid traverse.

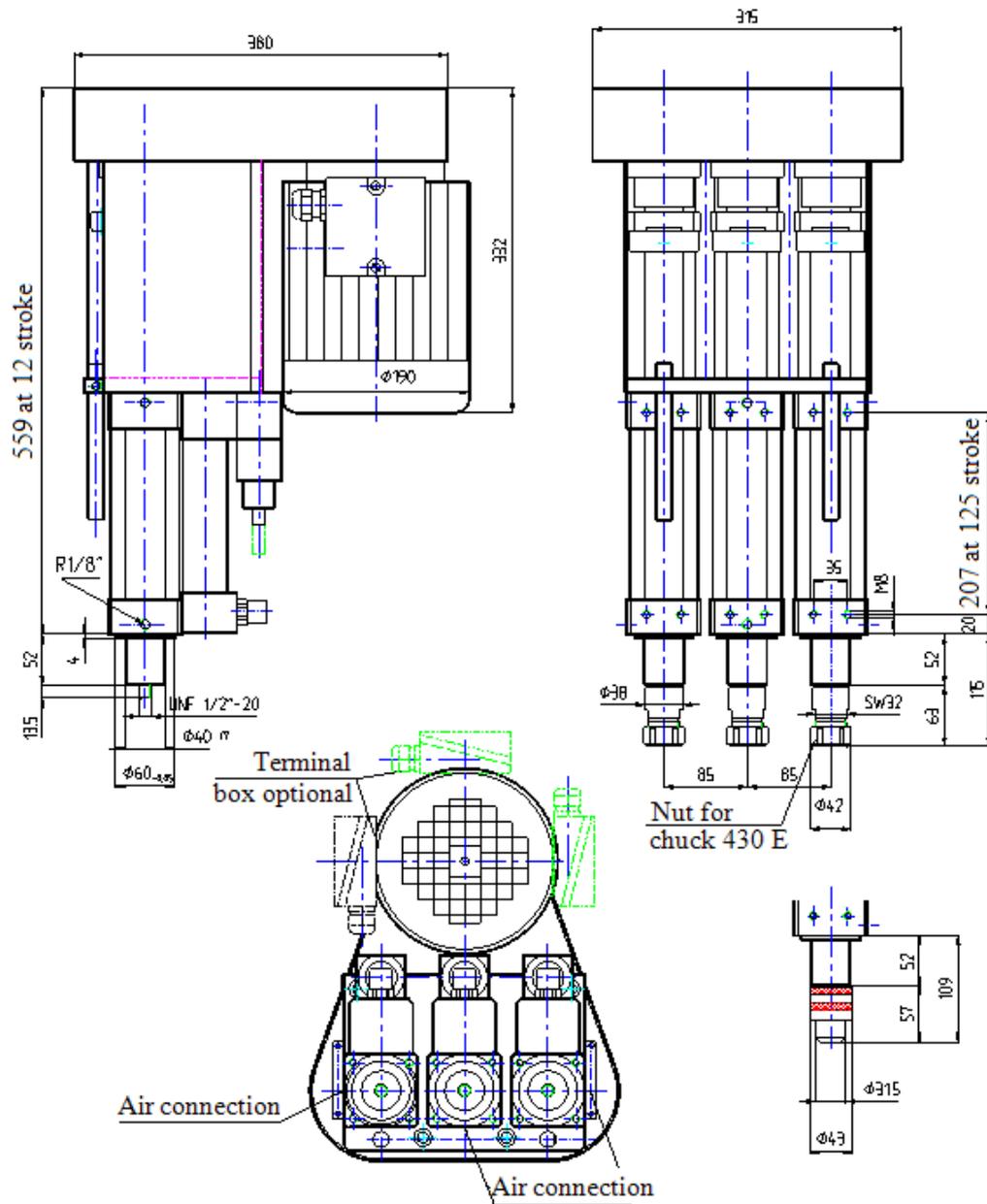
Design:

The drilling unit is mostly made of anodized aluminium and corrosion-free/corrosion-resistant material. Seals and guides are maintenance-free, so that the unit can be operated without oiler and with clean and dry air.

Equipment:

The drilling unit is equipped with adjustable power stroke, depth stop, signalling and oil brake cylinder as standard.

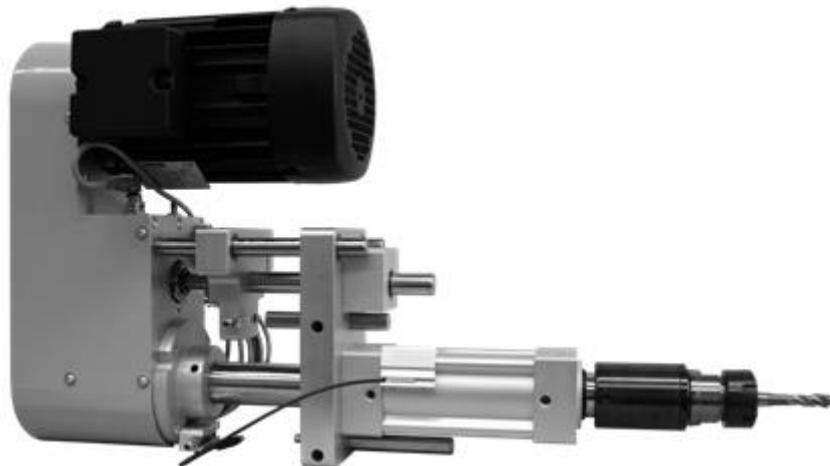
Return stroke, rapid-flange feed-off valve and control system for DS1 rapid feed are available on request.



Technical data:

Drive power:	optionally between 1,1 KW – 2,2 KW
Spindle speeden:	at 1,1 KW 540 - 5000 Rpm at 1,5 KW 833 - 5000 Rpm at 2,2 KW 1550 - 5000 Rpm
Drive:	three-phase motor with V-ribbed belt
Feed:	pneumatic, max. 125 mm with oil brake cylinder
Feed force:	at 6 bar 1120 N at 8 bar 1490 N
max. drilling capacity:	in St 50 \varnothing 12 mm
Tool holder:	UNF 1/2"-20 threads for drill chuck, Multi-spindle drilling heads and chuck holder
Weight:	approx. 58 kg
Assembly:	on the head 4 x M8 with centering spigot \varnothing 60 mm and pitch circle \varnothing 80 mm or on head and cover 4 x M8 per spindle (see drawing)

Tapping unit GBE 63



Application:

The thread unit GBE 63 offers versatile application options in mechanical engineering for thread cutting in metal, wood and plastic.

Design:

The thread unit GBE 63 is mostly made of anodized aluminium and corrosion-free or corrosion-resistant material. Seals and guides are maintenance-free, so the unit can be operated without oiler and with clean and dry air.

Equipment:

The thread unit GBE 63 is equipped with depth stops for the thread cutting and total stroke and signalling, as standard.

Functional description:

The thread pitch is defined by a lead screw and lead nut and must be selected for the corresponding thread.

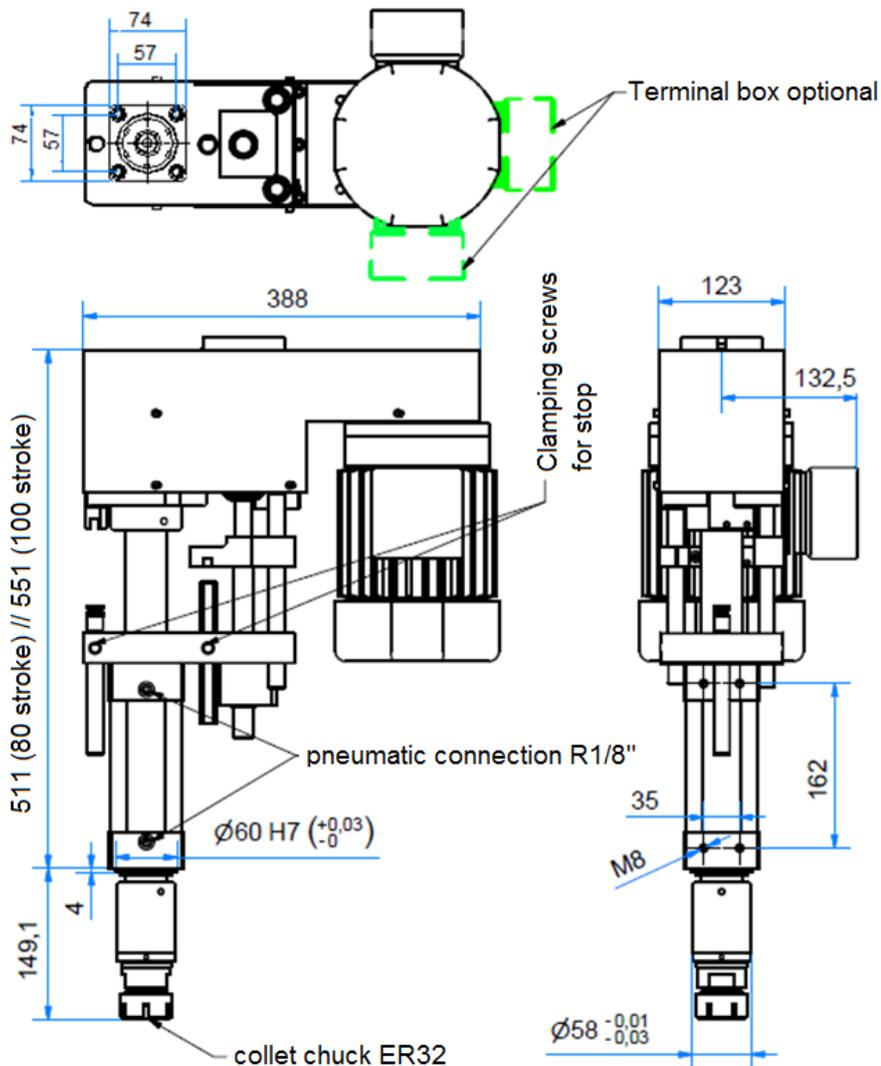
Special features:

The lead screw can be easily exchanged for a different pitch if required.

Accessories:

For very small pitches or very short cycle times, we recommend a drill head with a ratio of 2:1. This allows, for example, a lead screw with a pitch of 1,0 for a pitch of 0,5.

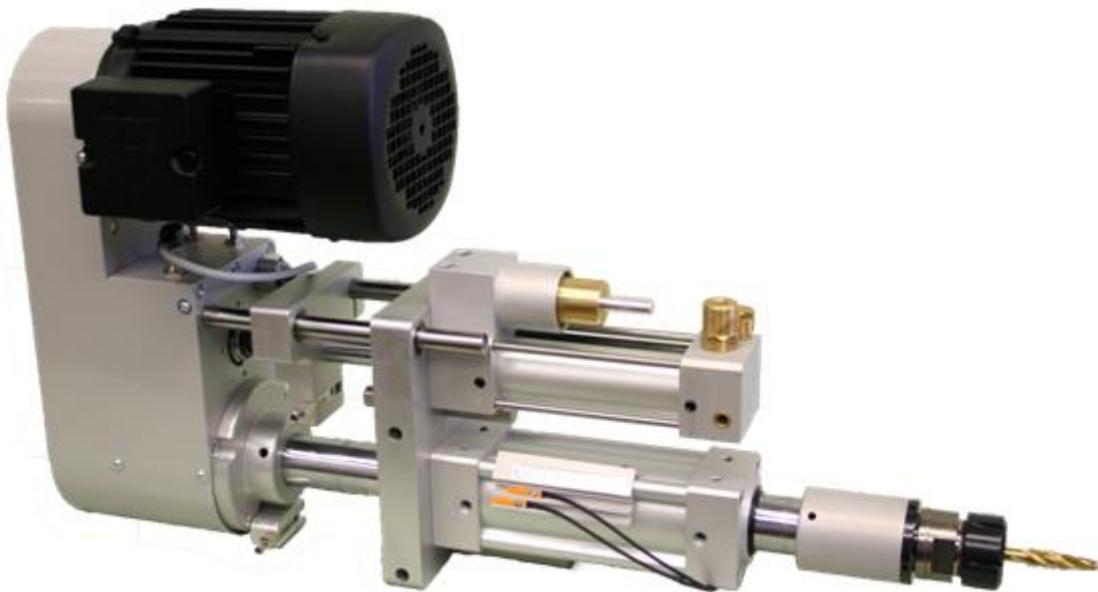
If a larger thread cutting stroke of more than 35 mm is required, the thread unit is equipped with a rotating lead screw. However, this should be connected to a central lubrication system or lubricated daily with a grease gun.



Technicak data:

Drive power:	between 0,75 KW and 1,5 KW (other power on request)
Spindle speed:	speeds on request
Spindele type:	available with a fixed oder rotating lead screw
Drive:	three-phase motor with V-ribbed belt
Total stroke:	the standard stroke is 80 and 100 mm, up to 110 mm is possible
Thread-tapping stroke:	0 - 35 mm via control system, or with a rotating lead screw ut to maximum of 110 mm
Feed:	pneumatic
Thread-tapping power:	M12 in St 50 (M16 available with a gear drive motor and toothed belt drive) M16 in aluminium
Tool holder:	chuck ER 32, clamping range \varnothing 3-20 mm // up to \square 14,5 mm
Weight:	approx. 32 kg
Assembly:	on the head 4 x M8 with centering spigot \varnothing 60 mm and pitch circle \varnothing 80 mm, or on head and cover 4 x M8 per spindle (see drawing)

Combination drilling & tapping unit B63/80 with oil brake cylinder Patented



Application:

The B63 combination drilling and tapping unit offers versatile application options for drilling and thread-tapping in metal and plastic.

Special featureen:

The combination of a hydro-pneumatic feed for drilling and a replaceable leading cartridge for thread-tapping makes our unit into a general-purpose processing component.

Due to the possible applications of combination drill bits, the core hole and threads can be manufactured in one single operation. Fast feed, drilling, thread tapping process and rapid return are all run into one operation. This results in much shorter processing times than with conventional processing units.

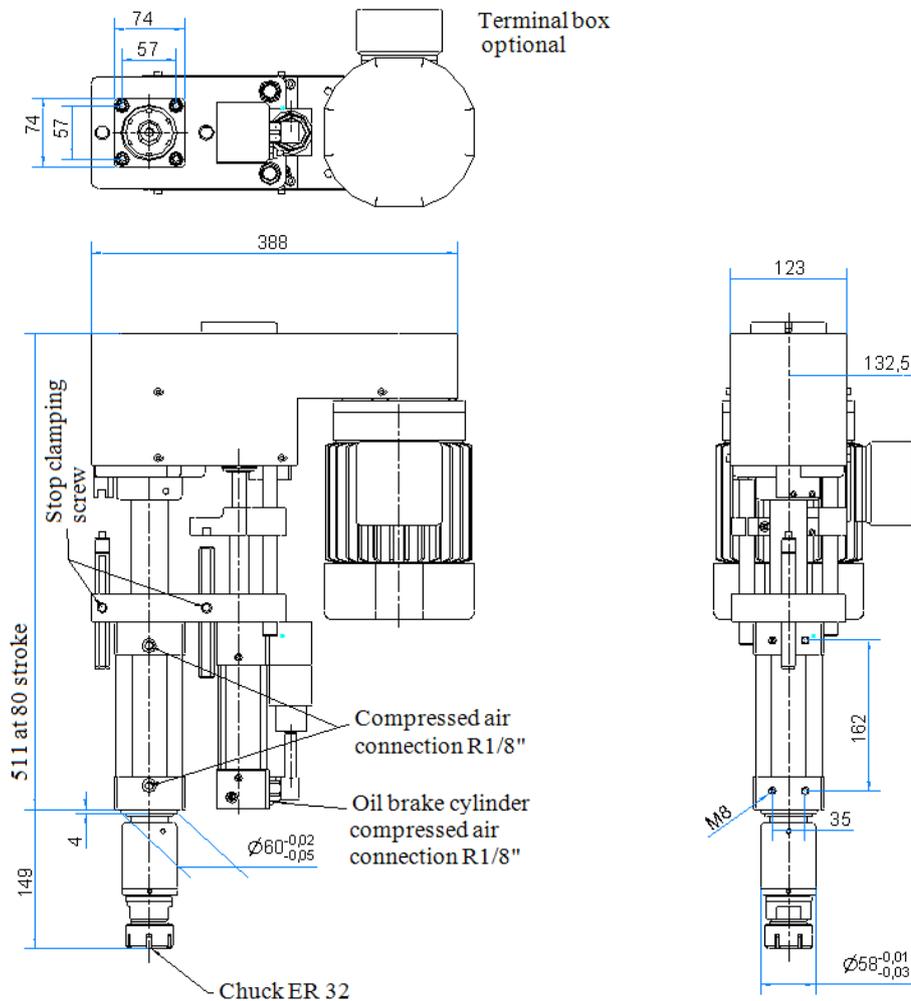
Through the clear arrangement of the two stops for the drilling and thread depth, as well as the easily replaceable leading cartridge, the conversion of thread tapper from one thread size to another takes only a few minutes.

Design:

The thread tapper unit is mostly made of anodized aluminium and corrosion-free / corrosion-resistant material. Seals and guides are maintenance-free, so the unit can be operated without oiler, but with clean and dry air.

Equipment:

The thread tapper unit is equipped with depth stops for drill stroke and total stoke, signalling and oil brake cylinder, as standard.



Technical data:

Drive power:	optionally 0.70/0.85 kW or 1.10/1.40 kW
Spindle speeds:	at 0.70/0.85 KW 450/2500 to 900/5000 U/min at 1.10/1.40 KW 450/2500 to 900/5000 U/min other speeds on request
Drive:	pole switchable three-phase motor with V-ribbed belt
Total stroke:	the standard stroke is 80 mm, up to 100 mm is possible
Thread-tapping stroke:	0 - 32 mm via control system
Drill feed:	pneumatic, with oil brake cylinder
Drill feed force:	at 6 bar 1120 N at 8 bar 1490 N
Gewindeschneidleistung:	M12 in St 50 M16 in aluminium
Tool holder:	Chuck ER 32, clamping range \varnothing 3-20 mm
Weight:	approx. 32 kg
Assembly:	on the head 4 x M8 with centering spigot \varnothing 60 mm, pitch circle \varnothing 80 mm, or head and cover 4 x M8 (see drawing)

Drilling unit B80 x 150 stroke



Application:

The B80 drilling unit offers versatile application options for drilling metal, wood and plastic.

Special features:

The B80 can be equipped with a com bar to skip cavities. This is attached to the air connection side of the head and cover of the unit. This results in much shorter drilling times.

Another special feature is that the oil brake cylinder can drive the full stroke of the drilling unit in feed and rapid motion. In the standard version, the feed is switched on by an adjustable stop, or for an additional charge as a snap-action rapid traverse feed.

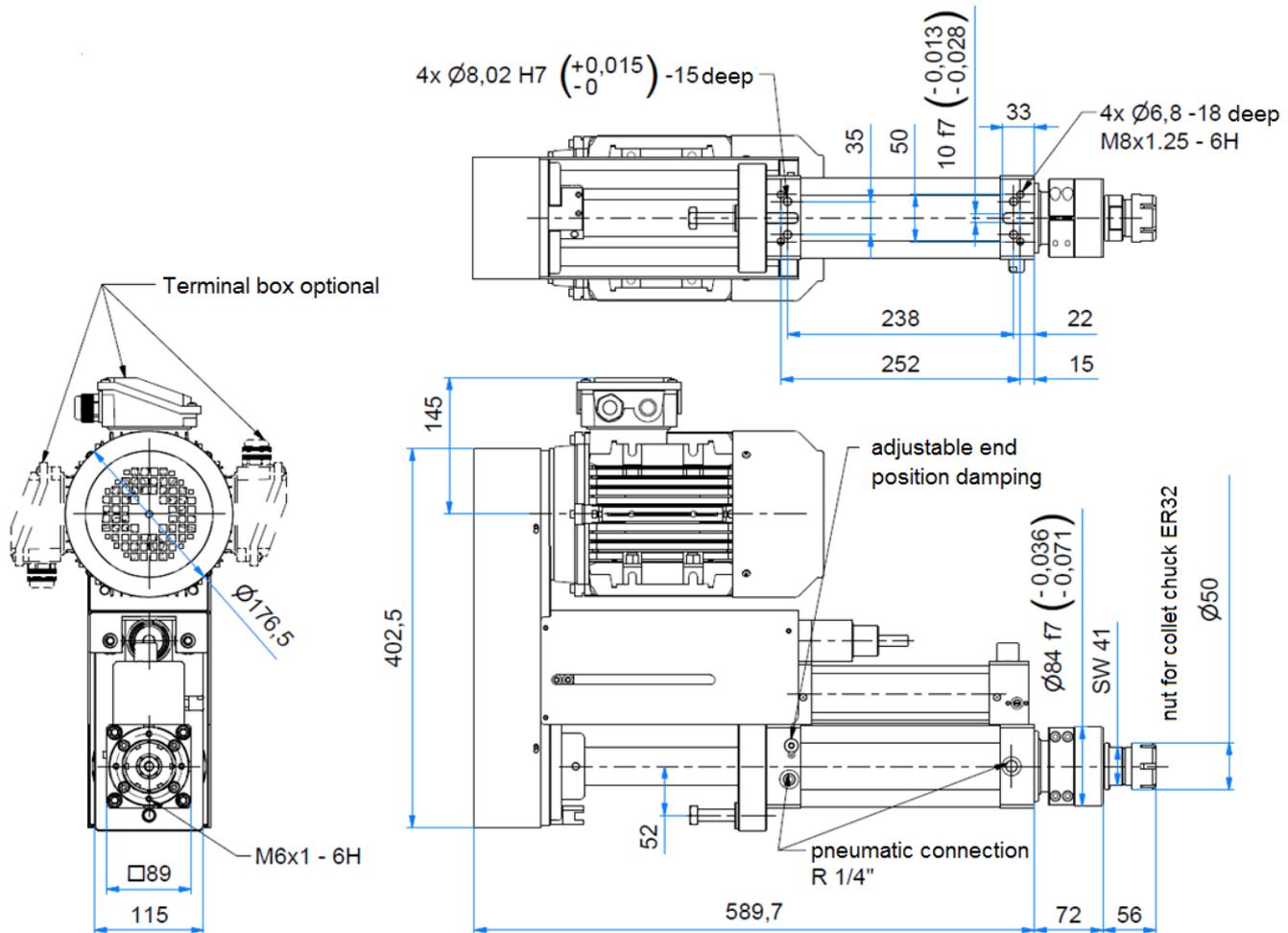
Furthermore, the feed unit B80 has an adjustable end position damping for the return stroke.

Design:

The drilling unit is mostly made of anodized aluminium and corrosion-free/corrosion-resistant material. Seals and guides are maintenance-free, so the unit can be operated without oiler and with clean and dry air.

Equipment:

The drilling unit is equipped with depth stop, signalling and oil brake cylinder as standard, as well as an inductive sensor for bore depth and starting position.



Technical data:

Drive power:	optionally between 1,1 KW - 2,2 KW
Spindle speed:	at 2,2 KW 1000-6000 Rpm at 1,5 KW 500-3600 Rpm at 1,1 KW 330-2600 Rpm
Drive:	three-phase motor with V-ribbed belt
Feed:	pneumatic, with oil brake cylinder the standard stroke is 150 mm
Feed force:	at 6 bar 2.256 N
Max. drilling capacity:	in St 50 Ø 20 mm
Tool holder:	Chuck ER 32, clamping range Ø 3-20 mm HSK63-C Weldon Ø25
Weight:	approx. 42 kg
Assembly:	4x M8 (see drawing)

Drilling unit B100/140 with oil brake cylinder



Application:

The B100 drilling unit offers versatile application options for drilling metal, wood and plastic.

Special featureen:

The B100 can be equipped with a com bar to skip cavities. This is attached to the air connection side of the head and cover of the unit. This results in much shorter drilling times.

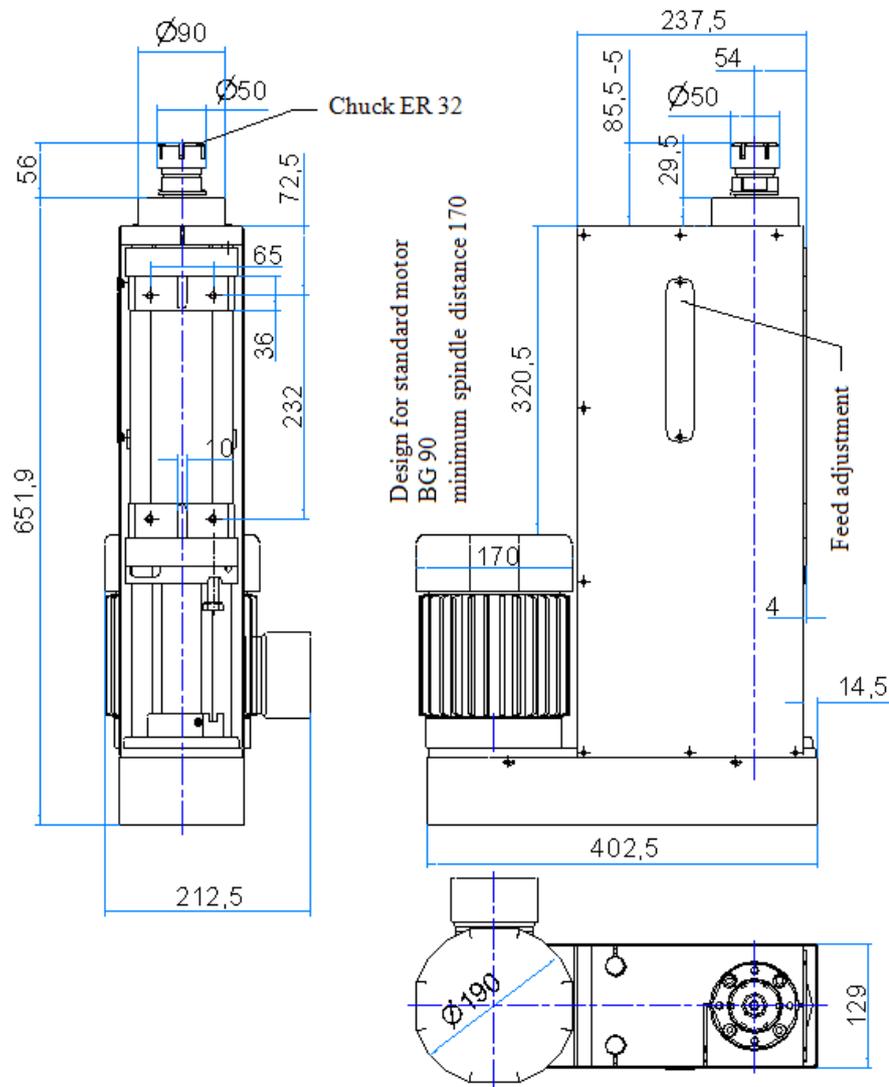
Another special feature is that the oil brake cylinder can drive the full stroke of the drilling unit in feed and rapid motion. In the standard version, the feed is switched on by an adjustable stop, or for an additional charge as a snap-action rapid traverse feed.

Design:

The drilling unit is mostly made of anodized aluminium and corrosion-free/corrosion-resistant material. Seals and guides are maintenance-free, so the unit can be operated without oiler and with clean and dry air.

Equipment:

The drilling unit is equipped with depth stop, signalling and oil brake cylinder as standard, as well as an inductive sensor for bore depth and starting position.



Technical data:

Drive power:	optionally between 1,1 KW - 2,2 KW
Spindle speed:	at 2,2 KW 1000-6000 Rpm at 1,5 KW 500-3600 Rpm at 1,1 KW 330-2600 Rpm
Drive:	three-phase motor with V-ribbed belt
Feed:	pneumatic, with oil brake cylinder the standard stroke is 140 mm
Feed force:	at 6 bar 4000 N
max. drilling capacity:	in St 50 $\varnothing 20$ mm
Tool holder:	chuck ER 32, clamping range $\varnothing 3-20$ mm HSK63-C Weldon $\varnothing 25$
Weight:	approx. 50 kg
Assembly:	4x M8 (see drawing)
By request:	Internal cooling of tools

Drilling spindle ER25

Direct drive / belt drive



Application:

Our drilling spindles are used for drilling wood, plastic and metal.

Design:

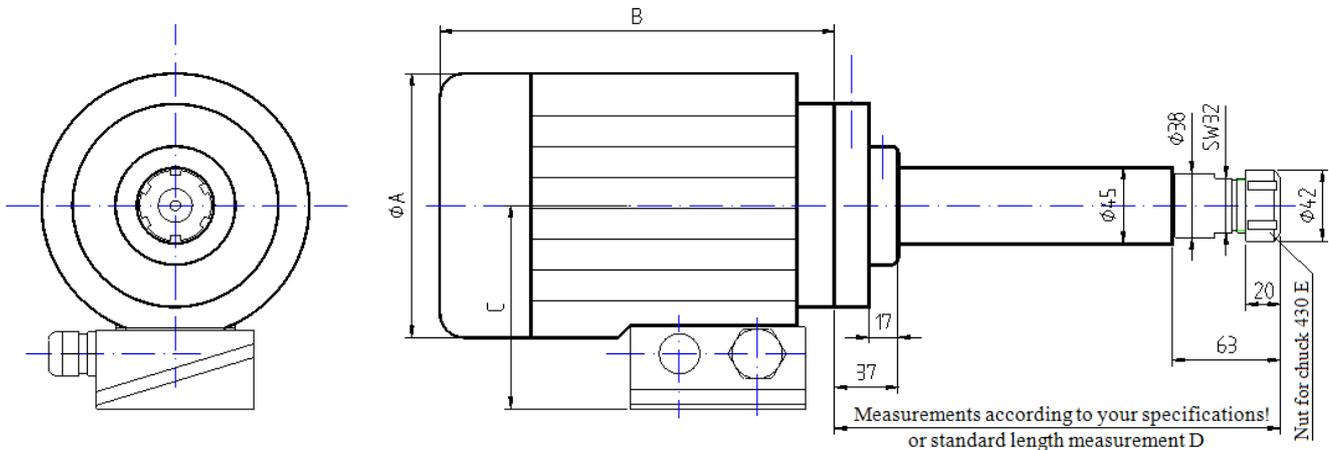
The drilling spindle is equipped with an ER 25 chuck holder as standard, the spindle length is determined by the specifications of the customer or available in a standard length.

The ER25drill spindle is available both as a direct-drive unit and with a belt drive.

Custom design:

If desired, we would be happy to create a custom design for you.

Drilling spindle – Direct drive with chuck holder ER 25



Motor	A	B	C	Motor power
Size 80	160	245	120	0,55 – 1,1 kW
Size 90	195	270	137	1,1 – 2,2 kW

Technical data:

Standard lengths

dimension D: 340, 372 und 440 mm

Spindle speed: same as motor speed 750 - 980 - 1400 - 2800 Rpm
with a frequency converter, a speed up to 6000 Rpm is possible.
A cooling ring is required for continuous operation over 5000 Rpm.
The motor speed depends on the motor size and the respective motor power.

Please always inquire about motor power and speed separately!

Drive: Three-phase motor direct

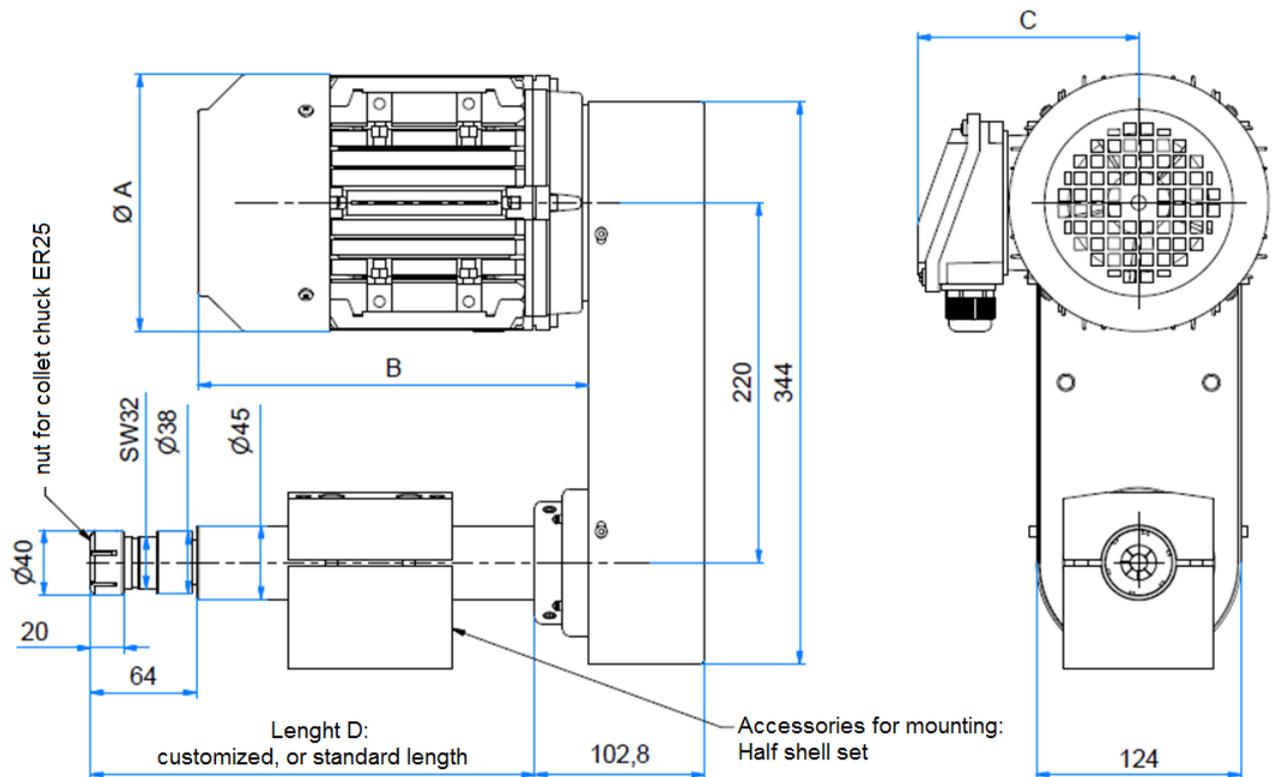
Tool holder: UNF 1/2"-20 threads for drill chuck, Multi-spindle drilling heads und chuck holder ER25.

Assembly: on diameter 45f7 through clamping flange
(however not included in the scope of supply)

Run-out accuracy: 0,05 mm on the tool

Max. Drilling capacity: Ø 14 mm, in St 50

Drilling spindles – belt drive with chuck holder ER 25



Motor	A	B	C	Motor power
Size 80	160	245	120	0,55 – 1,1 kW
Size 90	195	270	137	1,1 – 2,2 kW

Technical data:

Standard lengths dimension D: 282, 427 and 467 mm

Spindle speed: between 300 and 8000 Rpm depending on motor speed.
A cooling ring is required for continuous operation over 5000 Rpm.

Drive: three-phase motor with V-ribbed belt.

Tool holder: UNF 1/2"-20 threads for drill chuck, Multi-spindle drilling-heads und chuck holder ER25.

Assembly: on diameter 45f7 through clamping flange
(however not included in the scope of supply)

Run-out accuracy: 0,05 mm on the tool

Max. drilling capacity: Ø 16 mm, in St 50

Customized - drilling spindles

Drilling spindle ER16 belt drive Produkt no. 630182

Spindle with tool holder ER16
with spring-loaded drilling guide
for ISO standard motors size 71
only high-speed gear ratios are suitable

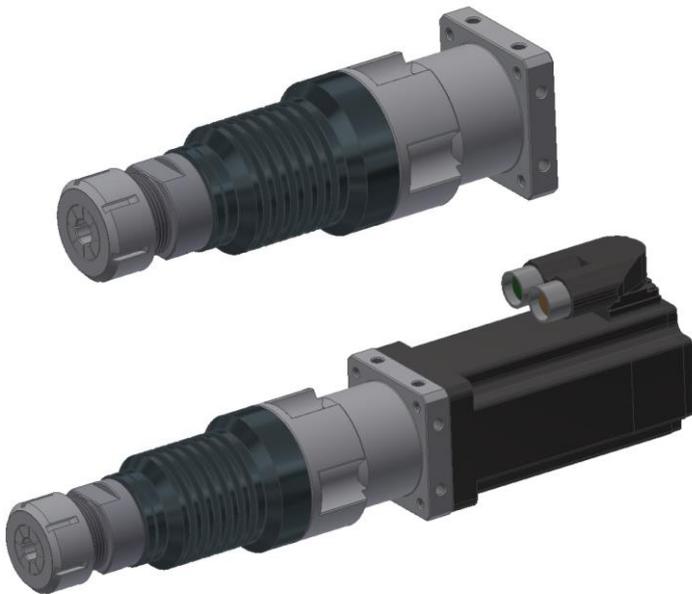


Drilling spindle belt drive Produkt no. 02 04 03 2100 Incl. adjustable drill dead V-MSK 7-2

The spindle holder is design as a conveyer. The adjustable two-spindle drill head V-MSK 7-2 is adapt over a clamping flange and has additionally a spring-loaded drill guide plate for ISO standard motors size 71 only high-speed gear ratios are suitable



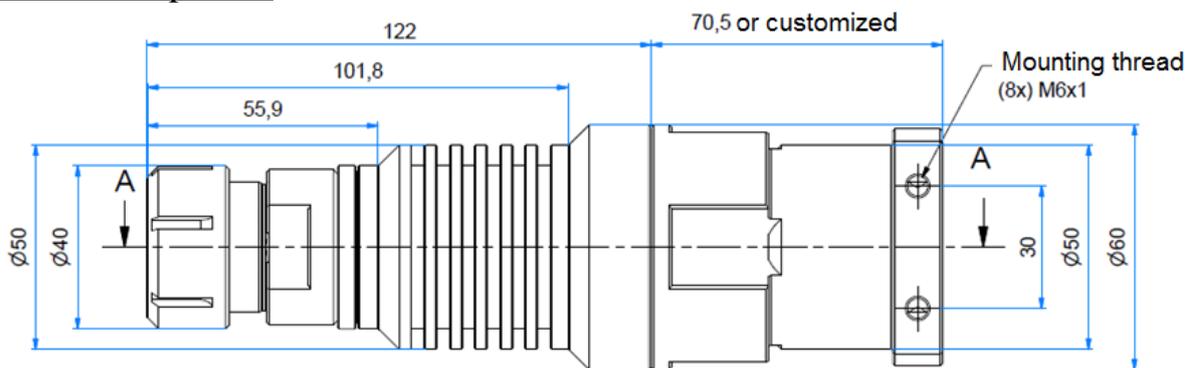
Drilling & milling spindle



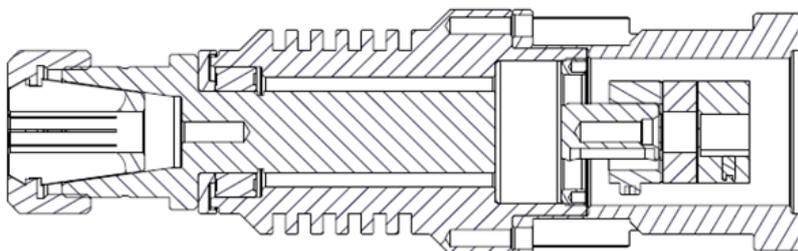
Technical data:

- Tool holder ER25
- Maximum speed: 12.000 rpm
- Concentricity: 0,02 mm
- Include: elastomer coupling for
 - o Max. torque: 12 Nm
 - o Max. motor shaft-Ø: Ø15 mm
- Mounting thread: M6 x 1
- Weight (without motor): 1,8 kg

Dimension spindle:



A-A (1 : 1)



Drilling spindle - Direct drive with chuck holder ER32



Application:

Our drilling spindles are used for drilling wood, plastic and metal as well as for light milling of all kinds.

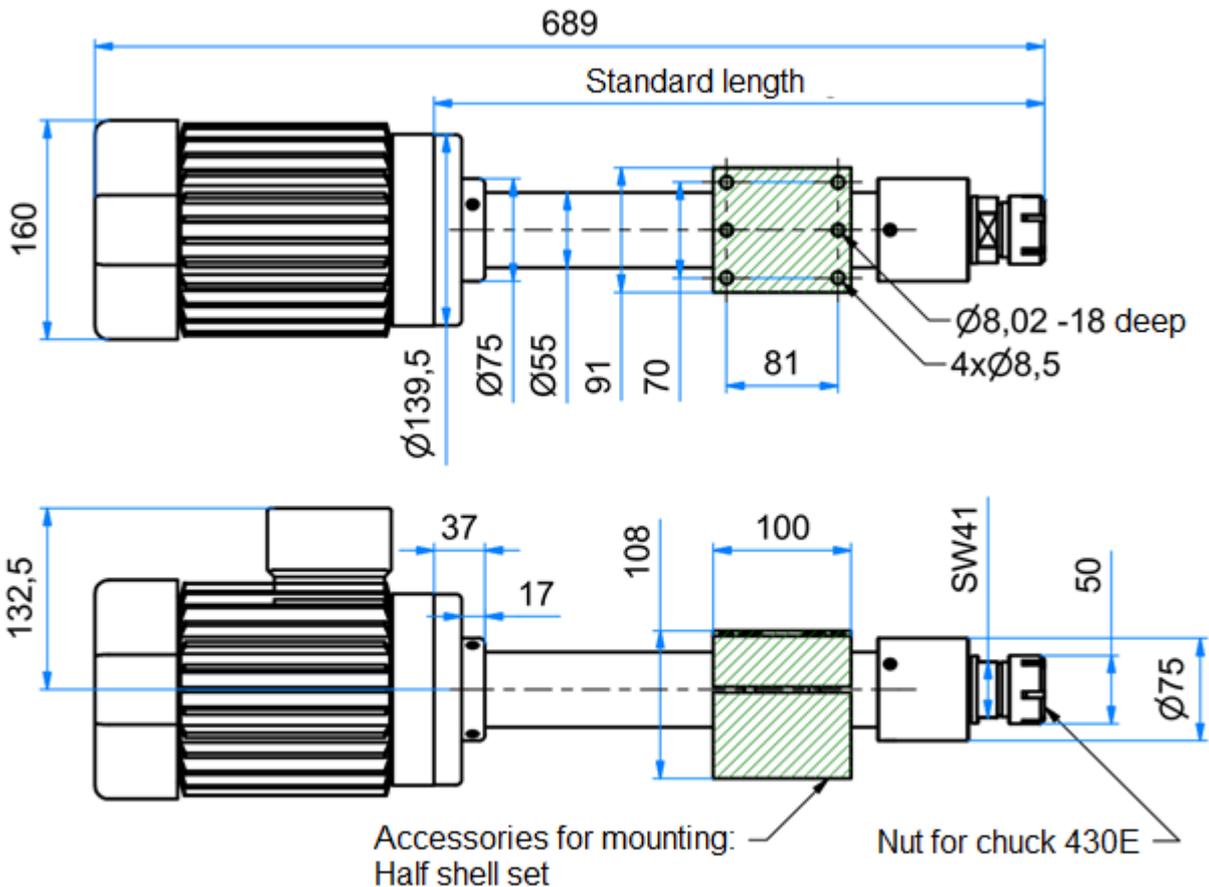
Design:

The drilling spindle is equipped with ER 32 chuck holder as standard.
The spindle is available in lengths of 236 mm, 293 mm and 443 mm.
For standard BG90 in motors in small B14.

Special design:

Flange adapted to special motor
(servo motor)





Technical data:

Standard lengths: 236 mm / 293 mm / 443 mm

Drive: motor BG90 / three-phase motor direct

Spindle speed:

- corresponds to motor speeds: 750 - 980 - 1400 - 2800 Rpm
- with frequency converter, speeds up to 6000 Rpm are possible
- a cooling ring is required for continuous operation above 5000 Rpm.
- motor speed depends on the motor size and the respective motor power (0.75 - 3 KW)

Please always inquire about motor power and speed separately!

Tool holder: collet ER 32, clamping range \varnothing 3-20 mm
 HSK63-C
 Weldon \varnothing 25

Assembly: on diameter 55f7 through clamping flange (*green hatches in Drawing - however not included in the scope of supply*)

Run-out accuracy: 0,03 mm on the tool

Max. drilling capacity: \varnothing 20 mm, in St 5

Drilling and milling spindle with belt drive with tool holder HSK-C50 chuck holder ER32 or saw blade holder



Belt housing V-shape



Belt housing standard

Application:

Our belt-drive drilling- and milling spindle ER32/ HSK-C50 is used for drilling wood, plastic and metal. It is suitable for all types of light and medium milling work. The spindle can also be equipped with a saw blade holder.

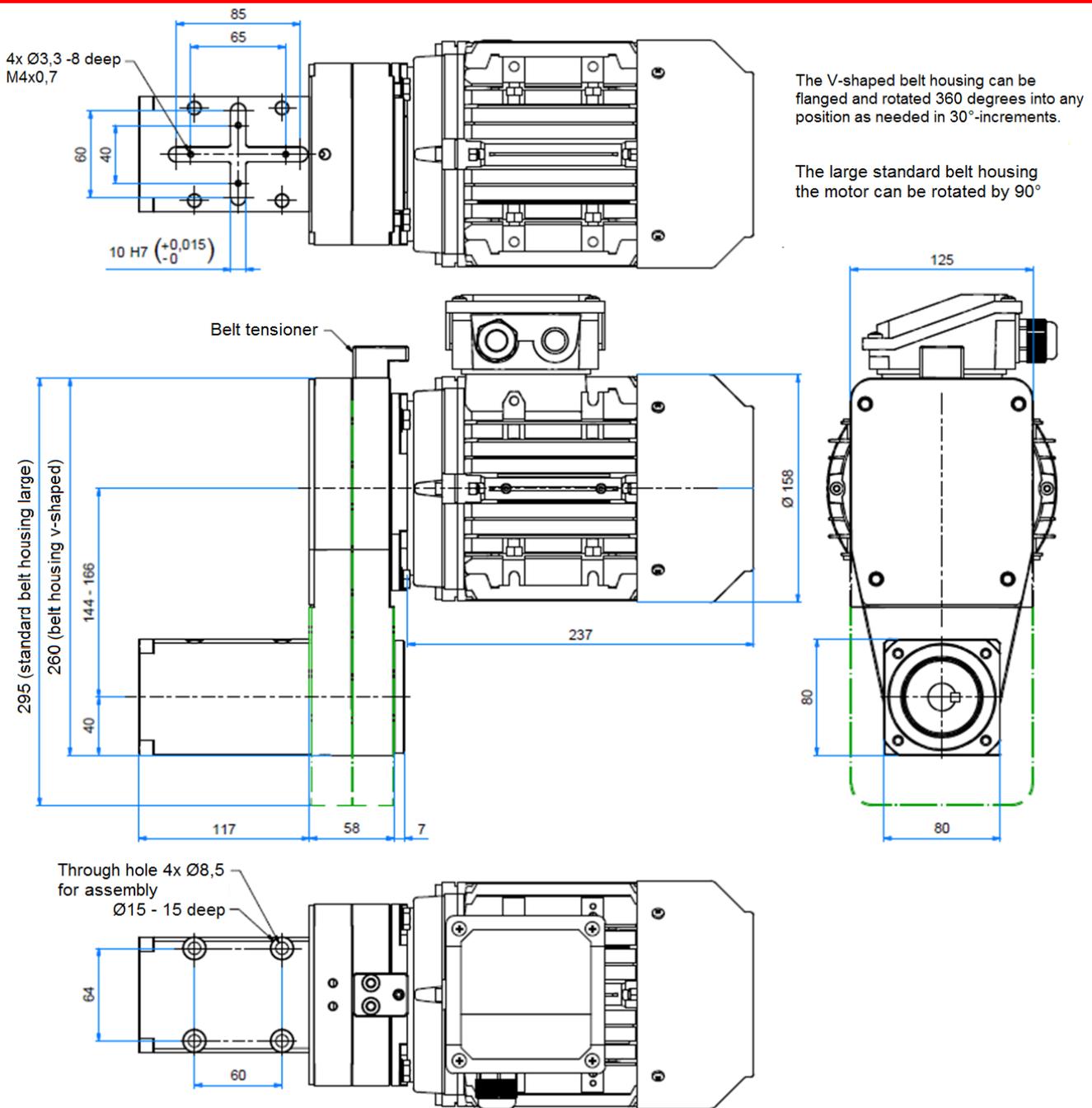
Design:

The spindles are equipped as standard with an ER 32 collet chuck, or an HSK-C50 tool holder. They are suitable for standard motors in size 80 in design B14 small and can operate at up to 7.500 rpm depending on motor selection.

The V-shaped belt housing can be rotated into any position as needed in 30°-increments. Due to the V-shape, a reduction in speed is only possible to a minimal extent.

The larger standard belt housing also allows reduction ratios. However, the belt housing itself can only be positioned in 90° increments.

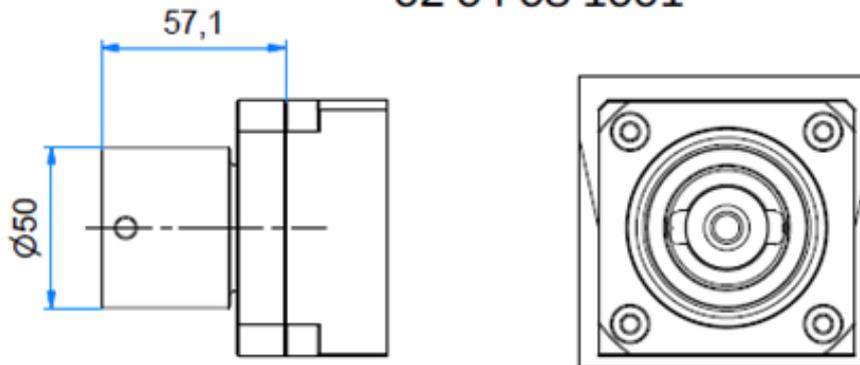
The spindles ER32/ HSK-C50 are prepared for internal cooling as standard; this requires an additional rotary feed. The motor can be mounted in a Z-shaped configuration, as shown, or alternatively in a U-shaped configuration above the spindle.



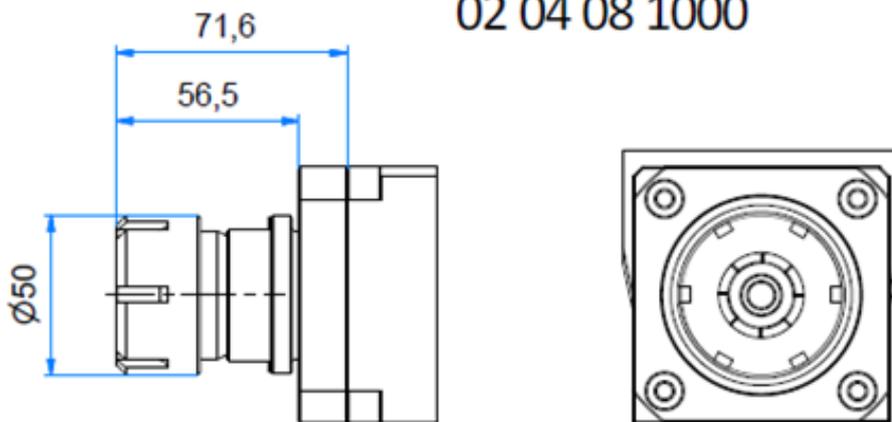
Technical data:

Drive:	ISO standard motors size 80
Spindle speed:	max. 7.500 Rpm Please note: due to the V-shaped of the belt housing, only high-speed gear ratios are suitable
Tool holder:	Tool holder HSK-C50, collet ER ER32, or Saw blade holder: Centering collar Ø 30 and fixing TK Ø50 4xM6
Assembly:	4x M8 screws on the spindle housing (<i>not included</i>)
Rotational accuracy:	0,01 mm on the spindle
Max. Drilling capacity:	Ø 16 mm, in St 50
Weight:	ca. 22 kg (including motor)

Tool holder HSK-C50
for manual tool changes
02 04 08 1001

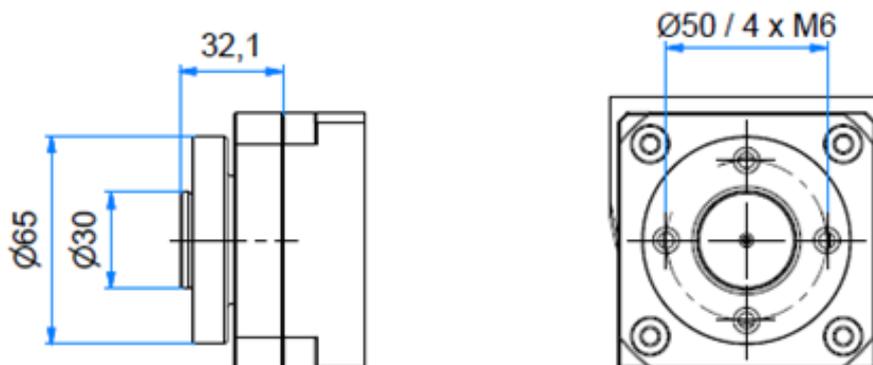


Cuck holder ER32
02 04 08 1000



Saw blade holder
02 04 02 1000

Saw blade with inner diameter 30 mm.
secured via 4x M6 screws in a pitch circle 50 mm



Milling spindle

Tool holder SK40
and with quick-change tooling system



Tool holder HSK-C63
for manual tool changing



Our milling spindle finds versatile applications in mechanical engineering and is suitable for the machining of materials of all kinds.

Equipment Standard:

- Execution spindle bearing with angular contact ball bearings
- Motor on the tool side mounted above the spindle (see figure: standard version)
- The mounting flange on the spindle, with integrated pin holes, allowing the cultivation of angular and multi-spindle drill heads of all kinds.
- The tool is clamped by a threaded pull bar.
- Air purge connection.

Designs selectable:

- The motor can be mounted tool side above the spindle (U-Form) or backside (Z-Form). However, a modification is possible without any problems at any time.
- The belt case can be rotated to any position in 90 ° increments as needed.
- Replaceable poly-V-belt pulleys: max. Ratio $i = 0.6$; max. Reduction $i = 2.1$

Optional at surcharge:

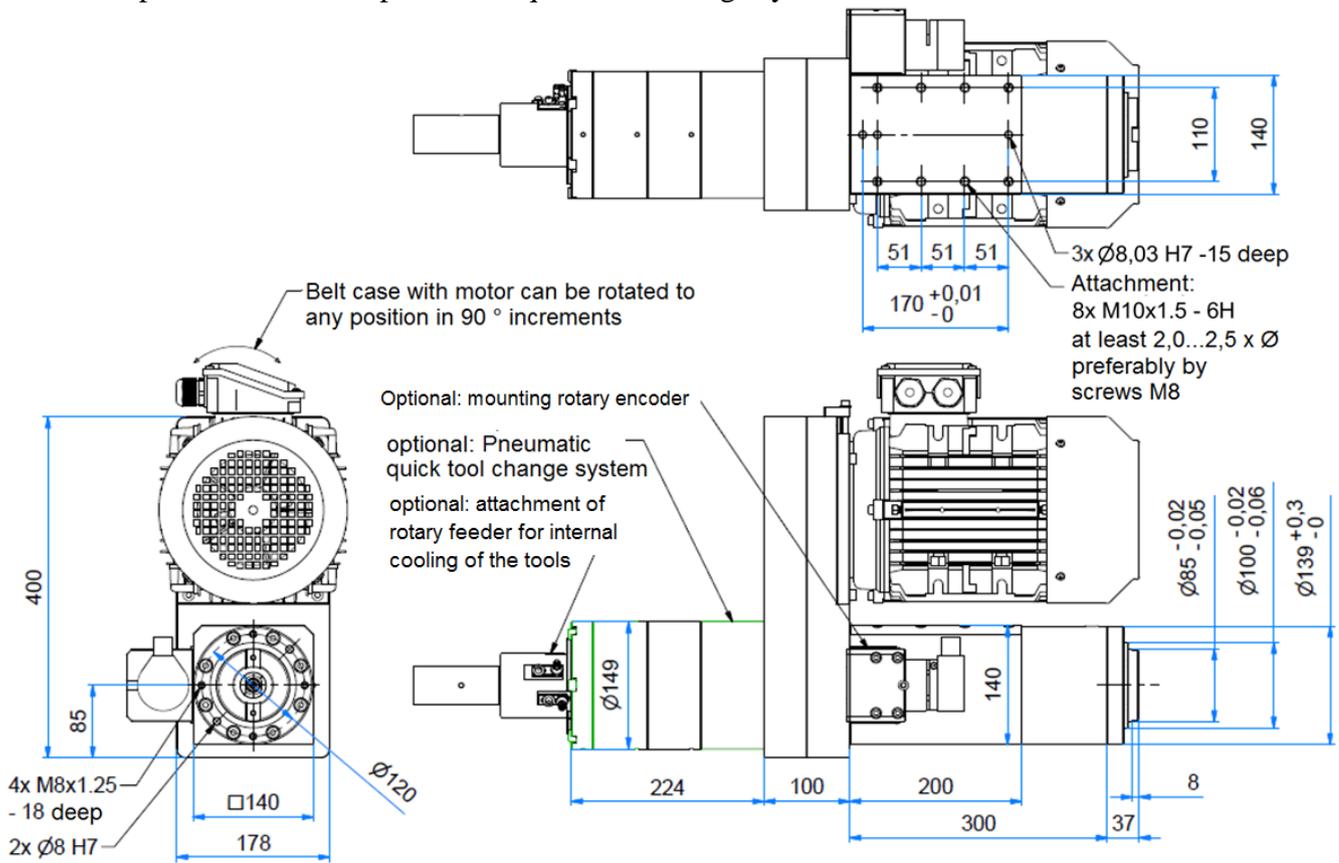
- Execution with spindle bearing spindle bearings
- Internal cooling of tools (*SK40 only in connection with quick-change tooling system*)

Only available with the SK40 tool holder:

- Mounting a rotary encoder
- Pneumatic quick tool change system:
Tool fixing through a clamping system with disc springs. Insertion force: 5 KN.
The tool change carried out via a pneumatic cylinder with 18.9 KN at 6 bar.

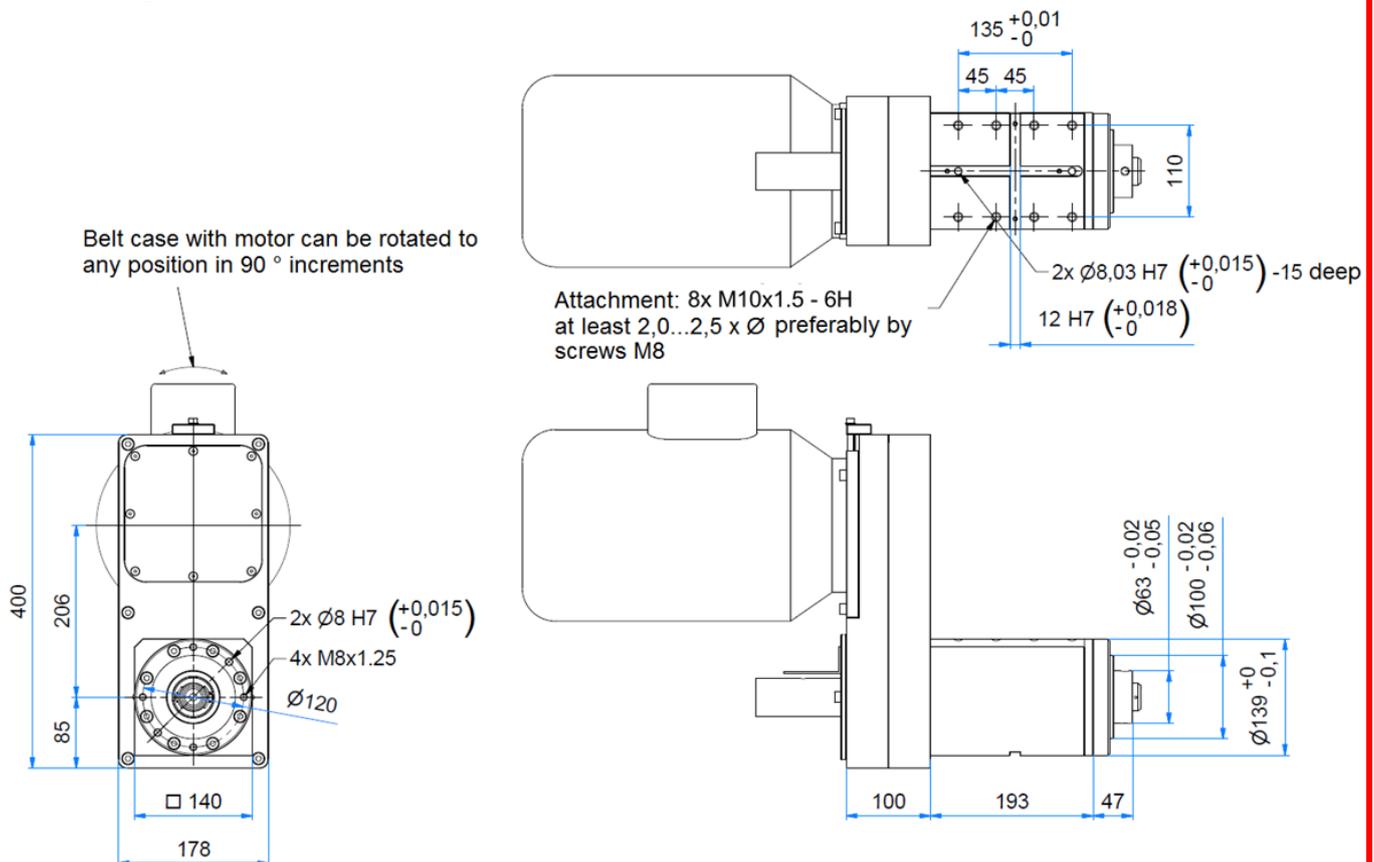
Milling spindle with tool holder SK40

U-shaped structure with pneumatic quick tool change system



Milling spindle with tool holder HSK-C63

Z- shaped structure



Torque on the spindle during respective power of the engine:

The max. Rotational speed, however, is dependent on the spindle bearing

Motor 2-pole: 2.800 rpm 1,5 - 5,5 kW			
Rotational speed Spindle		1,5 kW	5,5 kW
Min.	1.330 Rpm	10,8 Nm	39,5 Nm
Max	4.700 Rpm	3,0 Nm	11,2 Nm

Motor 6- pole: 950 Rpm 1,1 - 2,2 kW			
Rotational speed Spindle		1,1 kW	2,2 kW
Min.	450 Rpm	23,3 Nm	46,7 Nm
Max	1.600 Rpm	6,6 Nm	13,1 Nm

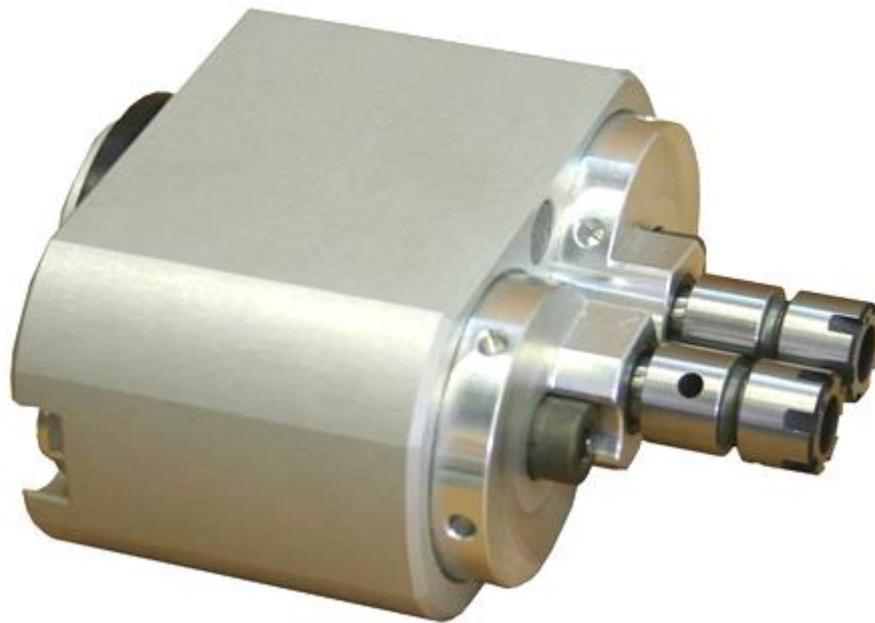
Motor 4- pole: 1.400 Rpm 1,5 - 5,5 kW			
Rotational speed Spindle		1,5 kW	5,5 kW
Min.	660 Rpm	21,7 Nm	79,6 Nm
Max	2.380 Rpm	6,0 Nm	22,1 Nm

Motor 8- pole: 700 Rpm 0,75 - 1,5 kW			
Rotational speed Spindle		0,75 kW	1,5 kW
Min.	330 Rpm	21,7 Nm	43,4 Nm
Max	1.190 Rpm	6,0 Nm	12,0 Nm

For others min. Speeds (than that shown in the table) is a frequency required or on request, if available, a geared motor.

Max. Drilling capacity:	Ø 40 mm in St. 50
Spindle speed:	with angular contact ball bearings 4.000 rpm
(depending on the engine power)	with spindle bearings 7.000 rpm
Drive:	ISO standard motors IP55 / 0,75 - 7,5 kW / 230 - 460V available in size 100 and 132 (Polzahlen 2 - 8)
Tool holder:	SK40 / HSK-C63
Rotational accuracy:	with angular contact ball bearings 0,01 mm with spindle bearings 0,005 mm
Weight:	SK40 approx. 79 kg (including. Motor BG112/ 5,5 kW) HSK-C63 approx. 52 kg (including Motor BG90/ 1,5 kW)

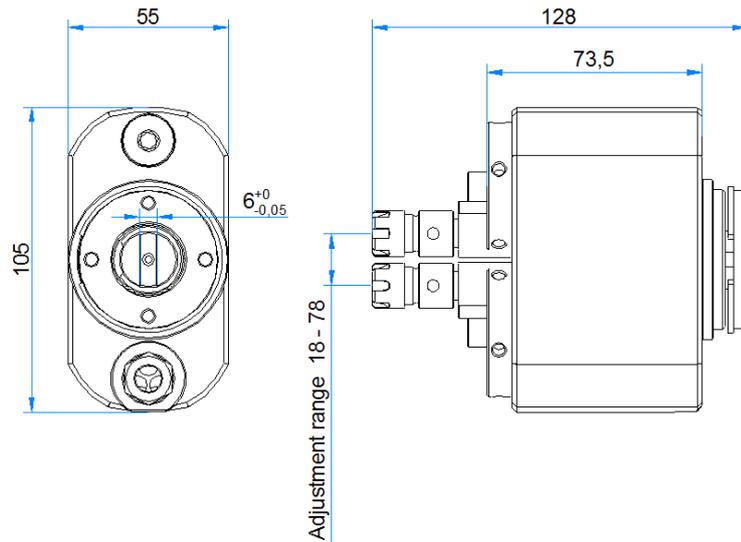
Adjustable two-spindle drill V-MSK 7-2



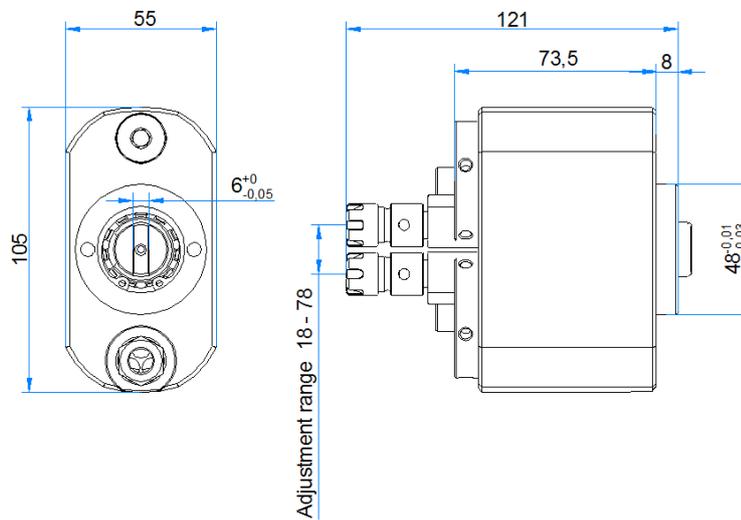
Technical data:

Drilling capacity in St 50:	max. 7 mm
Adjustment range:	min. 18 mm, max. 78 mm
Transmission ratio:	$i = 0,88$
Tool clamping:	Chuck ER 11 clamping range from 0,5 mm to max. 7 mm clamping diameter in increments of 0,5 mm
Transmission lubricant used:	Gear grease GLG 16 / N000
Weight:	1,25 kg
Assembly:	see drawing

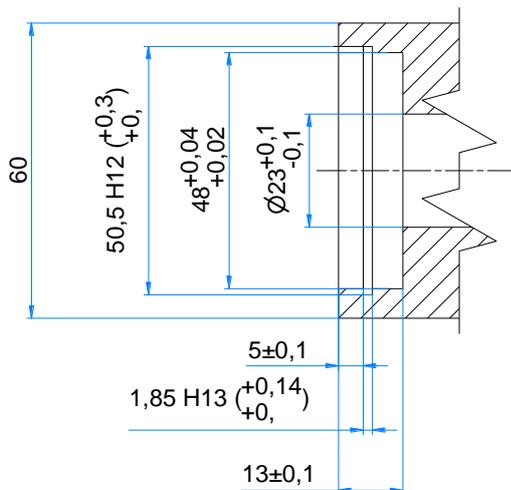
Attachment variant 1: with locking ring :



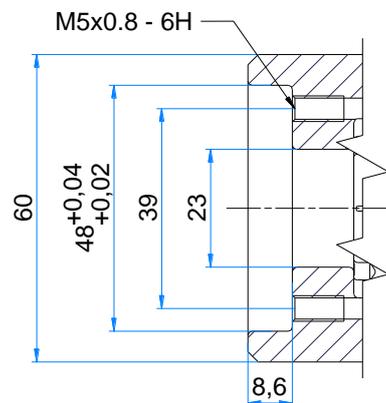
Attachment variant 2: screwed



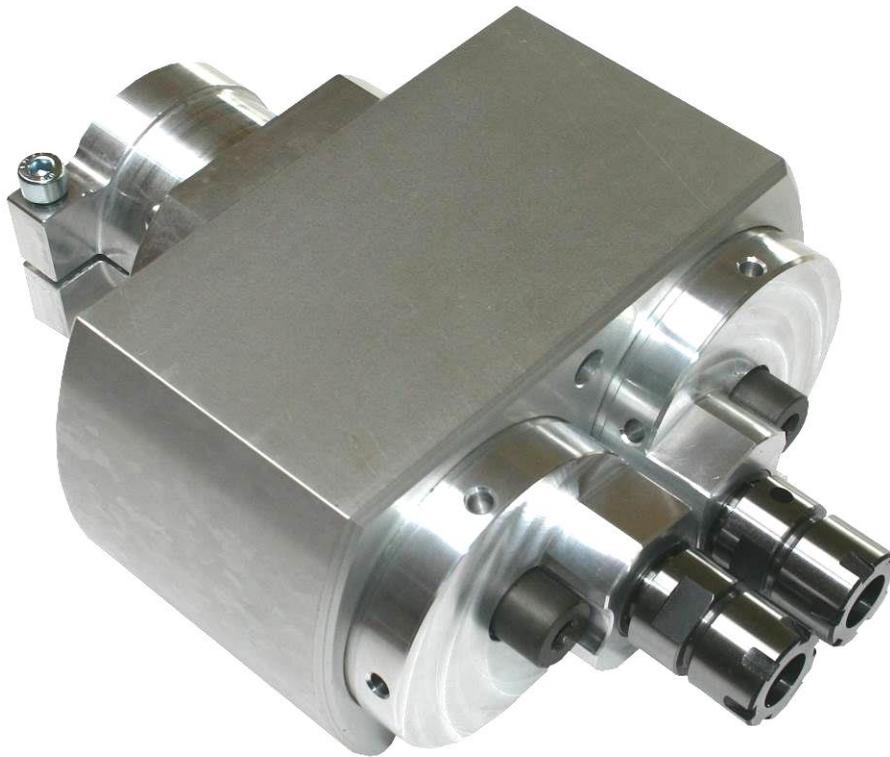
Reception flange for variant 1:
with locking ring



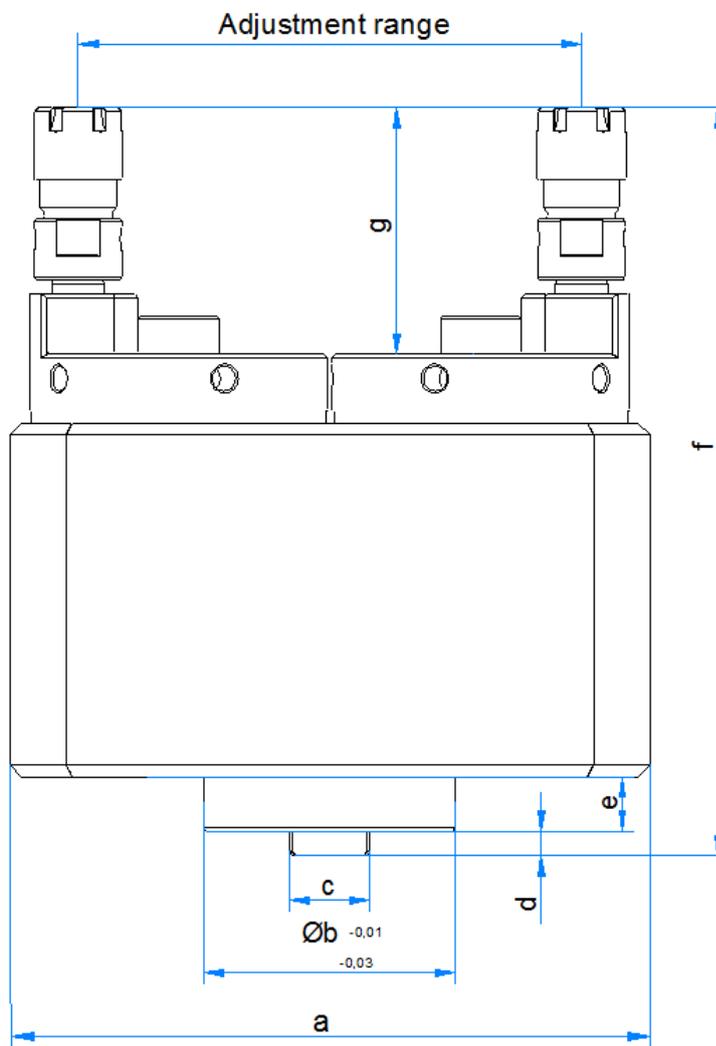
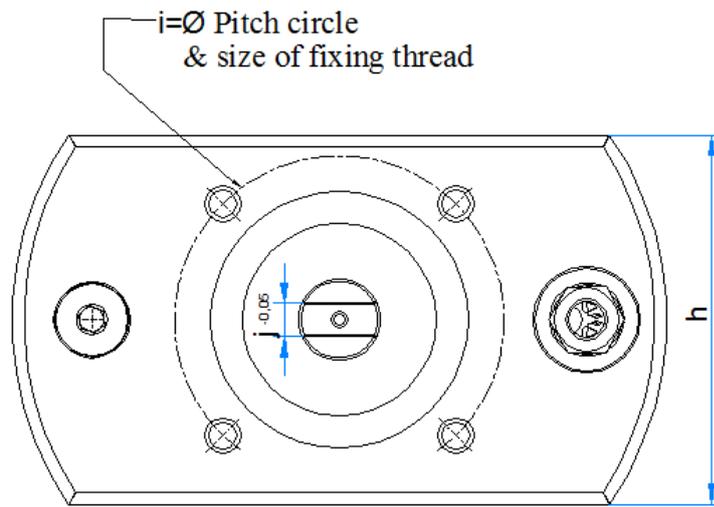
Reception flange for variant 2:
screwed



Adjustable two-spindle drilling head



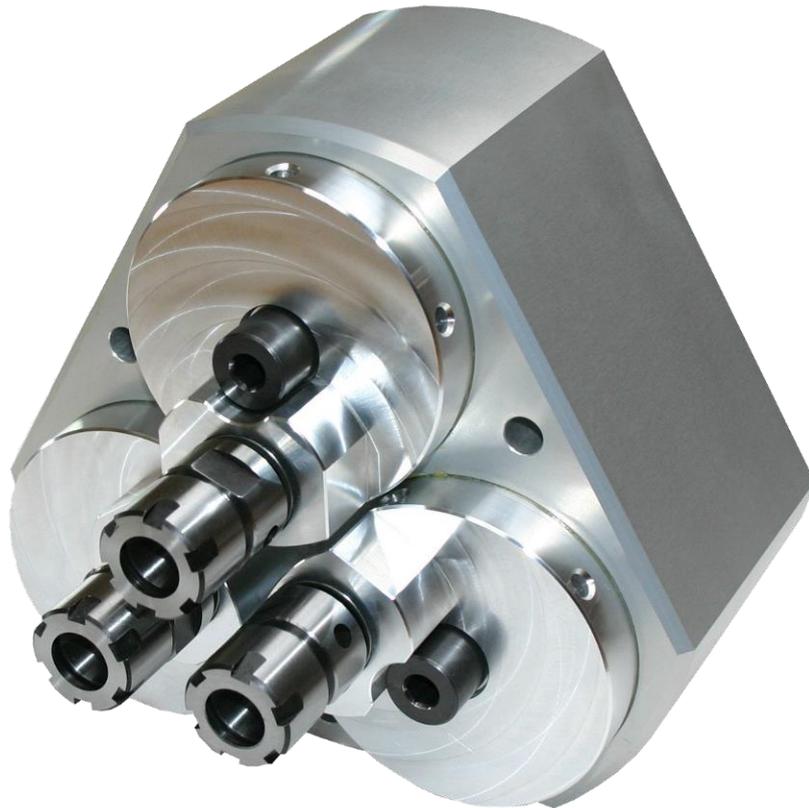
Technical Data	V- MSK 7-02 Item no.: 08 03 00 1007	V- MSK 10-02 Item no.: 08 04 01 1001	V- MSK 13-02 Item no.: 08 05 01 1001
Drilling capacity in St 50	7 mm	10 mm	13 mm
Adjustment range	min. 20 mm, max. 132 mm	min. 25 mm, max. 125 mm	min. 32 mm, max. 144 mm
Transmission ratio	1:1	1:1	1:1
Tool clamping	Chuck ER 11 Clamping range 0.5-7mm	Chuck ER 16 Clamping range 1-10mm	Chuck ER20 Clamping range 1-13mm
Lubricant used	Gear grease GLG 16 / N000	Gear grease GLG 16 / N000	Gear grease GLG 16 / N000
Weight	3,1 kg	4,4 kg	6,6 kg
Fixture	See drawing	See drawing	See drawing



	a	b	c	d	e	f	g	h	i	4 x	j
V-MSK 7-02	158	54	20	5	11	140	40	86	70	M6 x 10	6
V-MSK 10-02	159	62,5	20	6	13,5	185	61	90	80	M8 x 15	8
V-MSK 13-02	189	62,5	20	6	13,5	202	68	103	80	M8 x 15	8

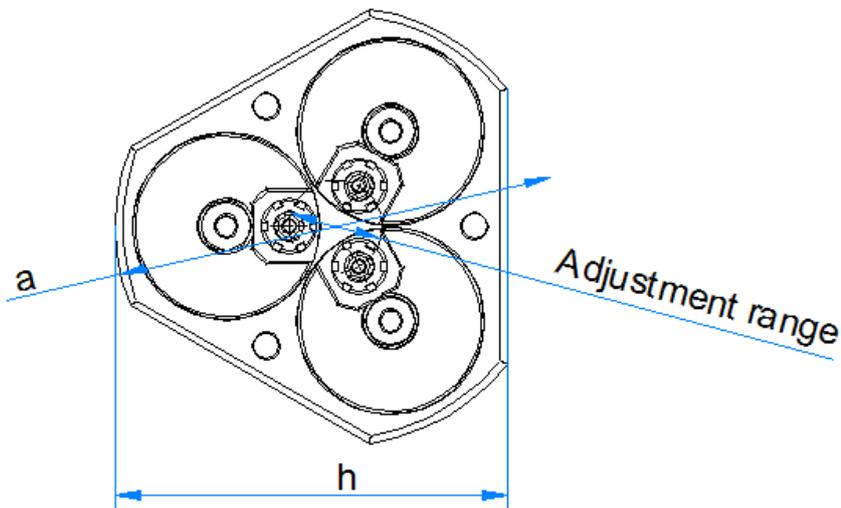
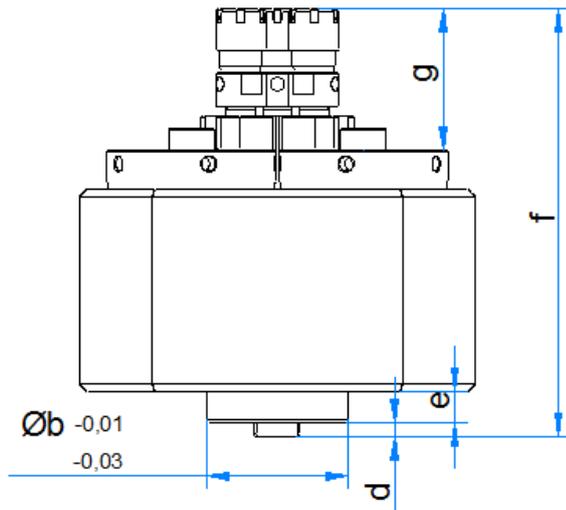
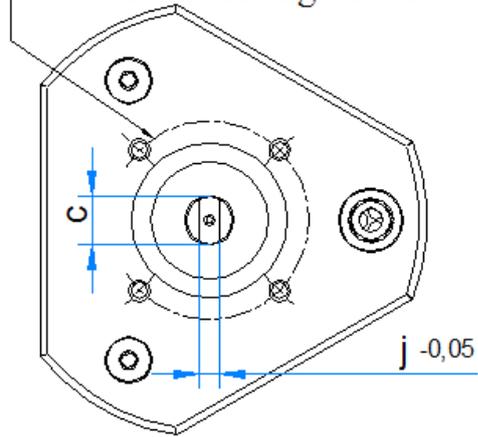
Figures in mm

Adjustable three-spindle drilling head



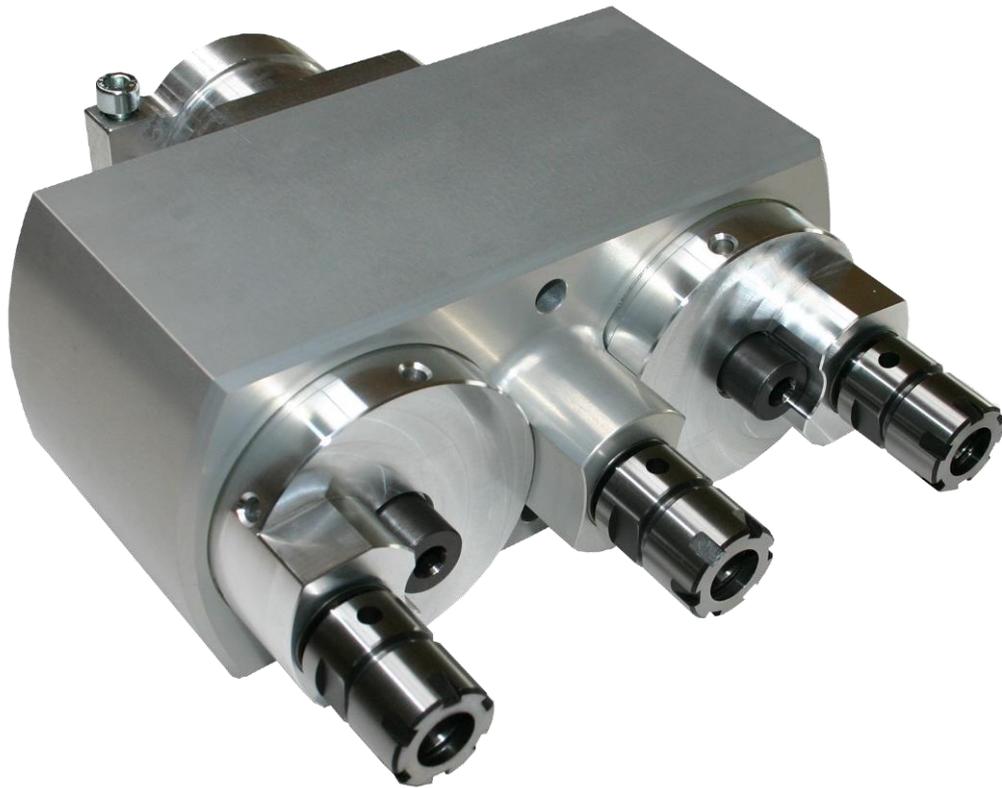
Technische Daten	V- MSK 7-03 Item no.: 08 03 00 1008	V- MSK 10-03 Item no.: 08 04 01 1002	V- MSK 13-03 Item no.: 08 05 01 1002
Drilling capacity in St 50	7 mm	10 mm	13 mm
Adjustment range	min. 32 mm, max. 144 mm	min. 37 mm, max. 137 mm	min. 47 mm, max. 159 mm
Transmission ratio	1:1	1:1	1:1
Tool clamping	Chuck ER11 0,5-7 mm	Chuck ER16 1-10 mm	Chuck ER20 1-13 mm
Lubricant used	Gear grease GLG 16 / N000	Gear grease GLG 16 / N000	Gear grease GLG 16 / N000
Weight	5,7 kg	5,9 kg	9,1 kg
Fixture	See drawing	See drawing	See drawing

i= Ø Pitch circle &
size of fixing thread

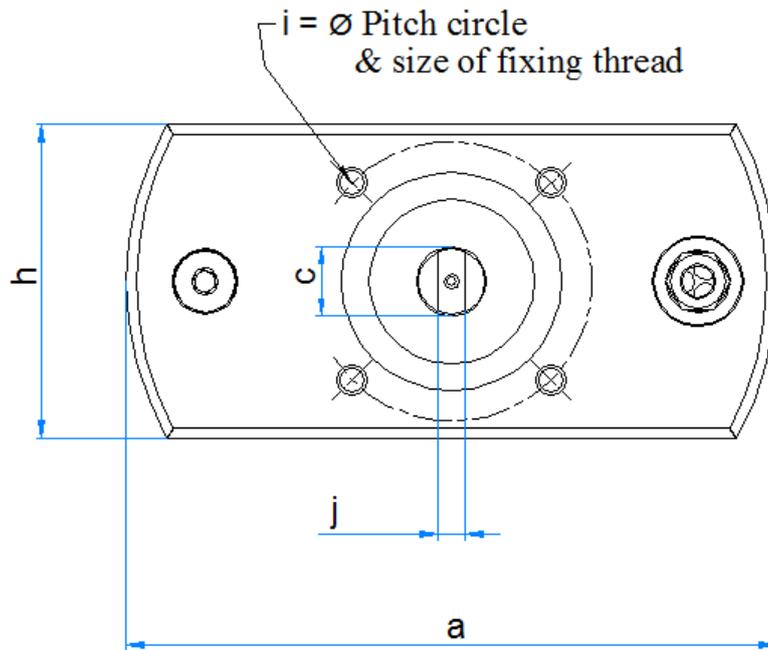


	a	b	c	d	e	f	g	h	i	4 x	j
V-MSK 7-03	156	54	20	5	11	140	40	156	70	M6 x 10	6
V-MSK 10-03	175	62,5	20	6	13,5	185	61	145	80	M8 x 15	8
V-MSK 13-03	205	62,5	20	6	13,5	202	68	181	80	M8 x 15	8

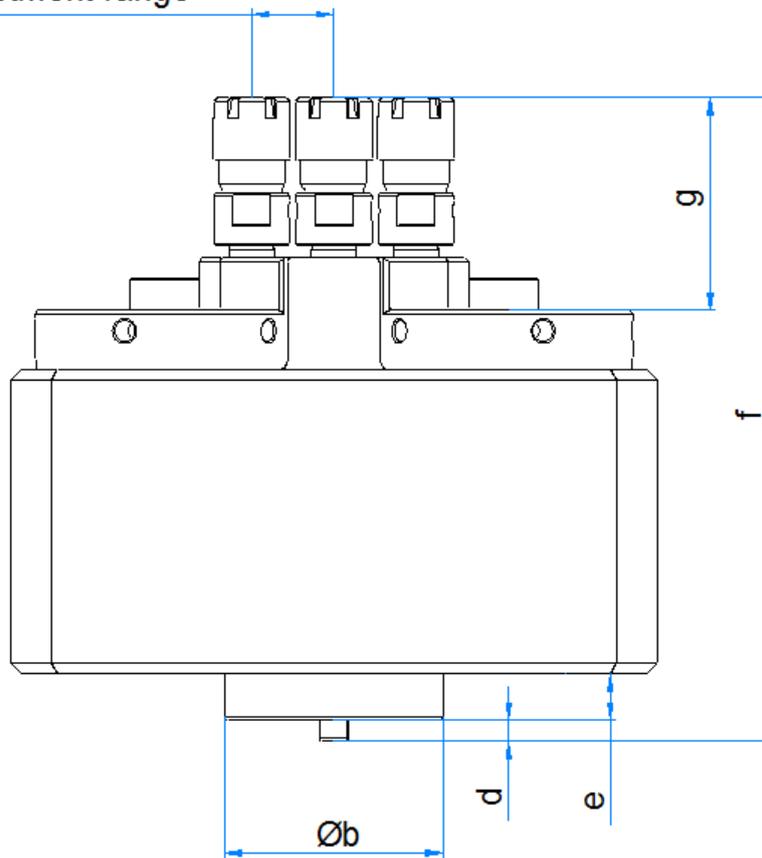
Adjustable three-spindle drilling head



Technical Data	VL- MSK 7-03 Item no.: 08 03 00 1009	VL- MSK 10-03 Item no.: 08 04 01 1003	VL- MSK 13-03 Item no.: 08 05 01 1003
Drilling capacity in St 50	7 mm	10 mm	13 mm
Adjustment range	min. 20 mm, max. 72 mm	min. 23,5 mm, max. 73,5 mm	min. 31 mm, max. 87 mm
Transmission ratio	1:1	1:1	1:1
Tool clamping	Chuck ER11 0,5-7 mm	Chuck ER16 1-10 mm	Chuck ER20 1-13 mm
Lubricant used	Gear grease GLG 16 / N000	Gear grease GLG 16 / N000	Gear grease GLG 16 / N000
Weight	4,5 kg	5,2 kg	7,6 kg
Fixture	See drawing	See drawing	See drawing



Adjustment range



	a	b	c	d	e	f	g	h	i	4 x	j
VL-MSK 7-03	178	54	20	5	11	140	40	86	70	M6 x 10	6
VL-MSK 10-03	185	62,5	20	6	13,5	185	61	90	80	M8 x 15	8
VL-MSK 13-03	218	62,5	20	6	13,5	202	68	103	80	M8 x 15	8

Special drilling heads with fixed spindles *Multi-spindle, customer specific*

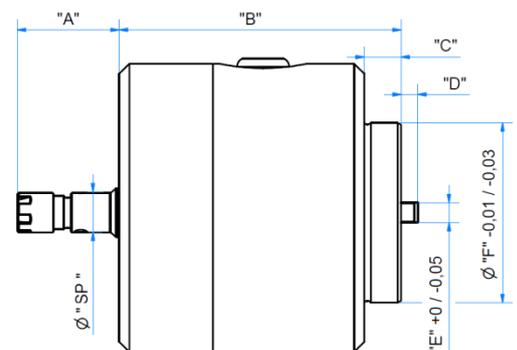
We design and manufacture special drilling heads according to customer-specific requirements. Drilling pattern, transmission ratio and spindle speed are prepared in accordance with the requirements of each customer, or after viability.

Technical Specifications:

Tool clamping:	Chuck from ER 8 bis ER 25
Maximum drilling capacity in St50	from ER8: Ø5 mm to ER25: Ø16 mm
Minimum spindle distance	12 mm (at a maximum drilling capacity of Ø 5 mm)
Spindle speed	max. 5.000 rpm
Type of lubrication	Oil bath lubrication
Gear oil used	Mobil Teresstic T32
Gear ratio	Customer specific
Applications	Drilling and tapping
Dimensions	Defined by spindle distance
Dimensions Drive/Spindle	See drawing
Accessories	Flange and driver on drilling unit / pillar drill Drilling frame

NEW: Optionally, depending on feasibility, suitable for tools with internal coolant supply with max. 6 bar or minimum quantity cooling lubrication (MMQ)

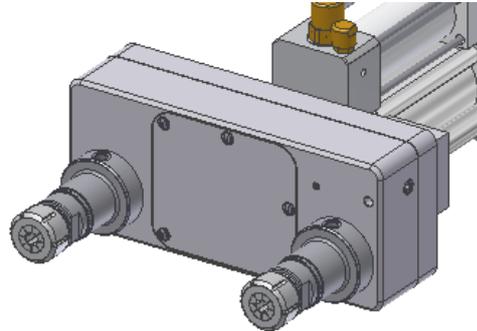
	„SP“	„A“	„B“	„C“	„D“	„E“	„F“
ER 8	11,8	30,5	116,5	11,0	5,0	6,0	54,0
ER 11	15,8	30,5	116,5	11,0	5,0	6,0	54,0
ER 16	21,8	46,0	150,0	13,5	6,0	8,0	62,5
ER 20	28,8	47,0	165,5	13,5	6,0	8,0	62,5
ER 25	35,0	50,8	170,2	18,0	8,0	12,0	96,0
						-0,05 / -0,1	



For special applications, we are happy to respond to the requirements of our customers. Here are a few examples of custom solutions:



Drilling head MSK16-02
with internal coolant. Suitable for tools with internal coolant supply



Belt-drive drilling head MSK2502
Due to the large drilling distance, the spindles are driven by a PU belt. The spindles are also equipped with a cooling fin flange.

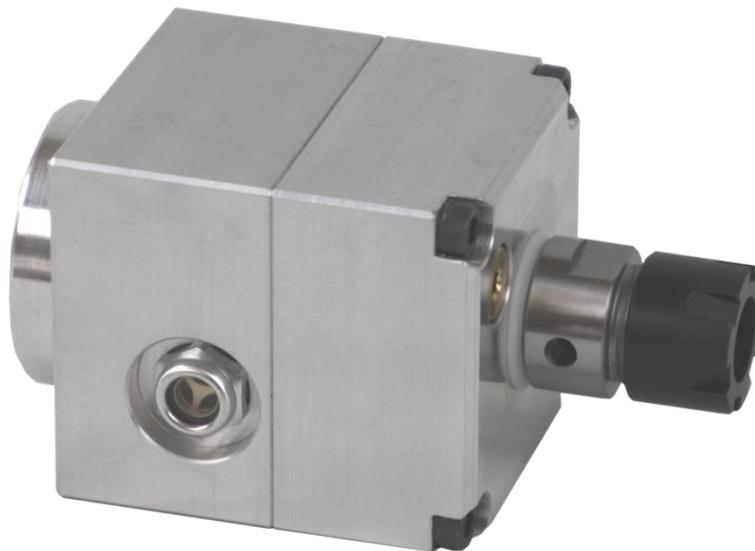


Drilling head MSK-609
For drilling multiple holes (in this case 9 holes) in a single operation



Machining unit with MSK13-06
Drill head is flanged to the motor for drilling and thread cutting

Reduction gear systems 1-spindle



Drilling gear with one drilling spindle with tool holder ER20 / ER32

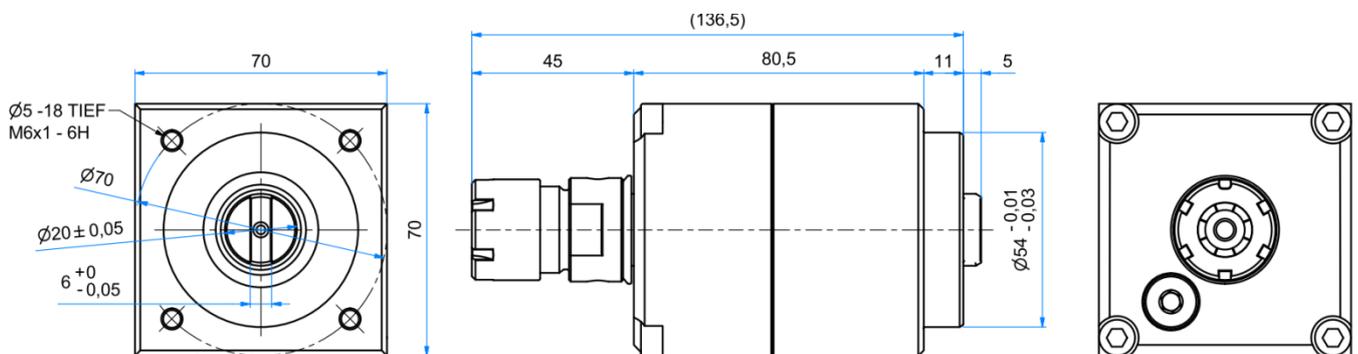
Reduction: $i = 2:1$

Drilling capacity in ST50: max. $\varnothing 13$ mm

Max. Input speed: 4,000 rpm

Equipment:

Collets from $\varnothing 1 - 13$ mm available in 1mm increments



Reduction planetary gear system 1-spindle



Drilling gear with one drilling spindle with tool holder ER20 / ER32

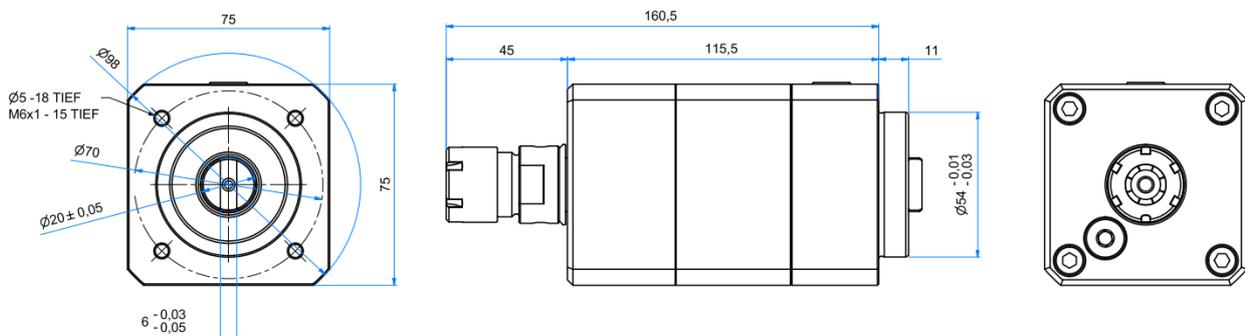
Reduction: $i = 5:1$

Drilling capacity in ST50: max. $\varnothing 13$ mm

Max. input speed: 4,000 rpm

Equipment:

Collets from $\varnothing 1 - 13$ mm available in 1mm increments



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SOMATEC GmbH • Gewerbestr. 19 • 88636 Illmensee • Germany
www.somatec-mb.de • info@somatec-mb.de • Phone +49(0)7558/92140

Pneumatic turret stop with 6, 8 and 12 stop positions for automation



→ Change October 2024 ←
No longer a separate valve variant
The valve is mounted on the new standard version using an adapter flange.

PRVA 8M right (45°- division)
with sensor and micro-valve

PRVA 6M right
(60° division)
and sensor



PRVA 12MA left
(30° division)
with absolute query
of the positions



Application:

With our turret stop, many problems can be solved inexpensively in mechanical and plant engineering. For example, if one or more stops need to be adjusted at the same time, if stops are located in inaccessible places, or to make a work process more efficient and safer.

Operation:

A 3/2 way valve is required to operate the stop, either fitted externally or as a direct installation on with our Matrix-Micro-valve.

On the external variant, the cable should be kept as short as possible, otherwise the stop can only be adjusted with very low number of cycles.

When in operation, the stop remains under pressure because in its unpressurised condition the stop has a larger radial clearance. For switching forward, the air pressure is then only briefly interrupted and reapplied. The initiation of the switch operation lasts approximately 0.12 seconds. When used for sequential processing, the cycle time should be divided in such a way that approximately 2/3 of the time is used for deaeration and 1/3 of the time is used for aeration.

Design:

The stop is designed for maintenance-free operation. It is recommended to use only clean and dry air. All aluminium parts (in so far as they represent an advantage) are anodized; the steel parts are burnished and the wearable parts hardened and ground.

Service life of the stop:

Several factors play a role in the service life of the stop.

For example:

- Amount of air pressure with which the stopper is operated
- Throttled or unthrottled operation of the stop
- Weight of the screwed stop pin
- Cycles per second

It is recommended that the stop is operated with an inlet restrictor, which is to be set in such a way that it does not produce any loud clicking noises. The operating pressure of a correctly installed inlet restrictor plays a minor role.

When selecting the clock frequency, it should be noted that the larger the weight of the screwed stop, the lower the clock frequency should be. This is preferably 4-6 cycles per second.

Endurance tests carried out on the stop have yielded the following results:

- At 7 bar unthrottled approx. 80,000 cycles
- At 5 to 6 bar throttled approx. 4,000,000 cycles.

If in your case the stop is to be used in the extreme and these figures are insufficient, it is recommended that you carry out an endurance test yourself, taking into account the above points in order to determine whether the stop can withstand your requirements.

Service life of the stop with integrated micro valve:

The same points as already mentioned above apply for service life of the stop fitted with an integrated micro valve. Under normal operating conditions, an inlet restrictor is not required here since the valve body already has a throttle bore of 0.7mm.

If the stop is to be operated at its full load limit, the use of an inlet restrictor can increase the service life in order to better match it to the application.

Turret stop series:

The turret stop is available in the following variants angeboten:

- 6-fold, 8-fold and 12-fold (number of stop points)
- Right or left design (position of the cylinder housing) *all subsequent illustrations are shown in the right design.*
- According to the type of equipment, e.g. 3-fold binary coding for the sensor
- Attention, since October 2024, there is no longer a separate valve variant: The valve is available as an assembly as an accessory and can be mounted on the new standard version.

Turret stop designations:

PRVA 6 right Pneumatic turret stop, 6-fold right, without the possibility of query

PRVA 6M right Pneumatic turret stop, 6-fold right, with binary coded magnetic pins for position query, but without the associated sensor

The same designations apply to the 8-fold and 12-fold turret stop, as well as for the left design. On the last page you will find all the accessories and respective item numbers listed for our turret stops.

Special versions for complete query:

On 8-fold and 12-fold turret stops there are additional variants **MA**. Here, the designation **A** stands for an **absolute query of the positions**

On an 8-fold stop, a zero position is thus avoided and on a 12-fold stop the 6 intermediate positions are omitted.

These special versions have a 4-fold binary encoding and are also equipped with a 4-fold sensor.

Position display:

For the stops PRVA 6M and PRVA 8M, there is a single-digit digital display for decoding the positions.

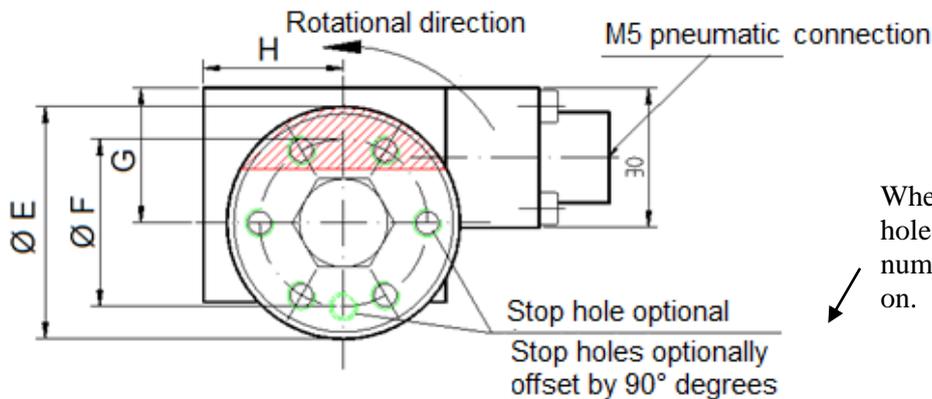
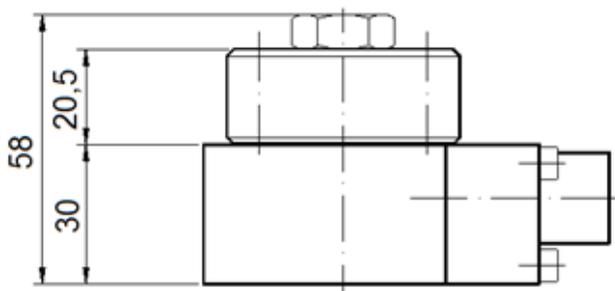
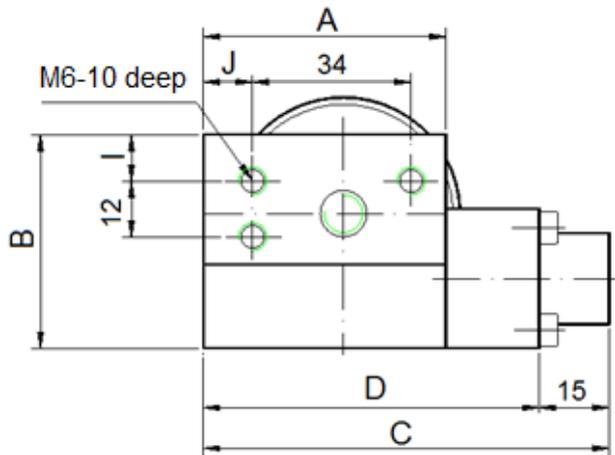
Even on machines with no controller, this allows for the turret stop positions to be displayed on the control panel of the machine with very little effort.

The display is not required for machines with their own controller.

Turret stop without position sensing

Image shows PRVA 6 rechts

Left design as mirror image



	PRVA 6	PRVA 8	PRVA 12
A	52	52	80
B	46	62	80
C	87	87	97
D	72	72	82
Ø E	Ø 50	Ø 58	Ø 80
Ø F	Ø 36 6xM6	Ø 44 8xM8	Ø 66 12xM8
G	29	32	39
H	30	30	40
I	10	24,5	35
J	10,5	10,5	20,5

 Do not overstrain the stop screw in this area of the drive

When ordering displaced stop holes please specify the item number _____ 90° in addition.

Technical data:

	PRVA 6	PRVA 8	PRVA 12
Stop points:	6 pieces	8 pieces	12 pieces
Mass shift:	ca. 150 g	ca. 500 g	ca. 700 g
Impact mass:	approx. 500 N at 3-4 m /min. undamped	approx. 800 N at 3-4 m / min. undamped	
	approx. 1860 N at damped drives	approx. 4700 N at damped drives	
Weight:	approx. 450 g	approx. 600 g	approx. 950 g
Nominal torque: (theoretical)	approx. 1,4 Nm	approx. 1,9 Nm	approx. 2,8 Nm
Air consumption:	at 6 bar approx. 0.014 NL		
Clock rate:	approx. 0.12 sec. (min. 0.09 sec.)		

Turret stop without position sensing for sensor

Image shows PRVA 8M right

Left design as mirror image

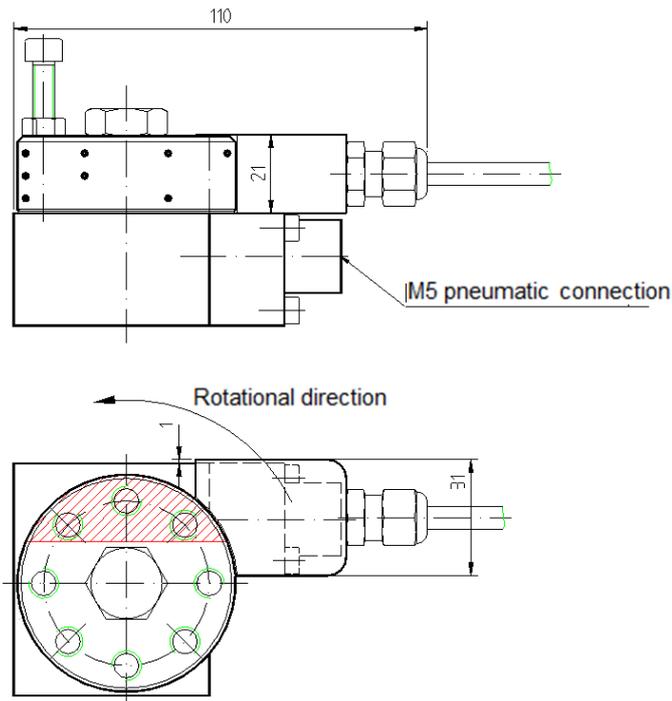
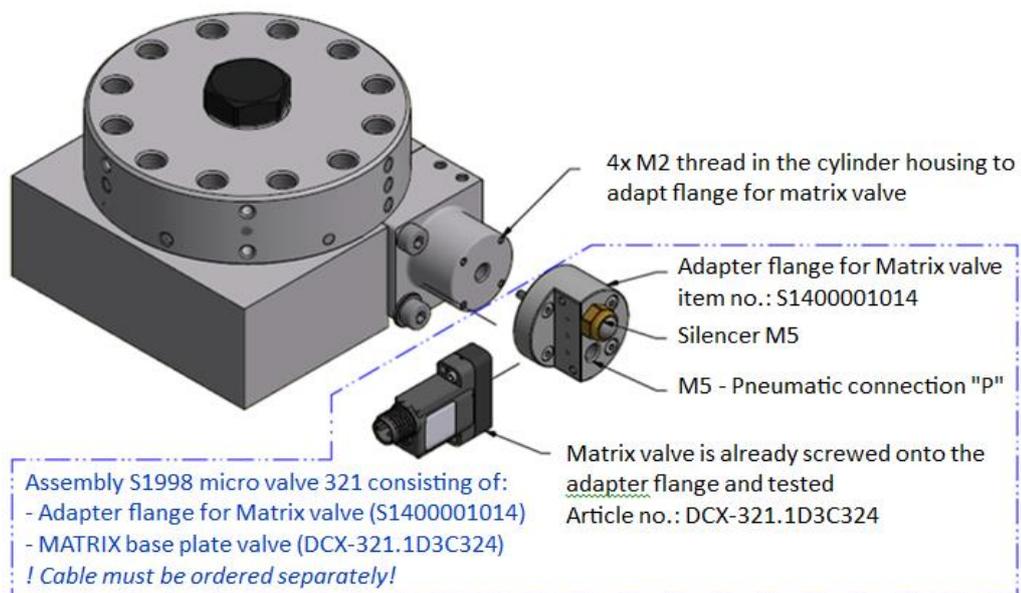
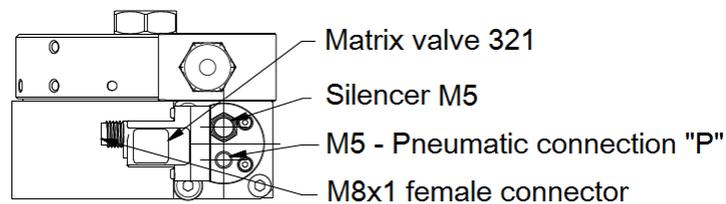
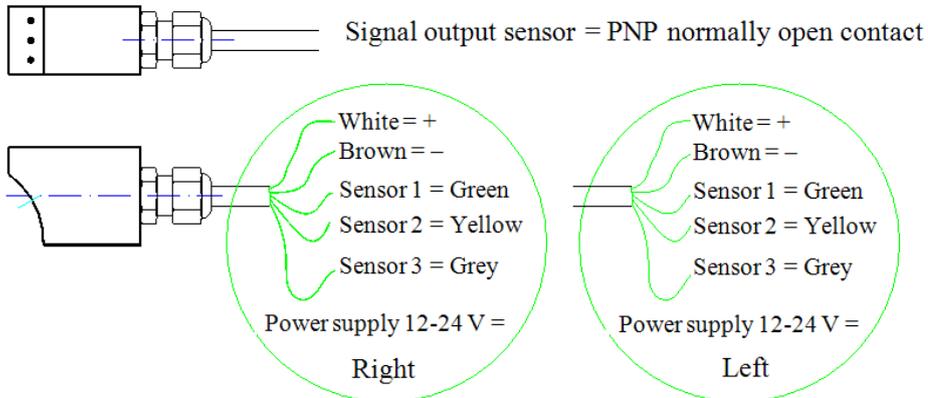


Image shows PRVA 12M right

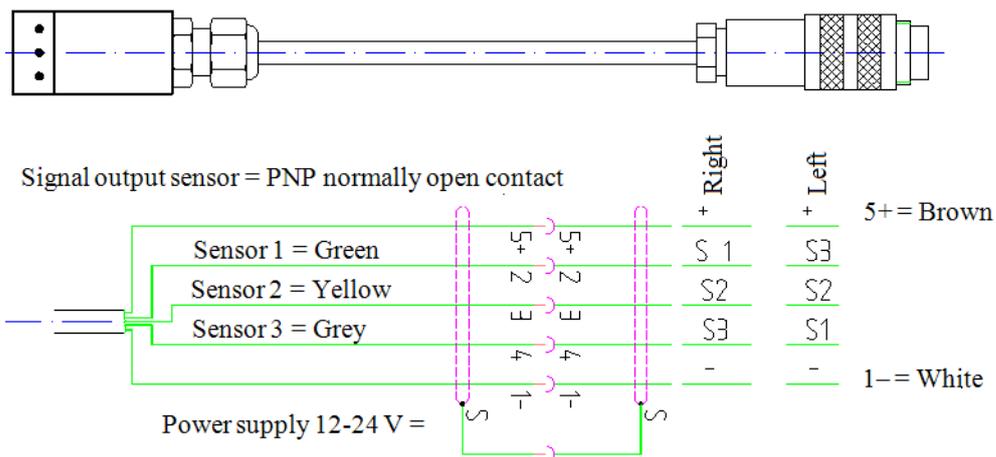
Including with matrix valve



**Sensor with PUR cable for
PRVA 6M; PRVA 8M; PRVA 12M
Do not use for binder plug connection**



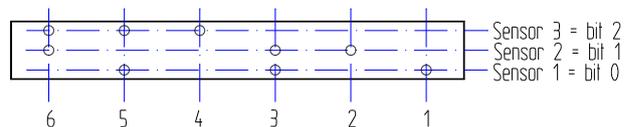
**Sensor with 0.4m cable and binder plug –
coupling plug S.423 7 pin. PG7 for
PRVA 6M; PRVA 8M; PRVA 12M**



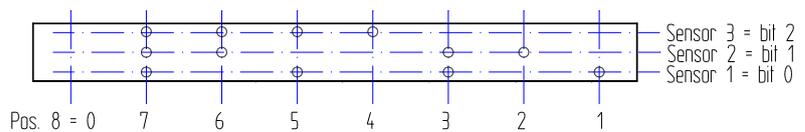
Processing the indexing plate and binary code positions

Left design as mirror image

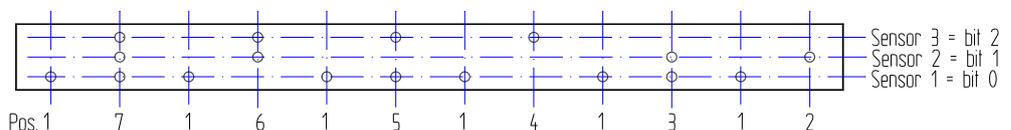
PRVA 6M



PRVA 8M



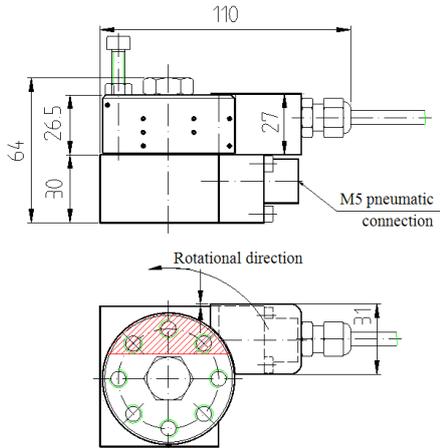
PRVA 12M



Special – Turret stop for absolute query of all positions

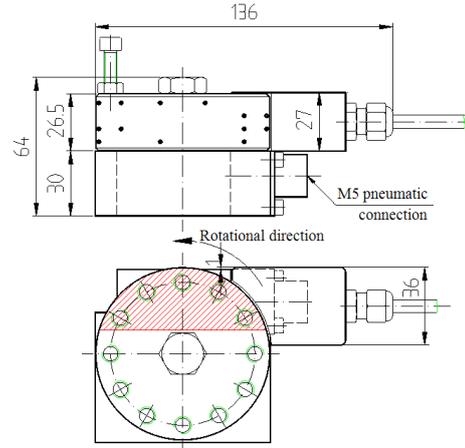
PRVA 8MA right

Left design as mirror image



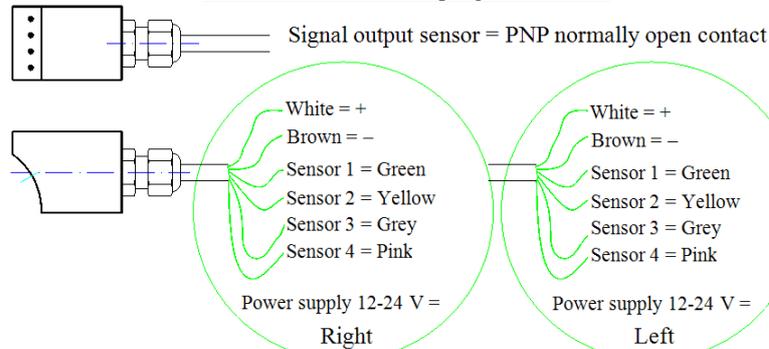
PRVA 12MA right

Left design as mirror image

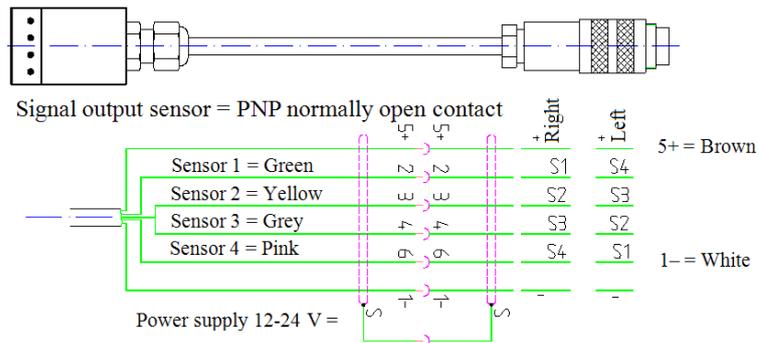


Sensor with PUR cable for PRVA 8MA and PRVA 12MA

Do not use for binder plug connection

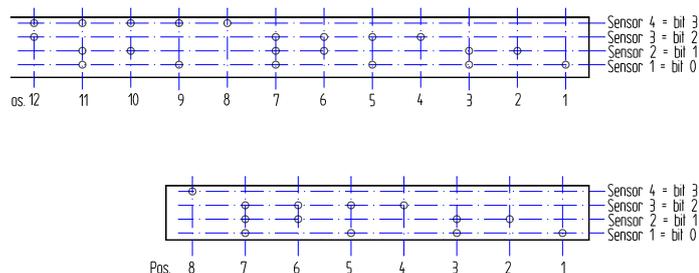


Sensor with 0.4m cable and binder plug – coupling plug S.423 7 pin. PG7 for PRVA 8MA and PRVA 12MA



Processing the indexing plate and binary code positions

Left design as mirror image



Matrix-valve for direct cultivation direct adaption through additional flange

PRVA 6; PRVA 8; PRVA 12 bzw. M- and MA-variants

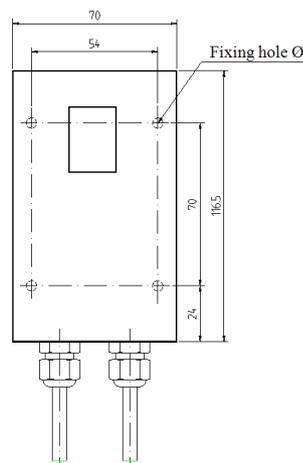
Technical Data:

Control:	Direct; PFM; PWM; PNM; combination
Function:	3/2 NC
Medium:	Dry air pressure / inert gases (-10 +50°C)
Flow rat	30 l/min (± 10 at 6 bar rel.)
Throttle bore on stop:	0,7 mm
Pressure range:	P = 0 to 8 bar
Temperaturbereich:	-10° C bis +50°
Opening response time	< 3 ms
Closing response time	< 1,5 ms
Frequency:	200 Hz
Sealing material:	NBR
Protection type:	IP 52
Power consumption:	0,05 A / 1,2 W
Voltage:	24 VDC +/- 10% - ED 100%
Electrical connections:	Plug connection: 1xM8
Number ob cycles:	4 - 6 beats per second



Position display for PRVA 6M and PRVA 8M

The position display is suitable for stops 6M, 8M, as well as for 12M. For machines which do not have a controller, it is a simple aid to display the positions. It requires only a power supply of 12 - 24 volts to operate, which can also simultaneously operate the sensor.



Item – Numbers and description for turret stop PRVA

Description	Item no.	May be combined with accessory item no
PRVA 6 right	1029	1998
PRVA 6 left	1042	1998
PRVA 6M right	1045	1179; 1171; 1047; 1998
PRVA 6M left	1046	1179; 1171; 1047; 1998
PRVA 8 right	1028	1998
PRVA 8 left	1041	1998
PRVA 8M right	1108	1180; 1172; 1047; 1998
PRVA 8M left	1109	1180; 1172; 1047; 1998
PRVA 12M right	1126	1181; 1173; 1998
PRVA 12M left	1146	1181; 1173; 1998

Special – Turret stop for absolute query of all positions:

Description	Item no.	May be combined with accessory item no
PRVA 8MA right	1185	1191; 1192; 1998
PRVA 8MA left	1184	1191; 1192; 1998
PRVA 12MA right	1188	1194; 1195; 1998
PRVA 12MA left	1189	1194; 1195; 1998

Description for accessories	Item no. (for version righth + left)				
	PRVA 6M	PRVA 8M	PRVA 12M	PRVA 8MA	PRVA 12MA
Sensor with 3 m PUR cable	1179	1180	1181	1191	1194
Sensor with binder plug and 0.4 m cable	1171	1172	1173	1192	1195
Coupling for binder plug with 5 m cable	1107				
Assembly: Adapter flange for Matrix valve including with Vent filter and MATRIX base plate valve 3/2 NC	1998				
5 meter PUR-cable (3 x 0,25) with connector M8 - 0°	630035				
Digital display (for PRVA 6M + 8M - RE + LI)	1047	---			

Robust Design of our turret stop PRVA

- robust steel housing –
- double acting -



Our robust and double-acting design offers the following advantages:

- Higher housing load capacity (a housing brake due to overload is therefore almost impossible)
- No risk of spring brake
- The rotating piece remains in position when pressure is interrupted
- The rotating piece is pressed evenly onto the steel housing via a spring washer and ensures reliable switching! In the existing version, this function is performed by an O-Ring, which loses its preload over time.

Application and area of use:

Anywhere the service life of our standard PRVA is insufficient due to excessive stress, leading to premature housing failure.

Design:

The housing is made of burnished steel, ensuring a long service life. The rotating piece is made of hard-anodized aluminium and runs on the steel housing with spring tension, ensuring constant friction.

Control:

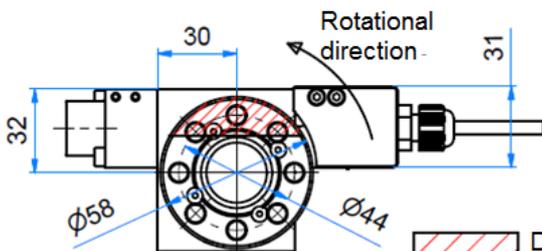
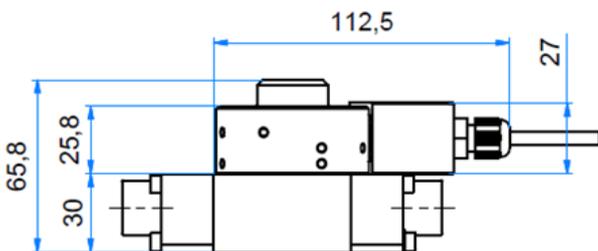
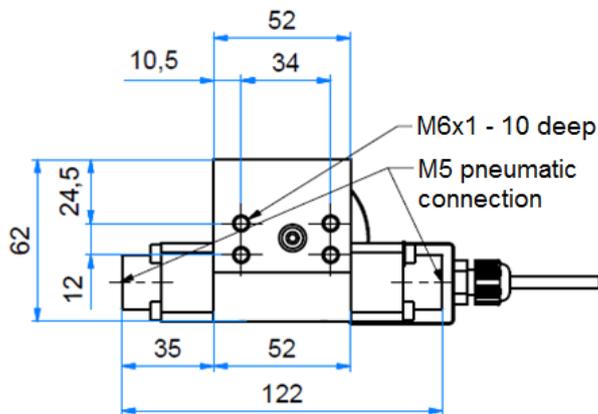
A 5/2-way valve is required to control the double-acting design.

Available designs:

- PRVA-R8 MA right DW
- PRVA-R12 MA right DW

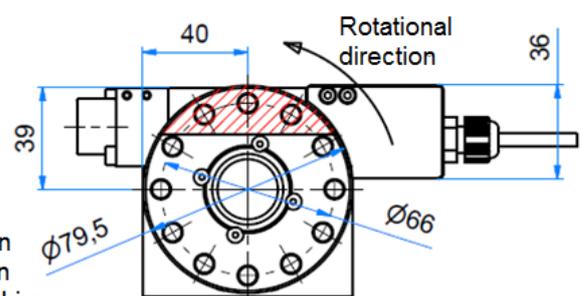
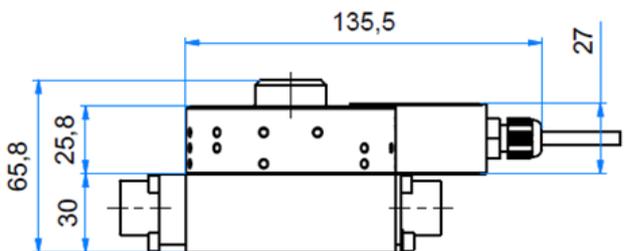
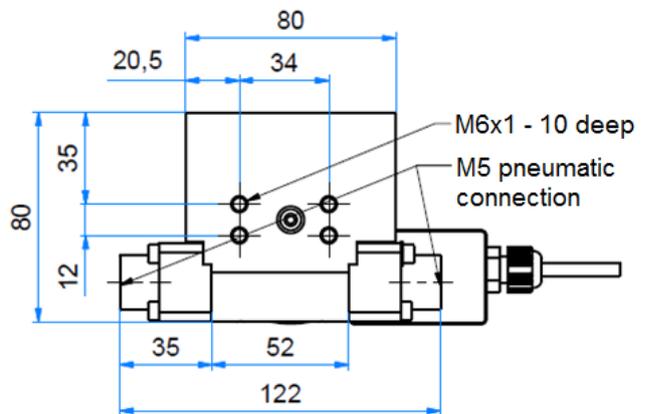
Turret stop without position query

PRVA-R8MA right DW



 Do not overstrain the stop screw in this area of the drive

PRVA-R12MA right DW



Technical data:

	PRVA-R8MA	PRVA-R12MA
Stop points:	8 pieces	12 pieces
Mass shift:	approx. 500 g	approx. 700 g
Impact mass:	approx. 800 N at 3-4 m/min. undamped	
	approx. 4700 N at damped drives	
Weight:	approx. 1.000 g	approx. 1.720 g
Rated torque: (theoretical)	approx. 1,9 Nm	approx. 2,8 Nm
Ait consumption:	at 6 bar approx. 0,03 NL	
Cycle time:	approx. 0,12 sec.	

Rotary switching element

Bidirectional rotation

With our rotary switching element many problems can be solved inexpensively in mechanical engineering and special machine construction.

Through the possibility of forward and backward clock cycles, the cycle times in comparison to conventional rotary elements are reduced.

Application:

- for separation of parts
- for manual and automatic assembly work
- to maintain the position of the tool and - tool change on automatic machines
- as a stop change system (turret stop) and much more

Equipment:

The rotary switching element is completely ready for connection. Additionally equipped with a control block, it is a compact ready-to-use component.

To operate, all you need is a pneumatic connection with max. 8 bar and a 3/2 control valve and a second control valve to clock the forward and backward cycles.

All pickups and positions of the component can be queried by sensors for control.

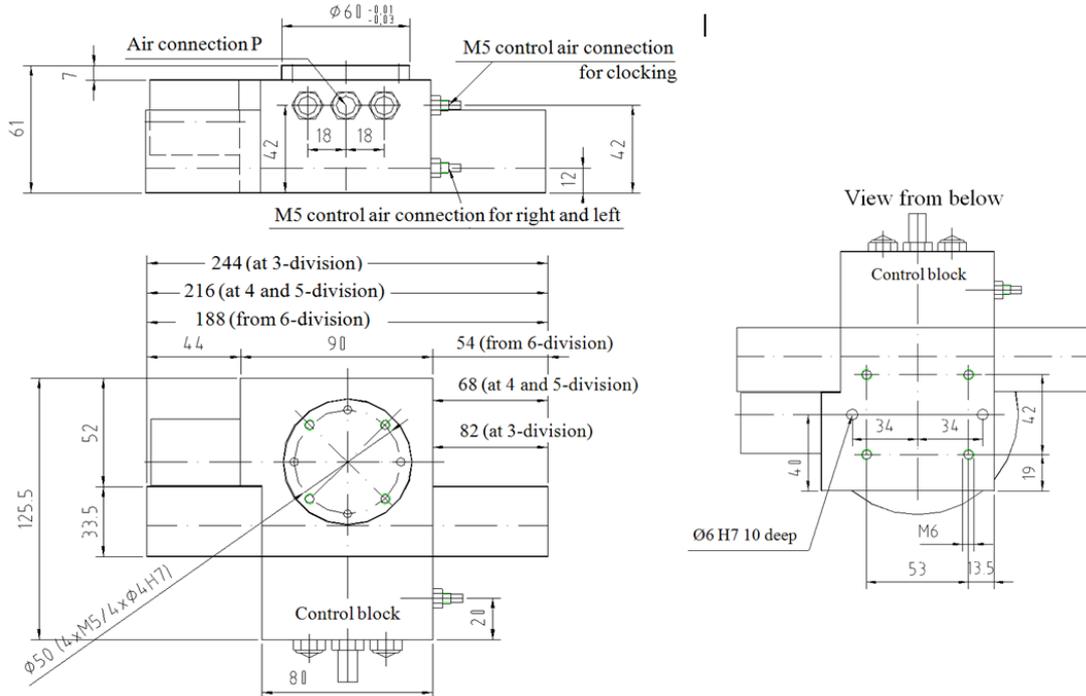
The compact design and the possibility of forward and reverse clocking, we offer a rotary switching element with great versatility.

Design:

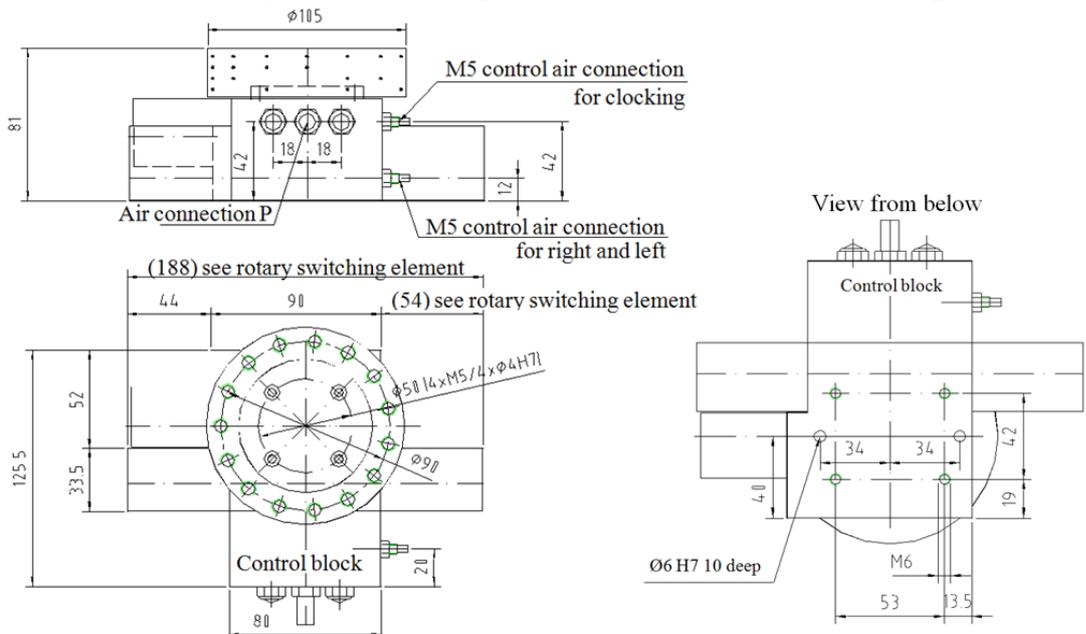
The stop is designed for maintenance-free operation. It is recommended to use only oiled, clean and dry air. All aluminium parts are anodized; the steel parts are burnished and the wearable parts hardened and ground.



Rotary switching element



Rotary switching element as turret stop



Technical Data

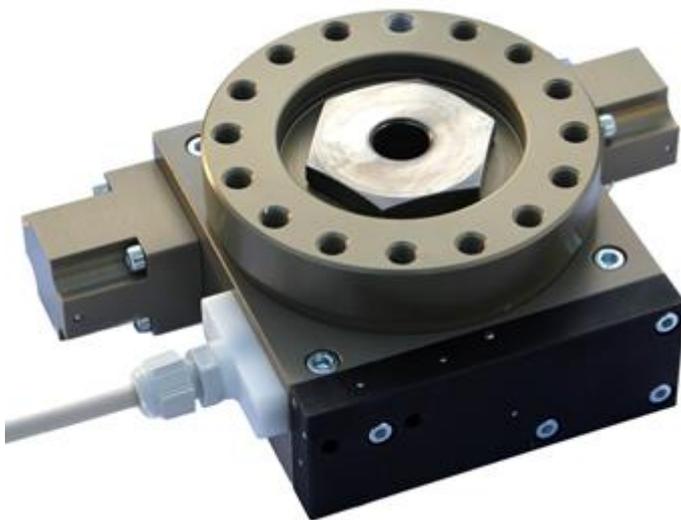
Indexing accuracy:	approx. 60 sec.
Stop points:	4 to 15 pieces and divisions
Mass shift:	approx. 2500 g
Axial load within Ø 90mm:	approx. 800 N at 3 - 4 m per min. undamped (approx. 8600 N at damped drives)
Weight:	approx. 2,8 kg
Air consumption:	at 6 bar approx. 0.026 NL per cycle at 15 fold
Cycle time:	approx. 0.12 sec. at 15 fold
Rated torque:	approx. 7.8 Nm (in theory)
Service life:	over 10.000.000 cycles

Pneumatic rotational stop NT
pivoting left / right and left (bidirectional rotation)

with 6 to 16 stop positions
for automation

PRVA-8 NT size 65
45° division with sensor

Size 65 is available in divi-
sion 8- and 12-fold



PRVA-16 NT size 105
22,5° division with sensor

Size 105 is available in divi-
sion 6, 8, 10, 12
and 16-fold

In contrast to our previous version of PRVA, our new version PRVA-NT offers the following advantages:

- **Internal item query:** Its internal binary coding prevents metal shavings from being sucked index otherwise cause failure during operation.
- **Two connection options:** Various connection plates enable the **linking cycles** or the **right and left cycles**.
- The **interior** of the rotating boss is shielded so that it is **dustproof**.
- Higher **load capacity** with longer **service life**.
- **Non-pressurized locking:** Higher load capacity with longer service life.
The lock cylinder's spring force locks the rotary member in the non-actuated state.
- **Absolute Coding:** Any of the stop's switching positions can be detected using absolute coding. With the exception of: *PRVA-16 NT BG 105* and *PRVA-8 NT BG 65*. Which are displayed as zero for position 16 or position 8.

Application:

With our rotational stop, many problems can be solved inexpensively in mechanical and plant engineering. For example, if one or more stops need to be adjusted at the same time, if stops are located in inaccessible places, or to make a work process more efficient and safer.

Cycle times are shortened many times over due to the fact that pre- and back-over clocking are options, in contrast to the previous rotation stop. The extremely long service life, in excess of way more than 10 million cycles, makes new uses possible, such as separating and sorting work, or it can also be used as a small rotary element for light assembly work.

Operation:

A 5/2-way valve is used for operating the element in the rotational direction (that is, rotating in a counter-clockwise direction) and two 5/2-way valves are required for the oscillation mode (that is, swiveling left and right).

The nominal valve diameter should be about 1.5 mm. For long activation hoses, four cycles per second can be achieved using a smaller nominal diameter.

There is no unwanted over-clock because the stop's lock is non-pressurized, e.g. if the air supply fails due to an emergency shut down or when powering up the equipment (the last position remains in place).

Design:

The stop is designed for maintenance-free operation. It is recommended to use only clean and dry air. All aluminium parts (in so far as they represent an advantage) are hard anodized; the steel parts nitrided or case hardened.

Service life of the stop:

Several factors play a role in the service life of the stop.

For example:

- Amount of air pressure with which the stopper is operated
- Throttled or unthrottled operation of the stop
- Weight of the mass shift
- Cycles per second

Although the element has a virtually unlimited service life, the unit should be serviced approximately every 10 million cycles, depending on the application, and the parts subject to wear should be replaced. Depending on their condition, the rotating unit, respective pistons for the swivel and lock cylinder, and the springs and seals are considered wear parts.

The unit should preferably be operated using exhaust chokes once the switching mass reaches 150 g.

Please note the following when choosing the clock frequency:

The greater the mass to be moved, the lower the clock frequency that must be chosen. The clock frequency should be 2 to a max. 4 cycles per second.

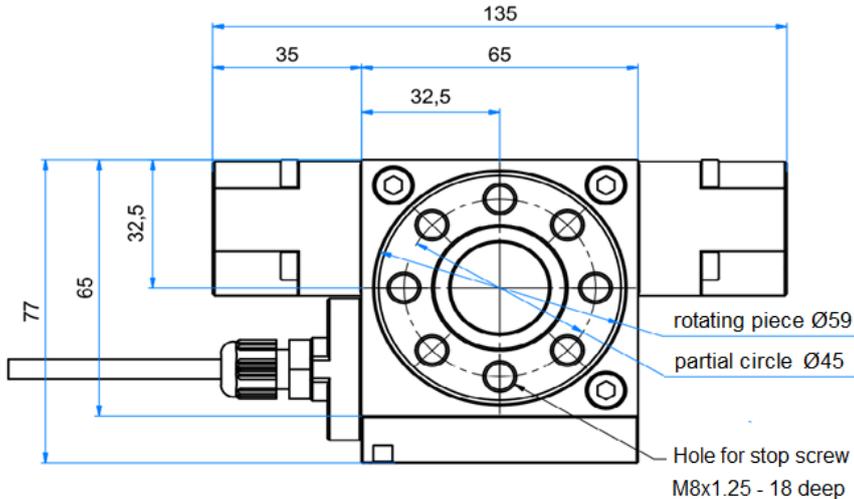
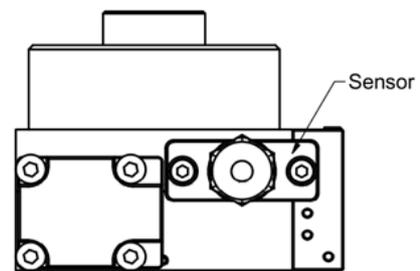
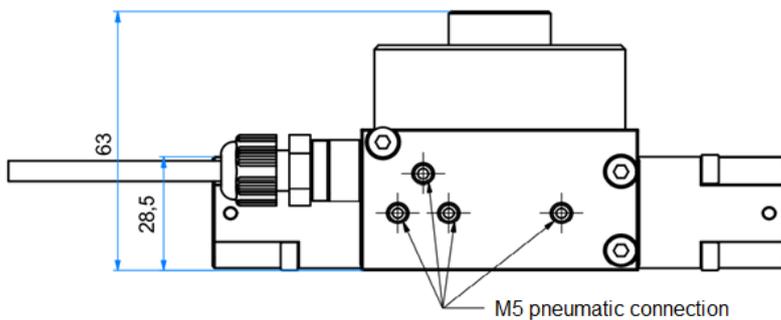
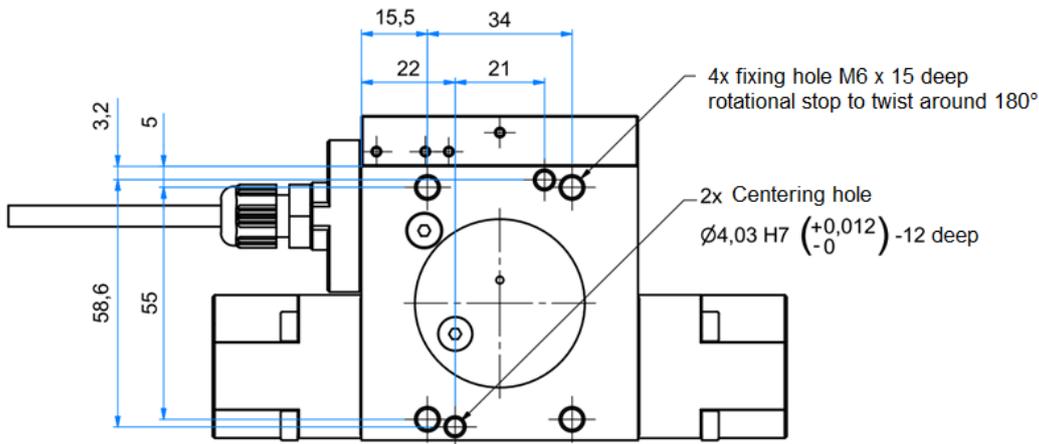
Rotational stop series:

The rotational stop is available in the following variants:

- Size 65 is available in division 8- and 12-fold
- Size 105 is available in division 6; 8; 10; 12 and 16-fold
- Pivoting left or right - and left (rotational direction): When changing the execution merely control and connection panel changes.

Rotational stop PRVA-8 NT – size 65

Design of pivoting left-, or left- and right are the same



At the 12-fold rotational stop the outer dimension are identical.

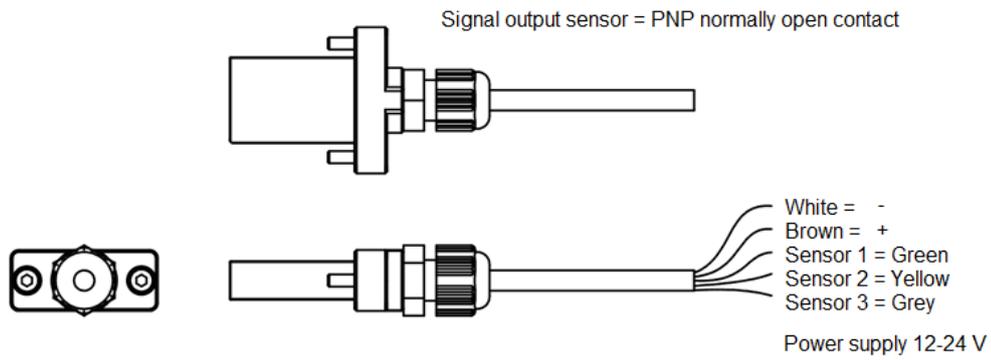
Only the following dimensions are different:

- Rotating piece $\varnothing 64 \text{ mm}$
- Partial circle $\varnothing 56 \text{ mm}$
- Hole for stop screw: M6 -14 deep

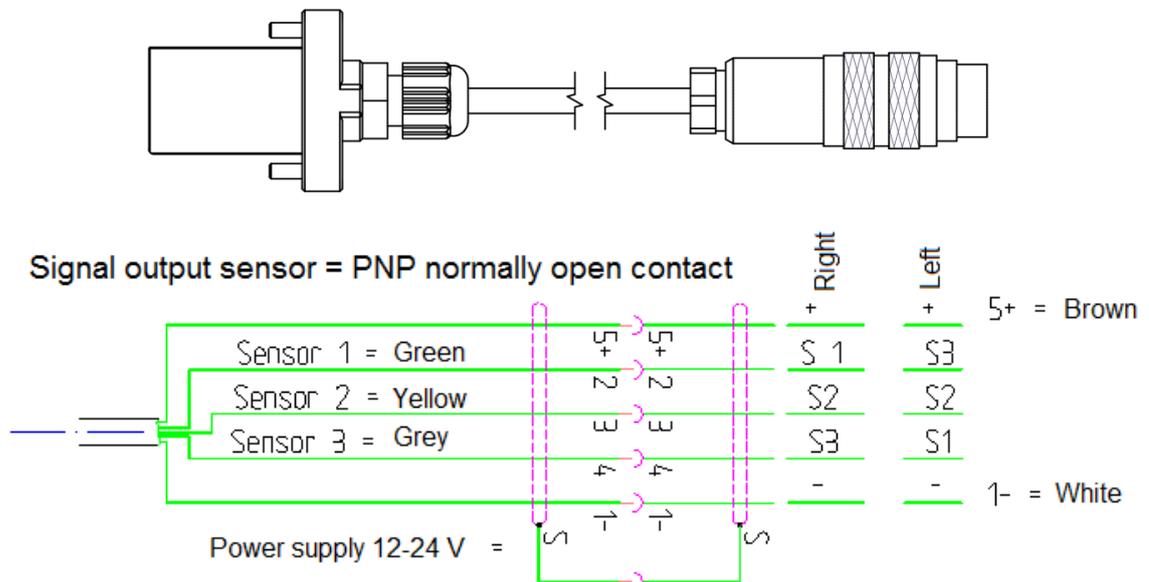
Technical data:

Stop points:	8 or 12 pieces
Mass shift:	approx. 150 g undamped, max. approx. 800 g damped
Impact mass:	approx. 800 N at 3 - 4 m per min. undamped (approx. 3000 N at damped drivers)
Weight:	approx. 760 g
Air consumption:	at 6 bar approx. 0,035 NL
Clock rate:	max. approx. 0.25 sec.
Nominal torque:	approx. 2.8 Nm (theoretical)

**Sensor with 3 m PUR cable for 3-fold sensor
for rotational stop size 65**

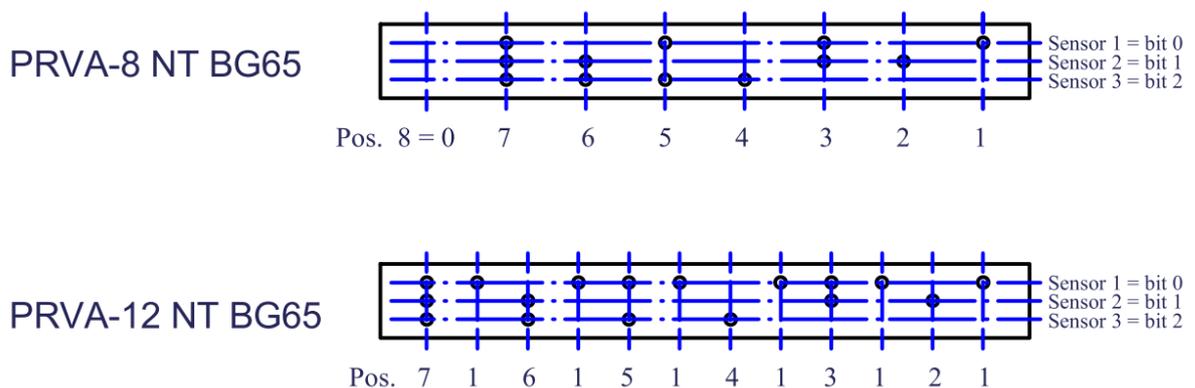


**Sensor with 0,4 m cable and binder plug –
Coupling plug S.423 7pol.
for rotational stop size 65**



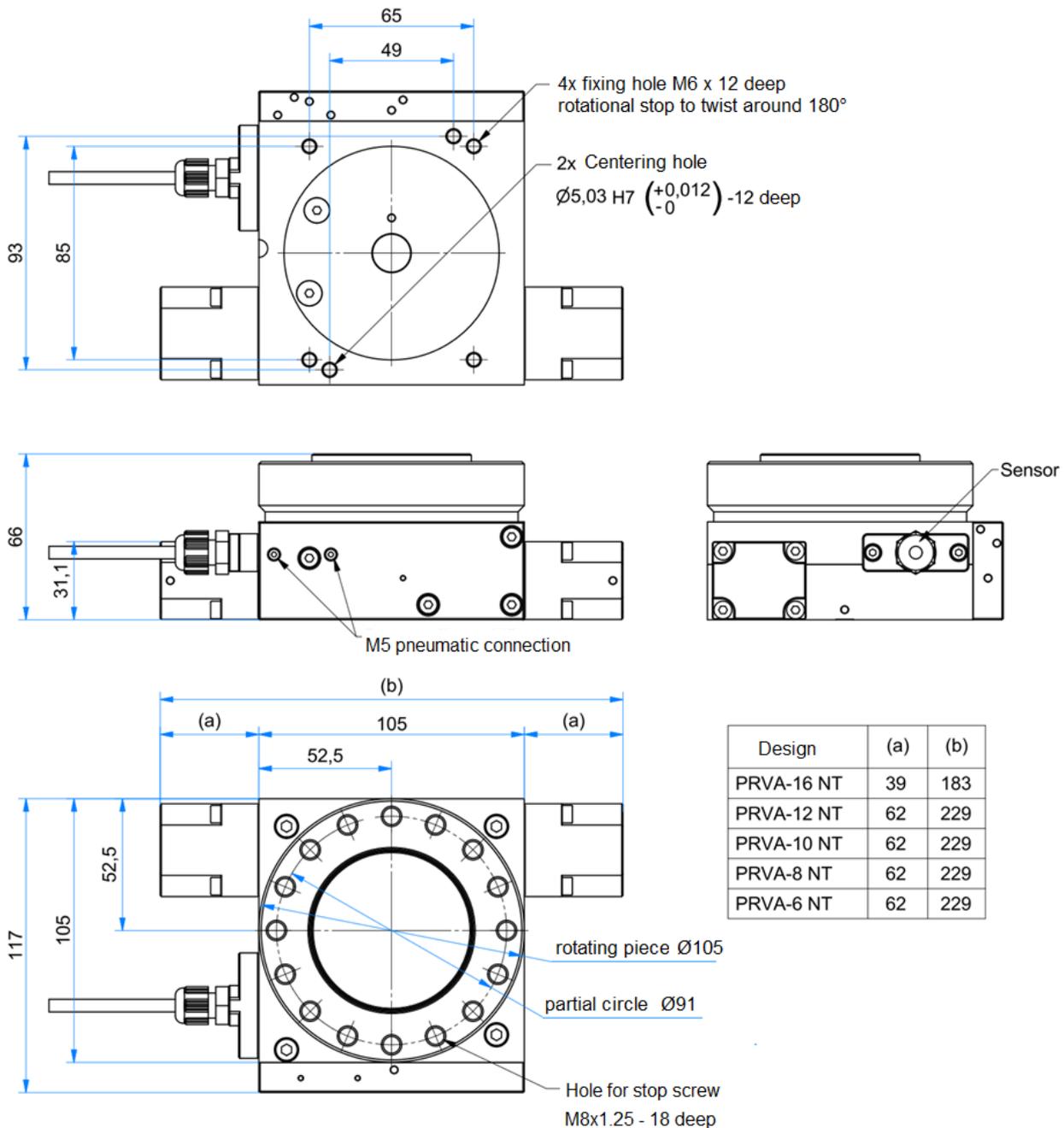
Binary code positions

Design pivoting left-, or left- and right are the same



Rotational stop PRVA-16 NT - size 105

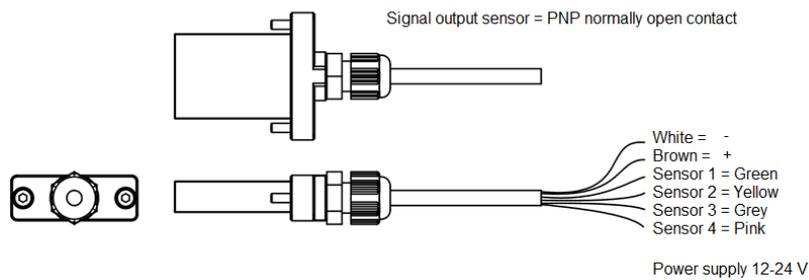
Design of rotational left-, or left- and right are the same



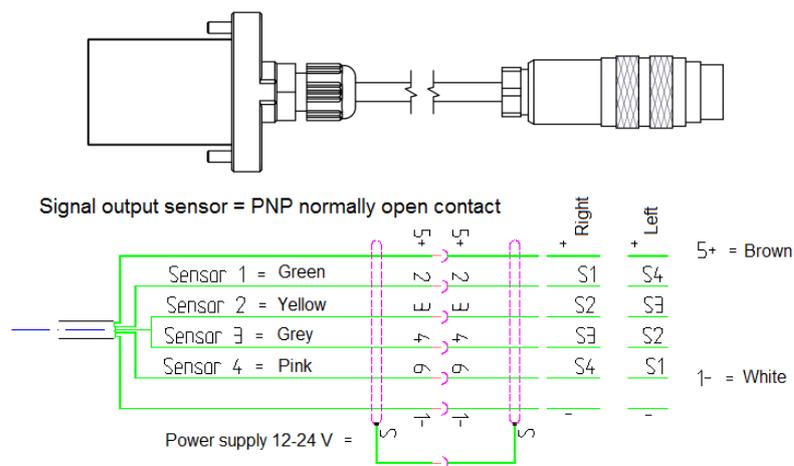
Technical data:

Stop points:	6; 8; 10; 12 or 16 pieces
Mass shift:	approx. 200 g undamped, max. approx. 1.400 g damped
Impact mass:	approx. 800 N at 3 - 4 m per min. undamped (approx. 4.500 N at damped drivers)
Weight:	approx. 2.000 g
Air consumption:	at 6 bar approx. 0.05 NL at 16-fold
Clock rate:	max. approx. 0.25 sec.
Nominal torque:	approx. 7.5 Nm (theoretical)

Sensor with 3 m PUR cable for 4-fold sensor for rotational stop size 105

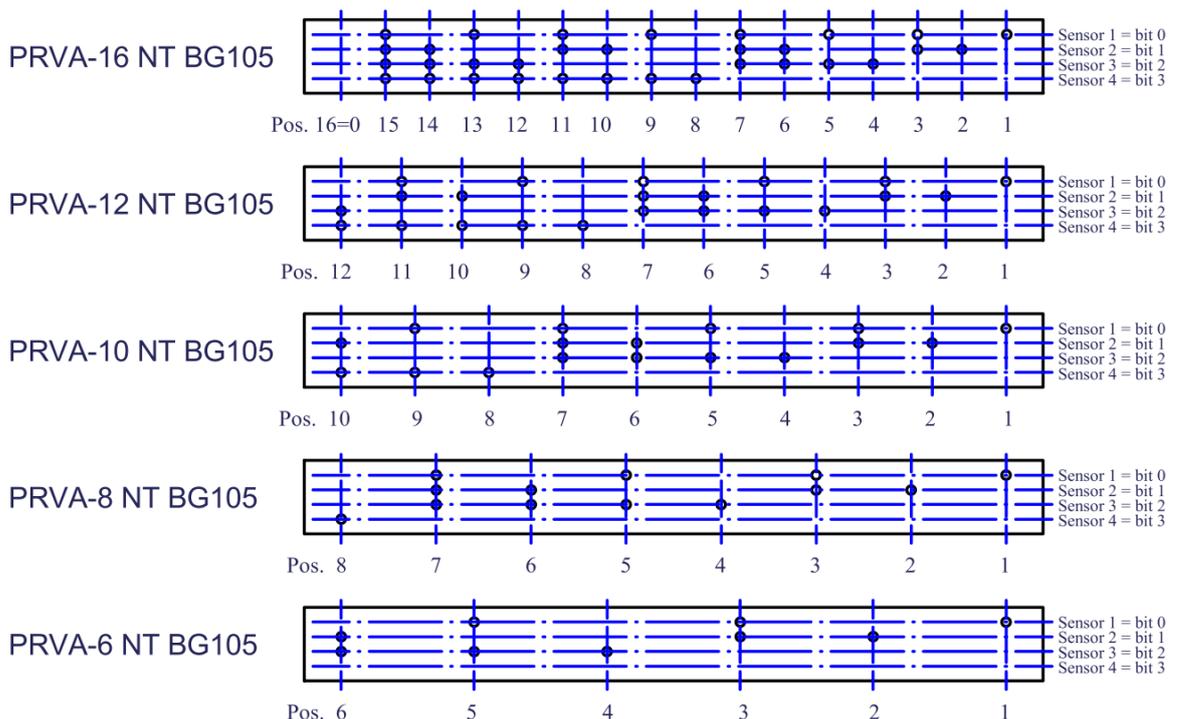


Sensor with 0,4m cable and binder plug / coupling plug S.423 7 pol. for rotational stop size 105



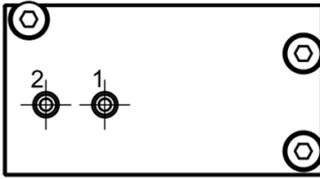
Binary code positions

Design of pivoting left-, or pivoting left- and right are the same

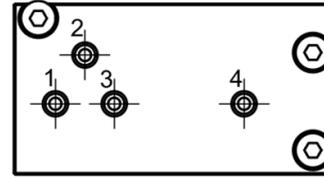


Connection plate for PRVA- NT size 65

oscillating left
Item-No. 14 05 00 1039

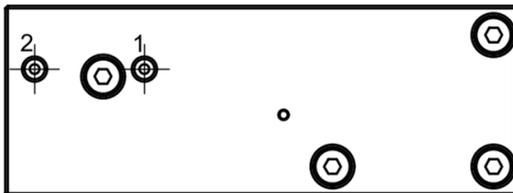


oscillating right and left
Item-No. 14 05 00 1038

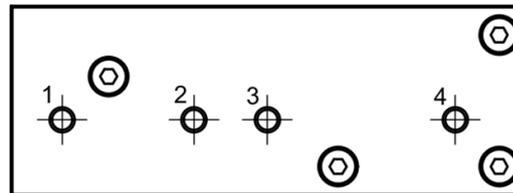


Connection plate for PRVA-NT size 105

oscillating left
Item-No. 14 05 00 1060



oscillating right and left
Item-No. 14 05 00 1062



- (1) Unlock locking cylinder and circle left
- (2) Lock locking cylinder and base position

- (1) Base position to swivel left
- (2) Lock locking cylinder
- (3) Unlock locking cylinder
- (4) Base position to swivel right

Description of the operation / activation

The PRVA-NT rotational stop is swivels in a counter-clockwise direction

A 5/2-way valve is required to operate the unit in one rotational direction (pivoting to the left). If the rotation stop is not pressurized using air, the lock cylinder locks the rotating piece in place using spring force so that it stays in place.

For clocking, the rotational stop is actuated with the *connector plate* so that they *pivot only to the left*:

- **Unlock the locking cylinder and pivot it to the left over the connection (1):**

Controlling this connection unlocks the locking cylinder and locks the swing cylinder with the rotating piece at the same time, and pivots the rotating piece to the left.

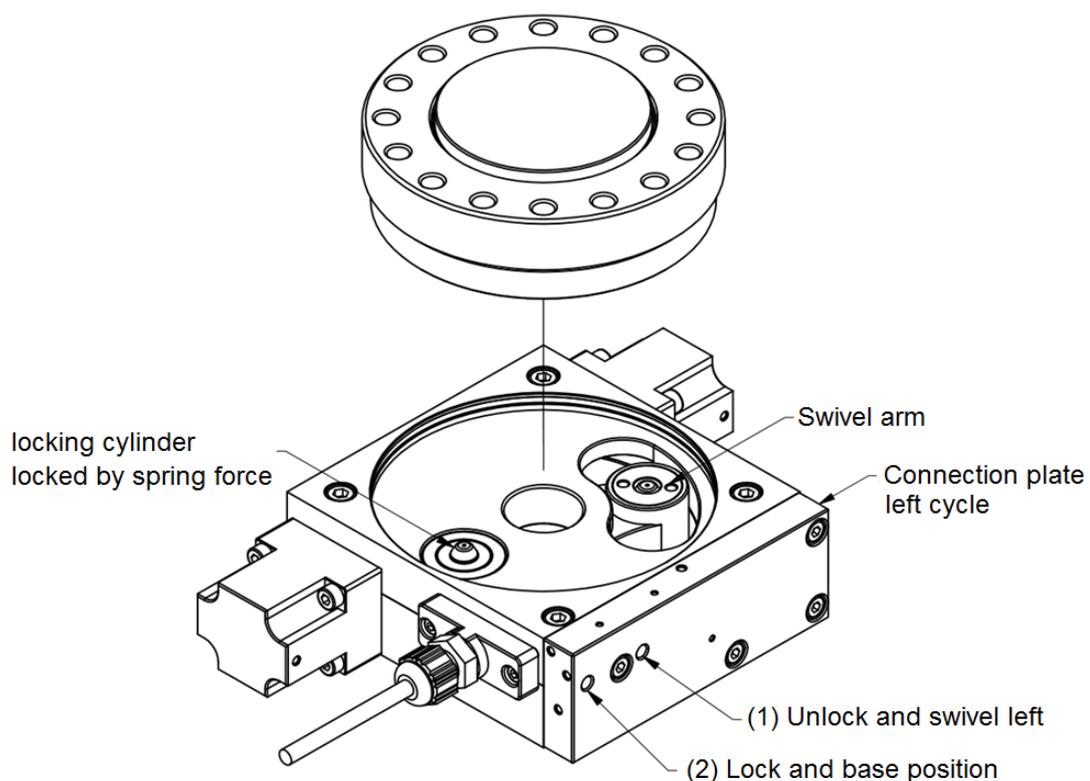
Dwell time for this working step is approx. 120 - 250ms.

- **Lock the locking cylinder and the base position on the connection (2):**

In this step, the lock cylinder is locked using the rotating piece / the swing arm is unlocked and swings back to the basic position. The item is back in its working position.

Dwell time should be 120 - 250 ms for immediate continued clocking.

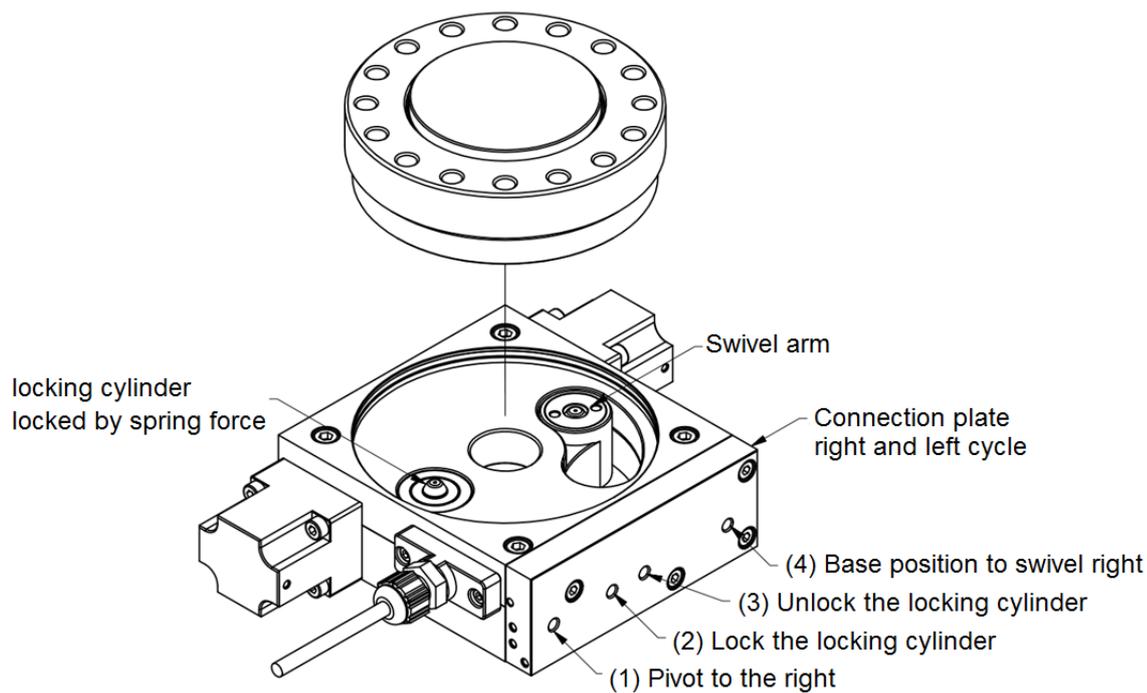
This results in a cycle time of 0.25 to 0.5 sec, which corresponds to about 2-4 cycles per second.



The figure above shows the PRVA-16NT pivoting counter-clockwise to the left in its basic position. At zero pressure, the locking cylinder is locked to the rotating piece using spring force. The lock cylinder on the terminal (2) must also be locked pneumatically for it to be in the working position.

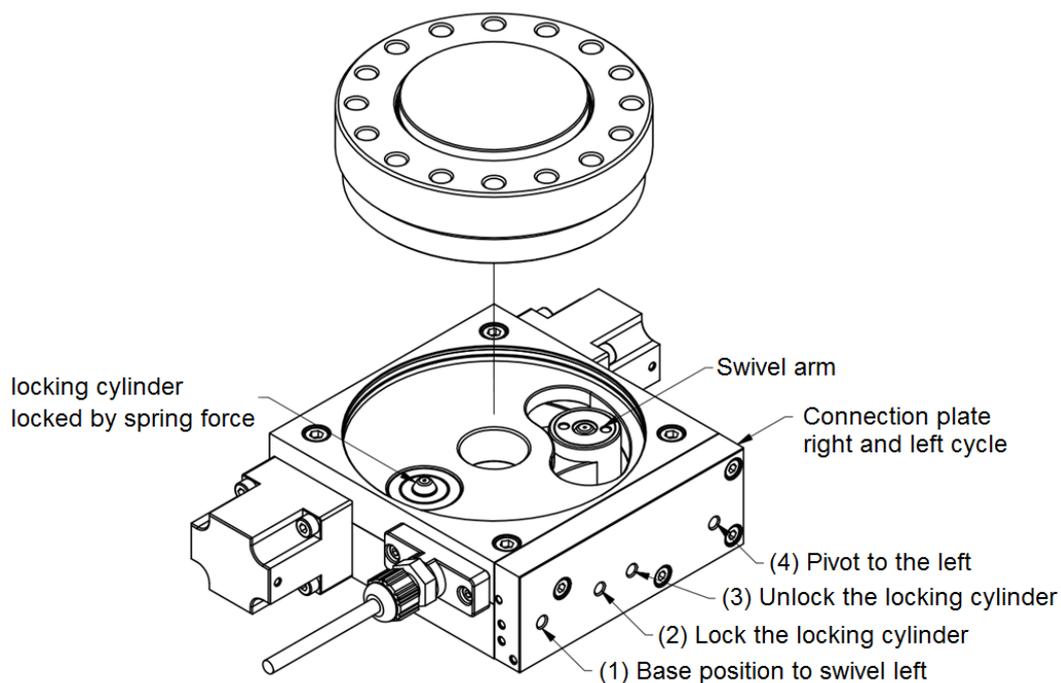
Rotational stop *PRVA-NT oscillating to the right and left*

Clock operation: *swiveling in a clockwise direction*



The figure above shows the PRVA-16NT oscillating to the right and left in its basic position to pivoting to the right. At zero pressure, the locking cylinder is locked to the rotating piece using spring force. The lock cylinder on the terminal (2) must also be locked pneumatically for it to be in the working position.

Clock operation: *swiveling in a counter-clockwise direction*



The figure above shows the PRVA-16NT oscillating to the right and left in its basic position to pivoting to the left. At zero pressure, the locking cylinder is locked to the rotating piece using spring force. The lock cylinder on the terminal (2) must also be locked pneumatically for it to be in the working position.

Two 5/2-way valves are required for it to work in swivel mode (oscillating to the right and left). To do this, lock the terminals (2) *lock locking cylinders* and (3) *unlock locking cylinders* and the connections (1) *Pivot the basic position to the left* and (4) *pivot the basic position to the right* to the using a 5/2-way valve. Make sure that the connection (2) *Lock the locking cylinder* stays in its working position by keeping pressurized air on it.

Pivot the rotating stop *to the right* as follows:

- ***Pivot the swivel arm into its basic position to swivel right (4):*** The swivel arm swivels into its basic position to swivel right. *Dwell time for the swivel procedure is approx. 100 - 250ms.*
- ***Unlock the locking cylinder via the terminal (3):*** The locking cylinder unlocks and at the same time, the pivot cylinder locks using the rotating piece. *Dwell time is approx. 30ms*
- ***Pivot the swivel arm to the right (1):*** Move the swivel arm to the right by controlling the connector (1). During this process, the pivot cylinder stays locked with the rotating piece and turns this in a clockwise direction. *Pivot procedure dwell time: approx. 100 – 250ms*
- ***Lock the locking cylinder via the connector (2):*** The locking cylinder is locked into place once again using the rotating piece / the pivot cylinder unlocks. *Dwell time is approx. 3ms*

Pivot the rotating stop *to the left* as follows:

- ***Swivel arm into its basic position to swivel left (1):*** Move the swivel arm to the right, in his basic position to swivel left, by controlling the connector (1).
Pivot procedure dwell time: approx. 100 – 250ms
- ***Unlock the locking cylinder via the terminal (3):*** The locking cylinder unlocks and at the same time, the pivot cylinder locks using the rotating piece. *Dwell time is approx. 3ms*
- ***Pivot the swivel arm to the left (4):*** Move the swivel arm to the left. During this process, the pivot cylinder stays locked with the rotating piece and turns this in a counter-clockwise direction. *Dwell time for the swivel procedure is approx. 100 - 250ms.*
- ***Lock the locking cylinder via the connector (2):*** The locking cylinder is locked into place once again using the rotating piece / the pivot cylinder unlocks. After this process the item is back in its working position. *Dwell time is approx. 30ms*

This results in a cycle time of 0.25 - 0.5 sec.; this is equivalent to approx. 2 - 4 cycles per second.

Note: When changing the oscillating direction from left to right / right to left, omit the first swivel procedure when pivoting into the each of the basic positions. You can start with the unlocking procedure immediately and then immediately continue with the pivoting procedure.

Order description for our rotational stop *PRVA-NT* and accessories

Description	Item no.:
PRVA-8 NT inclusive connecting plate <i>oscillating left</i>	14 05 00 1101
PRVA-8 NT inclusive connecting plate <i>oscillating right and left</i>	14 05 00 1102
PRVA-12 NT inclusive connecting plate <i>oscillating left</i>	14 05 00 1111
PRVA-12 NT inclusive connecting plate <i>oscillating right and left</i>	14 05 00 1112
Sensor for rotational stop size 65 with 3 m PUR cable	14 05 00 1050
Sensor for rotational stop size 65 with binder plug and 0.4 m cable	14 05 00 1051
Coupling for Sensor with binder plug and 5 m PUR cable	1107

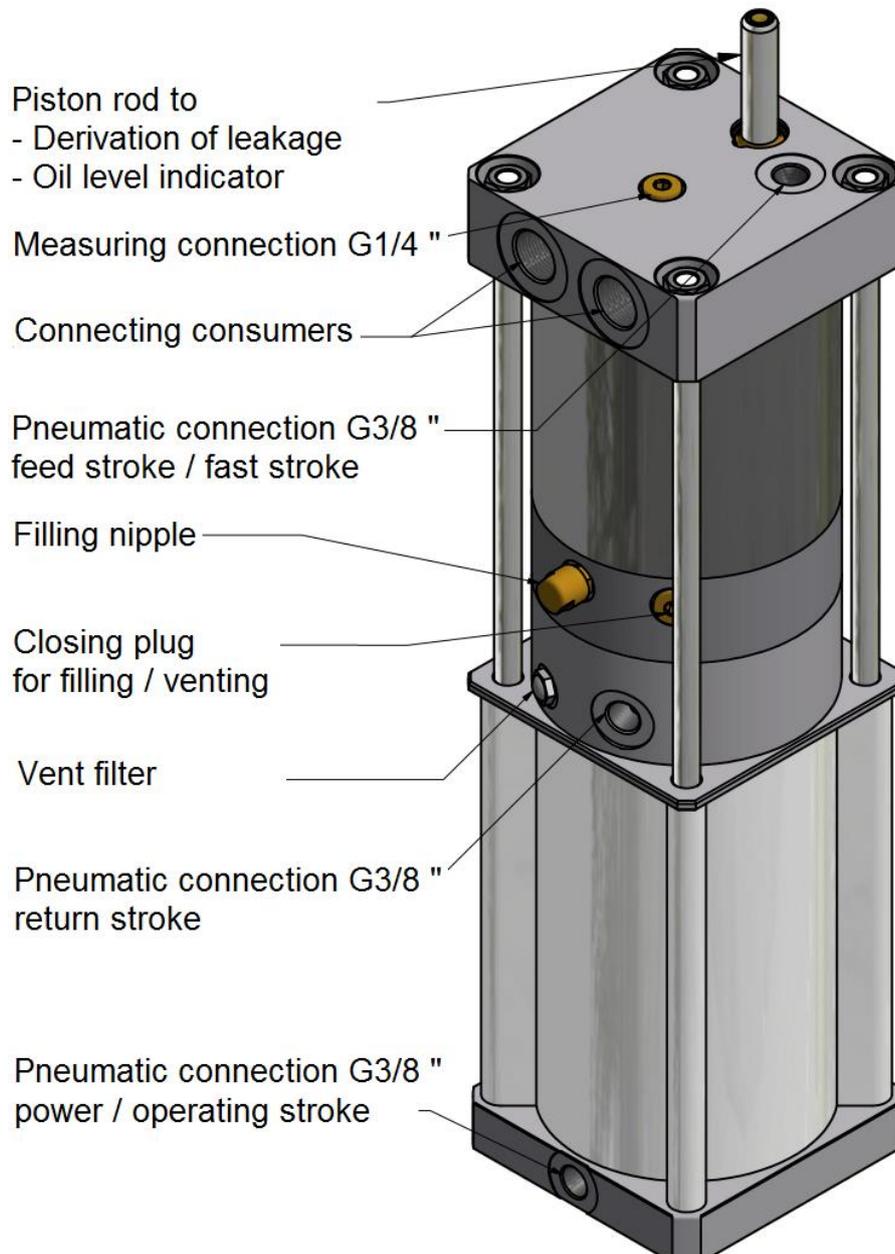
Description	Item-No.:
PRVA-16 NT inclusive connecting plate <i>oscillating left</i>	14 05 01 1101
PRVA-16 NT inclusive connecting plate <i>oscillating right and left</i>	14 05 01 1102
PRVA-12 NT inclusive connecting plate <i>oscillating left</i>	14 05 01 1111
PRVA-12 NT inclusive connecting plate <i>oscillating right and left</i>	14 05 01 1112
PRVA-10 NT inclusive connecting plate <i>oscillating left</i>	14 05 01 1116
PRVA-10 NT inclusive connecting plate <i>oscillating right and left</i>	14 05 01 1117
PRVA-8 NT inclusive connecting plate <i>oscillating left</i>	14 05 01 1121
PRVA-8 NT inclusive connecting plate <i>oscillating right and left</i>	14 05 01 1122
PRVA-6 NT inclusive connecting plate <i>oscillating left</i>	14 05 01 1126
PRVA-6 NT inclusive connecting plate <i>oscillating right and left</i>	14 05 01 1127
Sensor for rotational stop size 105 with 3 m PUR cable	14 05 01 1050
Sensor for rotational stop size 105 with binder plug and 0.4 m cable	14 05 01 1051
Coupling for Sensor with binder plug and 5 m PUR cable	1107

Pressure booster DU125 NT

Pneumatic - hydraulic - double acting

Patent pending

Available in gear ratios: 1:17,5, 1:25, 1:39; 1:61



*The new **Pressure booster NT** offers the following advantage:*

- **Cost savings by saving a hydraulic power unit:** Our newly developed pressure intensifier allows conventional hydraulic cylinders to be operated with rapid and power stroke. By using two intensifiers, even double-acting hydraulic cylinders can be operated in the express and power stroke.
- **Simple control:** This is done by a 3/2-way valve for the delivery stroke and a 5/2-way valve for the power stroke.
- **Any repetition of the power stroke:** With the aid of a control, the power stroke can be repeated as often as required via the 5/2-way valve. For this, the 3/2-way valve must remain switched.
- **Built-in bypass valves** prevent vacuum formation during punching and allow any repetition of the power stroke.
- The translator cylinder is equipped with **signaling** which serves to monitor or repeat the power stroke.
- A **closed oil system**, as well as an **absolute oil / air separation** ensure the highest level of operational safety.
- The use of **Seal recordings** for different gear ratios results in low storage costs, as all essential parts are identical. A subsequent conversion to another gear ratio is possible.
- The oil volume for the feed and power stroke, as well as the required oil reserve for safe operation of the working cylinder, can be set by the user for an additional charge. A list of the standard types follows.
- The delivery is in the filled state (if not desired, please specify when ordering)

Principle of Pressure booster NT

Our pressure booster has two pistons, one piston is responsible for the feed stroke or for the fast stroke of the working cylinder and works as a medium converter. This means that the inlet air pressure is converted 1: 1 into hydraulic pressure.

The second piston works as a booster piston, with a predetermined transmission ratio. This is responsible for the power stroke on the cylinder. Due to the built-in bypass valves in the pressure booster, the piston for the infeed stroke at any time, with decreasing working pressure, oil continue transport to the working cylinder.

This design allows the power stroke can be repeated at any time, without driving the pressure booster and cylinder in the basic position.

Pressure booster, pneumatic hydraulic, single action

Transmission ratio, 1:39
Maximum operating pressure: 351 bar

Our pressure booster offers the following advantages:

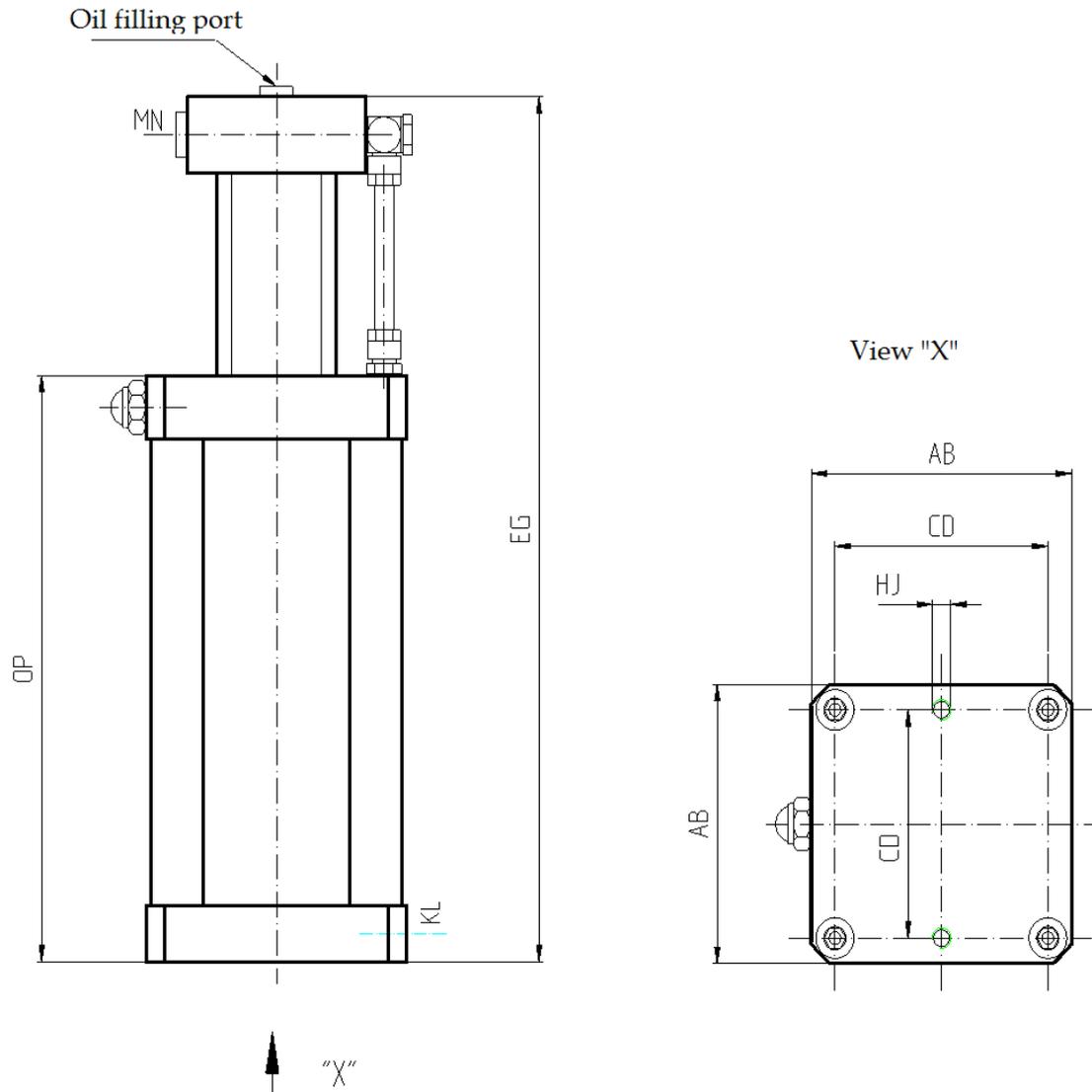
- Large oil reserves, which means a high degree of operational safety
- Easy-to-use application; you just need a 3/2 way valve for operation.
- a quick-exhaust valve is recommended on the booster, however, for faster operation.
- Low air consumption because the return stroke is carried out using spring force.
- All moving parts are made of frictionless and corrosion-resistant or
- corrosion-protected materials. Ahead, the cover and the intermediate cover are made of anodized aluminium, and hard-coded aluminium profile tubes are used for the piping.
- Delivery is in the filled state. The only thing that needs to be replaced is a lock screw for the exhaust filter.



Principle behind the pressure booster:

The pressure booster converts compressed air from the AC power into hydraulic pressure. This allows many punching and clamping problems to be solved without major expense that would otherwise be nearly impossible to solve!

Our pressure intensifiers are suitable for hydraulic oils based on mineral oils. Further media on request. In no way suitable are media which cause corrosion, such as water.



Model	Air connection		Pressure output		AB	CD	EG	HJ	OP
	KL	pcs.	MN	pcs.					
DU 100	R 1/4	1	R 1/4	1	110	90 ± 0,1	360	M 8	230
DU 125	R 3/8	1	R 1/4	2	140	90 ± 0,1	410	M 8	257

Attention:

Only hydraulic high-pressure hoses may be used for hydraulic connection. The inside diameter of the hydraulic hose should not exceed 6 mm and should not be any longer than absolutely necessary. The entire system must be carefully ventilated in order to ensure optimum operation.

The amount of oil required per stroke is calculated as follows:

The number of cylinders x piston surface area x stroke

	Maximum air pressure (bar)	Boost ratio	Air distribution at 6 bar (NI/stroke)	Oil quantity / stroke (ccm)	Oil reserve (ccm)
DU 100	9	1 : 39	6,87	23	141
DU 125	9	1 : 39	12,54	37	290

Pressure booster, pneumatic hydraulic, double-acting

Our pressure intensifiers are also available in double-acting version (DW):

Double-acting refers exclusively to the air cylinder: this is, instead of a spring, also driven with air to its basic position. This increases compared to the standard versions with spring return, the life, since the risk of spring breakage is no longer present.

To control the double-acting pressure booster, a 5/2-way valve is required.

All variants are (on request) also available with a larger oil volume (in terms of working area); However, for technical reasons only in double acting.

To reduce the air consumption, the return stroke of the double-acting intensifier can be operated at a lower pressure (1 - 3 bar).

If desired, the intensifier can also be equipped with a signal piston up to a piston Ø 125 mm to query individual piston positions!

Our pressure intensifier DU 125 double-acting is also in the special version -

"Installation position horizontal" available.



	Maximum air pressure. (bar)	Boost ratio i	Air distribution (NI / stroke)		Oil quantity / stroke (ccm)	Oil reserve (ccm)
			Forward stroke 6 bar	Return stroke 3 bar		
DU 125	9	1 : 39	14,0	7,8	51	351
DU 125	9	1 : 39	19,76	11,0	70	555
DU 125	9	1 : 39	30,67	17,1	110	942
DU 125	6	1 : 61	12,28	6,9	26	290

Special Pressure booster

We also have the following special pressure translators in stock.

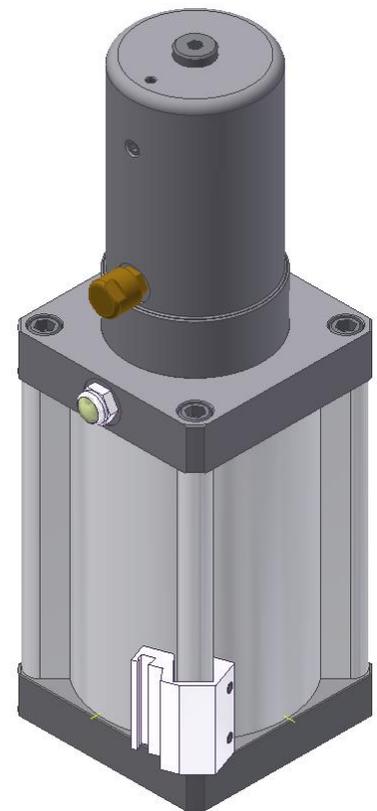
Our special pressure booster have **no additional oil reserve!** This means that the amount of oil in the work area must be chosen so large that it still has sufficient reserve for safe operation! (We are happy to advise you in this regard)

Push back with the working cylinder:

Likewise, the working cylinder used must have sufficient return stroke force to push the pressure booster also back to its basic position.

In this case, however, double-acting hydraulic cylinders can be used in which the return stroke is operated via a medium converter.

In any case, it is not permissible to use cylinders which are operated with oil on one side and air on the other without these cylinders having an oil / air separation in the piston.



	Air pressure max. (bar)	Transmission ratio	Oil quantity / stroke (ccm)
DU 125	10	1 : 6,25	350
DU 100	10	1 : 9,7	64
DU 125	10	1 : 15	84
DU 160	10	1 : 4	1000
DU 160	10	1 : 10	400
DU 160	10	1 : 12,5	286

Hydropneumatic power cylinder HPPZ-S20; -S40; -S60; -S80; -S150; -S300



Our power cylinders offer the following advantages:

- Absolute air/oil separation (through use of the external actuating cylinder)
- The power stroke can operate several times per working stroke (control required)
- Automatic switching from the feed stroke to the power stroke
- High cylinder forces without use of a hydraulic unit (hydropneumatic operation)
- Install the cylinder the best way you see fit through the closed oil system (thereby creating a compact design)
- No coil springs using dual-action transmitting cylinder; this prevents any risk of the cylinder being destroyed due to the spring breaking at high stroke frequencies
- The highest degree of durability by using sealing gaskets from well-known German manufacturers
- Visible oil level indicator on the actuating cylinder
- Integrated power stroke control; this allows the cylinder to be controlled like a pneumatic cylinder via a 5/2 way valve
- High-pressure connection, measuring connection and control connection
- Bypass between the oil reserve and the pressure chamber (to prevent a vacuum from forming during the punching process)

Applications:

The power cylinder is used during

- Pressing and force fitting (by means of a greater stroke through repeated action by the power stroke)
- Resistance welding
- Punching
- Stamping
- Riveting
- Deep-drawing

Design:

The power cylinder consists primarily of high-strength anodized aluminum, or rust-free or corrosion-resistant material. Operation is virtually maintenance free; it only needs clean, dry air.

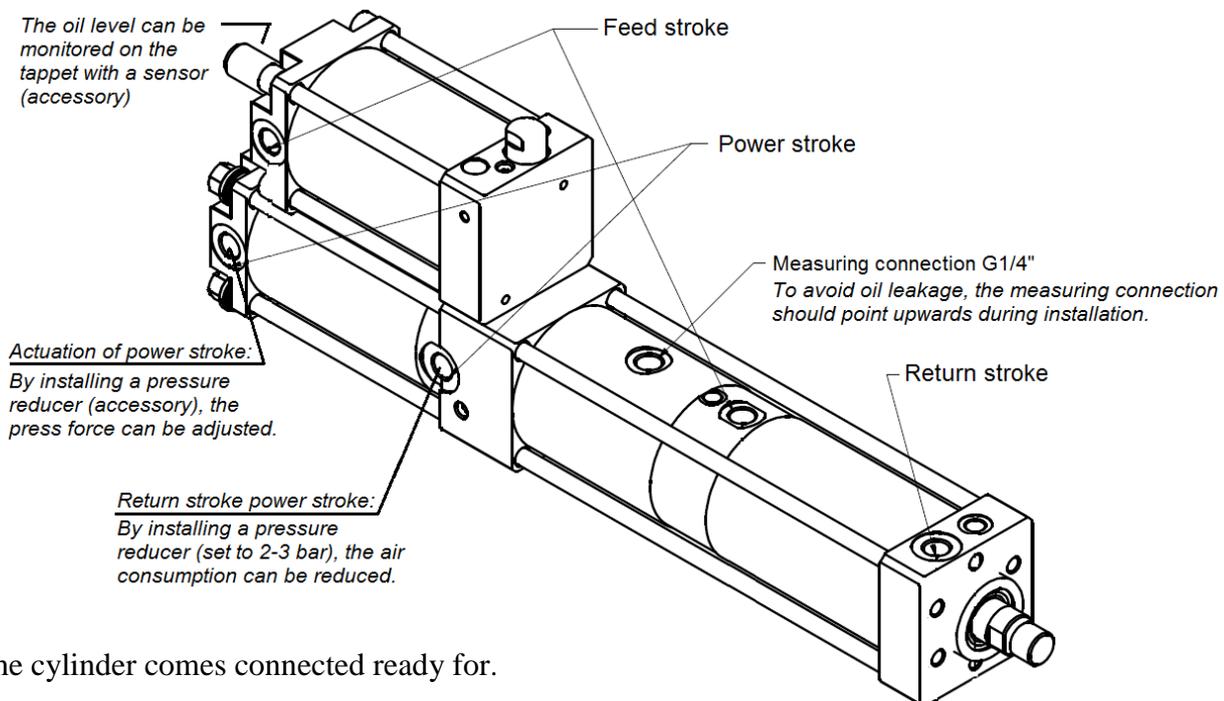
Equipment:

The power cylinder comes standard equipped with a 3/2 way valve that is counteracted through the working piston impact due to the resistance created per the dynamic pressure method. A throttle can be used to adjust the switching time. The 5/2 way valve is not included in the accessories for controlling the cylinder.

Special equipment:

- Contactless sensing of the power stroke cylinder with vibration-free electronic cylinder switches (needed for cyclically repeating the power stroke)
- Control for clocking the power stroke
- Pressure reducer for regulating the power stroke

Connection of power cylinder HPPZ-S20; -S40; -S60; -S80; -S150; -S300



The cylinder comes connected ready for.

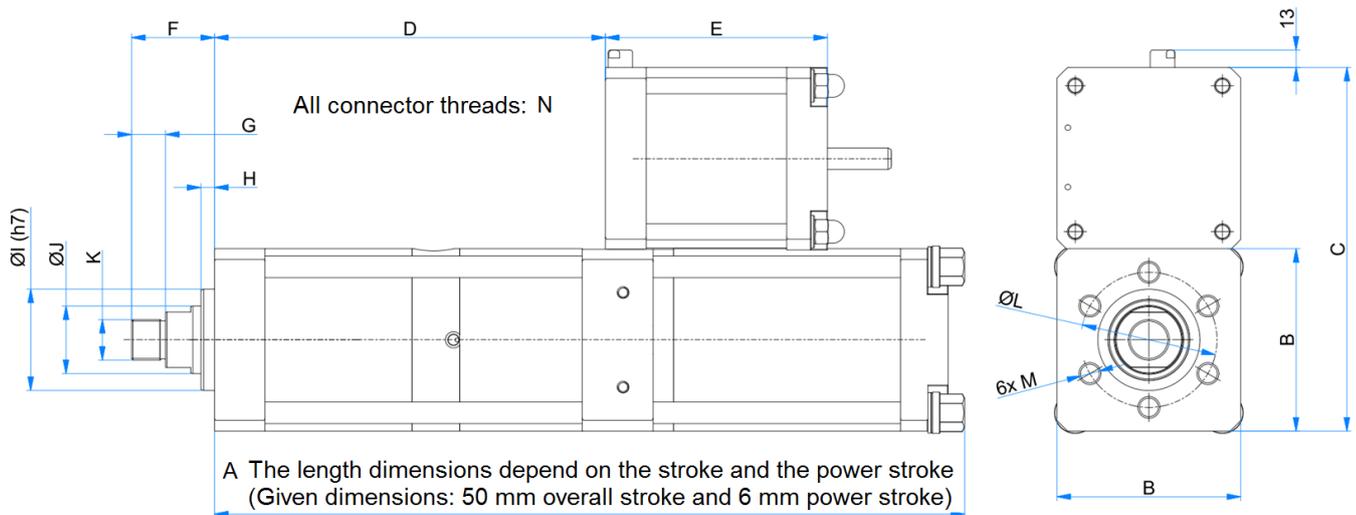
Specification of type

HPPZ-S_ = Type/ frame size
XXX- = Stroke
X- = Power stroke
kN = Application force

Specification of order

HPPZ-S20_100-6-18kN
→ Type: S20
Stroke: 100 mm
Power stroke: 6 mm
Application force: 18 kN at 8 bar

Powerzylinder HPPZ-S

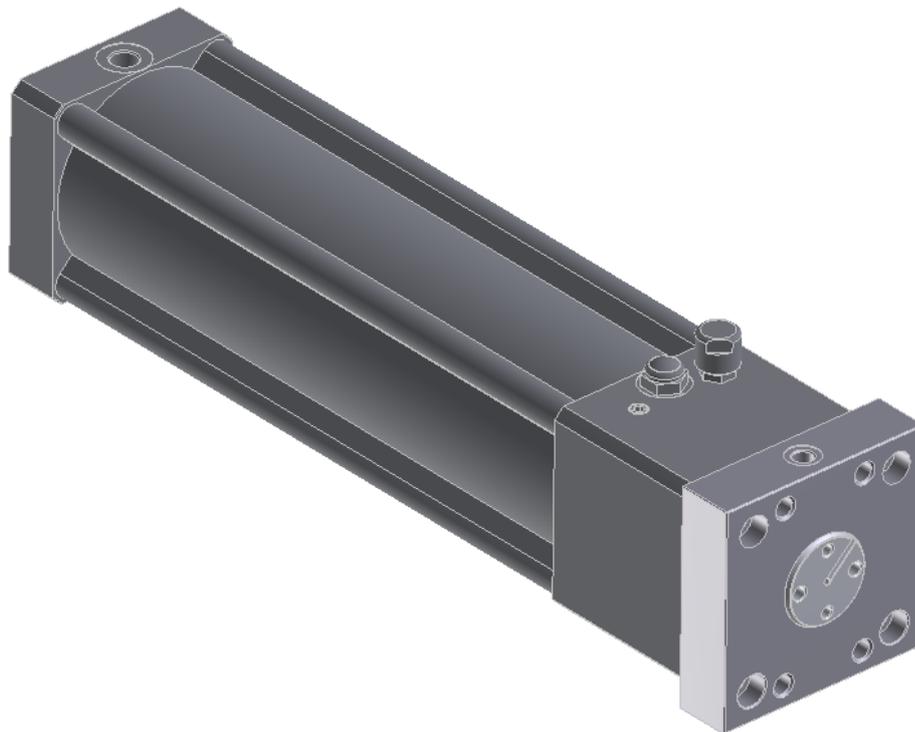


Type	A	B	C	D	E	F	G	H	ØI (h7)	ØJ	K	ØL	M	N
S20	439	70	139	270	142	41	15	10	40	20	M16 x 1,5	54	M8 x 1,25 - 16 deep	G1/4"
S40	472	85	169	270	145	48,5	20	10	50	32	M22 x 2	64	M8 x 1,25 - 18 deep	G1/4"
S60	492	100	199	274	168	48,5	20	10	60	35	M24 x 2	78	M10 x 1,5 - 22 deep	G1/4"
S80	491	110	219	274	158	60	25	10	70	45	M30 x 2	88	M10 x 1,5 - 22 deep	G3/8"
S150	544	135	269	287	162	61	25	10	75	50	M30 x 2	100	M16 x 2 - 27 deep	G3/8"
S300	644	173	348	290	194	80	35	10	100	60	M39 x 2	132	M20 x 2,5 - 30 deep	G1/2"

The stated values are calculated figures; the degree of efficiency is 0.95.

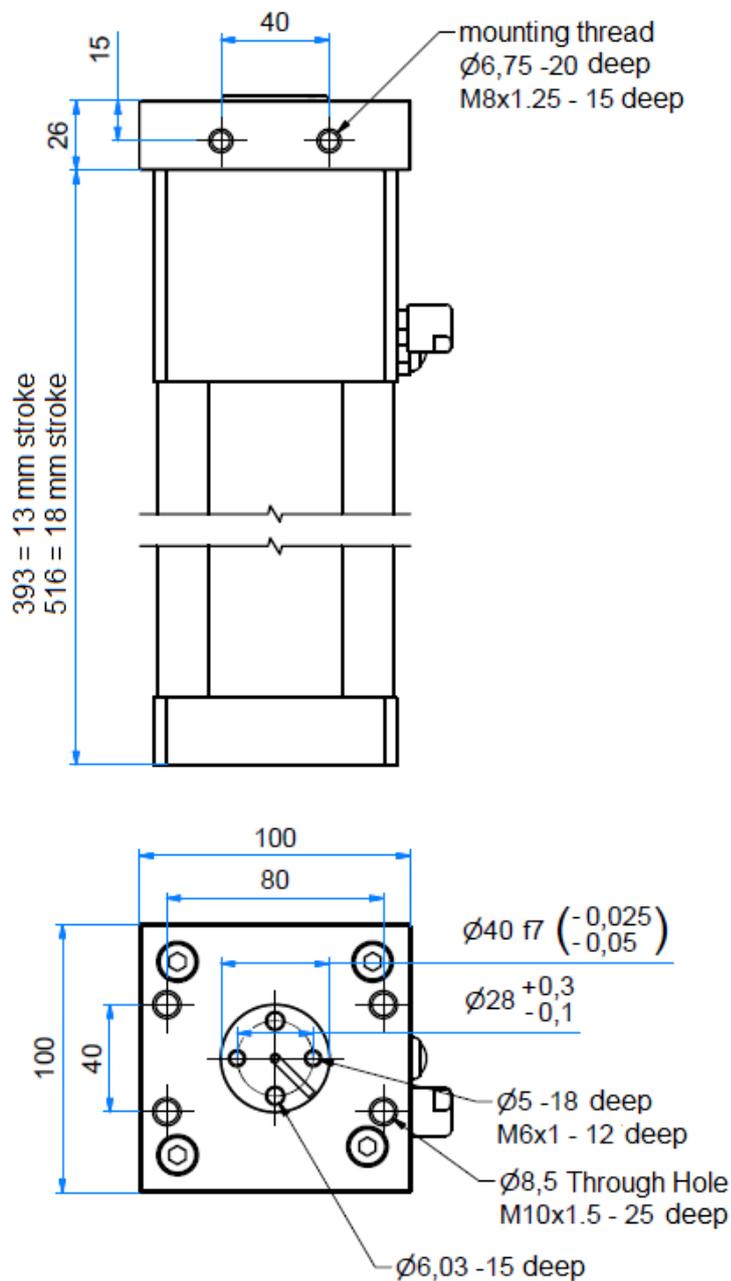
Type	Application force		Return force		Nominal force (on power stroke)	
	6 bar	8 bar	6 bar	8 bar	6 bar	8 bar
S20	1575 N	2100 N	1507 N	2000 N	13 kN	18 kN
S40	2529 N	3370 N	2165 N	2890 N	33,7 kN	45 kN
S60	3690 N	4920 N	3235 N	4310 N	48,6 kN	64,5 kN
S80	4590 N	6120 N	3756 N	5000 N	60 kN	80 kN
S150	7240 N	9650 N	6180 N	8240 N	117 kN	156 kN
S300	11.940 N	15.920 N	10.365 N	13.820 N	300 kN	400 kN

Power cylinder UNI POWER



Our power cylinders offer the following advantages:

- The compact and closed design with a large oil reserve ensures a long and maintenance-free operation in any mounting position.
- Low weight due to the use of high-strength aluminum alloys
- High cutting force and punch-free punching by hydropneumatic translation
- Due to the high cutting and retraction force, various small tools can be picked up on the punch. To control a 5/2 way valve is required. For faster operation, a quick exhaust valve on the cylinder is recommended
- The moving parts are made of wear-resistant and corrosion-resistant or -protected materials. All aluminum parts are anodised and the tubes are hard-coded aluminum profile tubes. Operation is almost maintenance-free, it is only clean and dry air required



Technical data:

Transmission ratio:	1 : 10,25	1 : 6,5
Cutting force:	87 kN at 6 bar	10,9 kN bei 6 bar
Return stroke:	3750 N at 6 bar, 5000 N at 8 bar	
Power stroke:	13 mm	18 mm
Air consumption:	at 6 bar 12.8 NL/ stroke	5,3 NL/ stroke
Mounting:	2 x M8 (see drawing)	
Weight:	approx. 7.2 kg	

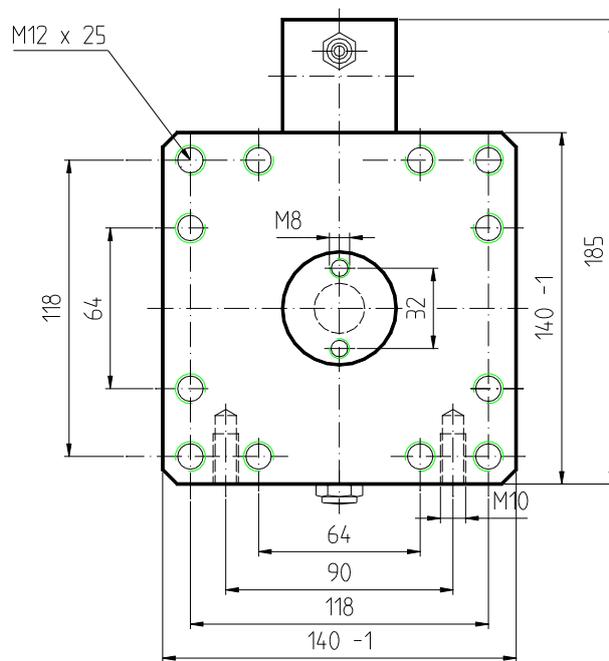
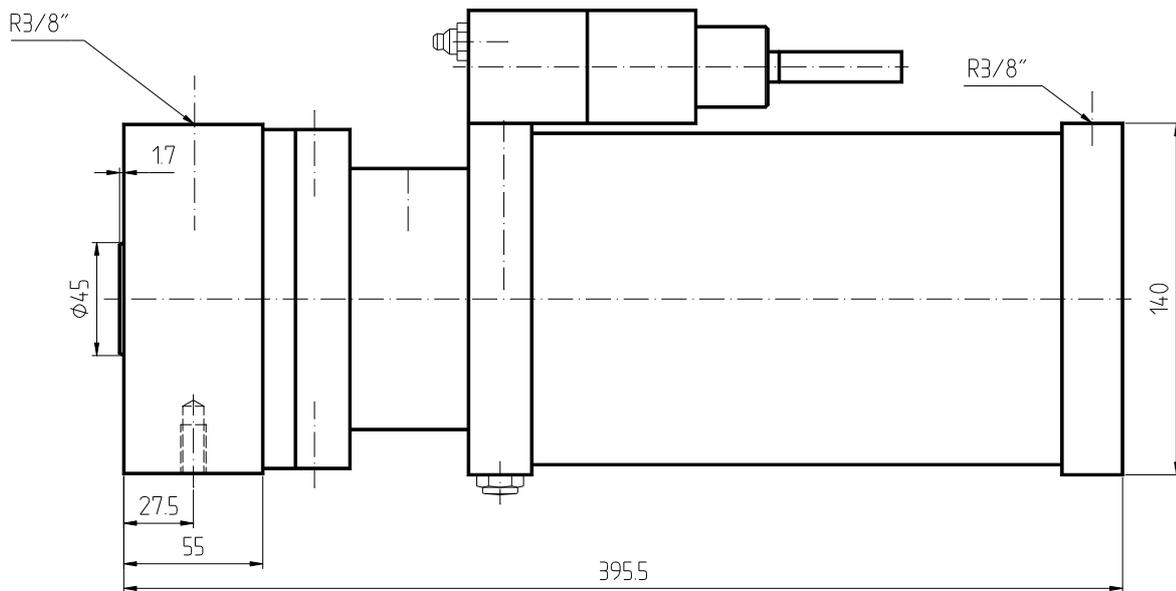
Hydropneumatic power cylinder

HPPZ-10

Our power cylinders offer the following advantages:

- Closed, compact design with oil reserve tank and oil level indicator
- Lightweight due to use of high-strength aluminum alloys
- Can be installed in any location due to the closed oil system
- High cutting power and shock-free punching through hydropneumatic boost
- Several small tools can be used on the punch due to the high cutting and retraction force. A 5/2 way valve is required for control purposes. A quick exhaust valve is recommended on the cylinder to run faster.
- All moving parts are made of frictionless and corrosion-resistant or corrosion-protected materials. All aluminium parts are anodized; hard-coded aluminium profile tubes are used. Operation is virtually maintenance free; it only needs clean, dry air.





Technical data:

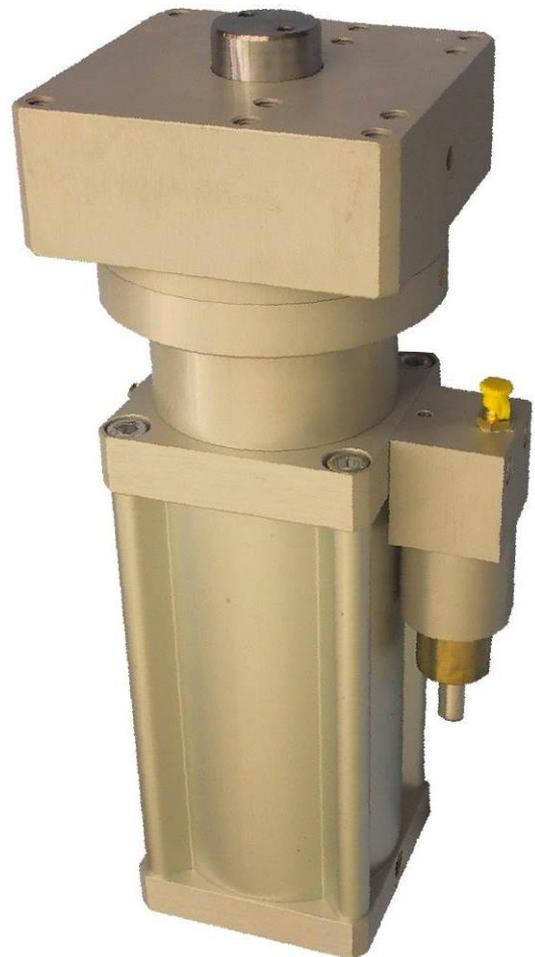
Transmission ratio:	1 : 38
Cutting force:	Up to 87 kN at 6 bar to 110 kN at 8 bar (or customised to customer specifications)
Return stroke:	3750 N at 6 bar, 5000 N at 8 bar
Power stroke:	10 mm at 87 kN and 6 bar (or customised to customer specifications)
Air consumption:	at 6 bar 12.8 NL/ stroke
Weight:	12 kg
Mounting:	see drawing

Hydropneumatic power cylinder

HPPZ - 14,5 – 45 KN

Our power cylinders offer the following advantages:

- reserve tank and oil level indicator
- Closed, compact design with oil
- Lightweight due to use of high-strength aluminium alloys
- Can be installed in any location due to the closed oil system
- High cutting power and shock-free punching through hydropneumatic boost
- Several small tools can be used on the punch due to the high cutting and retraction force. A 5/2 way valve is required for control purposes. A quick exhaust valve is recommended on the cylinder to run faster.
- All moving parts are made of frictionless and corrosion-resistant or corrosion-protected materials. All aluminium parts are anodized; hard-coded aluminium profile tubes are used. Operation is virtually maintenance free; it only needs clean, dry air.



Embossing cylinder / riveting cylinder

- Preliminary data sheet -

Our embossing cylinder offers the following advantages:

- High impact power with low air consumption
- Low wear of the stamping/riveting die, as the stamping force acts in pulses
- The piston rod, which serves to hold the tool, is decoupled from the impact piston
- The workingpiece to be machined is fixed or clamped before the actual work process

Application and area of use:

Embossing, riveting, flanging, and punching thin sheet metal

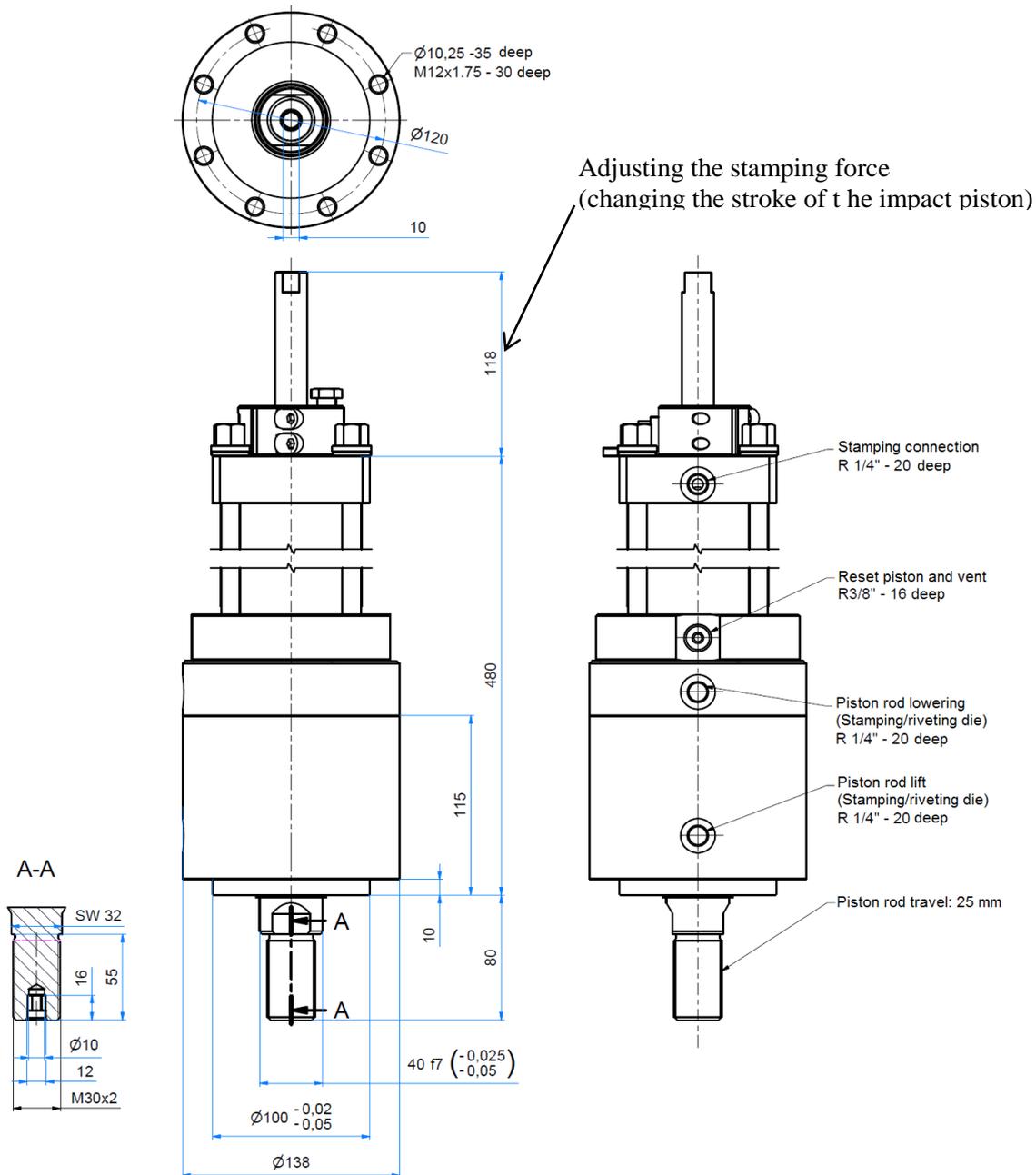
Design and functional description:

The stamping cylinder consists of a double-acting cylinder for fixing (clamping) the workpiece, an electromagnet which holds the striking piston until the preset pressure required for embossing is reached and a piston rod which serves to hold the embossing/riveting punch.

First, the piston rod is lowered onto the workpiece to be machined. The cylinder chamber above the electromagnet is filled with pressure medium. Once the set working pressure is reached, the electromagnet is de-energized. The impact piston now suddenly detaches from the magnet and hits the piston rod, which in turn transfers the force to the workpiece to be machined.

After the stamping process, both the impact piston and the piston rod are pneumatically raised again, and the electromagnet is energized. The stamping/riveting cylinder is now back in its home position.





Technical data:

Design:	Housing: anodized aluminum; cylinder barrel: steel; Impact piston and piston rod: tempered steel
Medium:	filtered, dry, lubricated or non-lubricated compressed air
Connection:	The cylinder is connected and ready for operation, only the 5/2-way valve is required <i>Optional: a control unit required for operation is available</i>
Operation pressure:	3 – 8 bar
Stamping force:	Currently up to 100 kN
Weight:	22 kg
Electromagnet connection:	Cable, open end
Electromagnet nominal voltage:	24 V/DC
Electromagnet power:	24 W

Oil brake cylinder 32er and 40er

Our hydraulic cushioning cylinders are distinct from the other oil brake cylinders in that they are available as a standard cylinder in the pulling direction and feature a stroke of up to 900mm.

Even larger stroke lengths can be easily implemented.

Another advantage is the cylinder assembly, which is a modular system. This means that all cylinder configurations can be realized using the same structural dimensions and some can even be retrofitted.



The cylinder available in following **versions**:

Oil brake cylinder Z (pulling)

- Feed adjustable in **pulling** direction, oppressive at a rapid speed
- Feed-speed control in **pulling** direction, oppressive at rapid feed speed
- Feed-speed control, rapid-speed switching and the stopping device in the **pulling** direction, oppressive at rapid speed

Oil brake cylinder D (oppressive)

- Feed adjustable in **oppressive** direction, pulling at a rapid speed
- Feed-speed control in **oppressive** direction, pulling at rapid feed speed
- Feed-speed control, rapid-speed switching and the stopping device in the **oppressive** direction, pulling at rapid speed

Oil brake cylinder D and Z (oppressive and pulling)

- Feed adjustable in **oppressive** and **pulling** direction
- Feed-speed control in **oppressive** and **pulling** direction
- Feed-speed control, rapid-speed switching and the stopping device in the **oppressive** and **pulling** direction

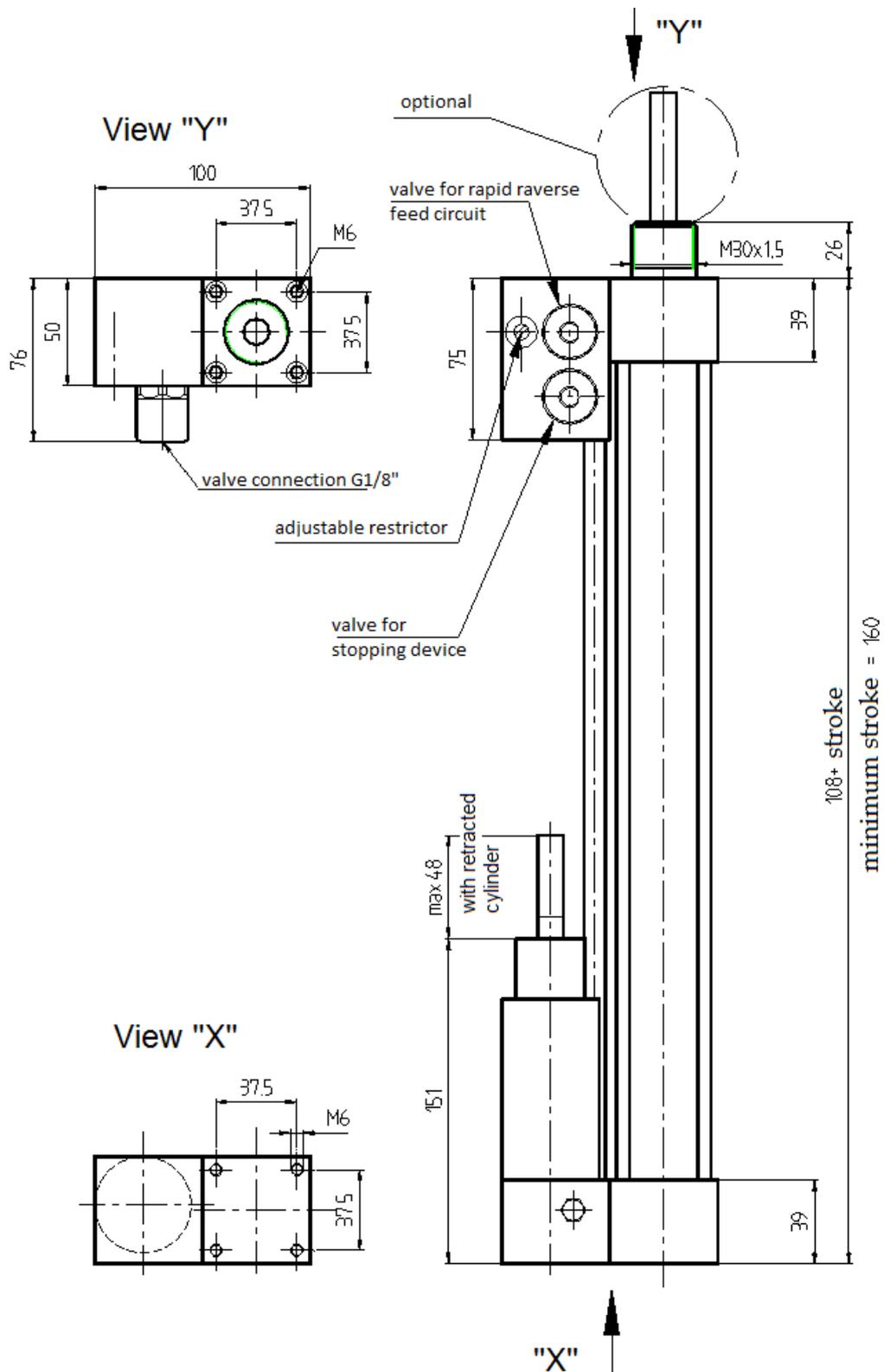
The stopping device is also available as a stop feature in the event of air failure

Dimensions are the same for the 32nd and 40th cylinder.

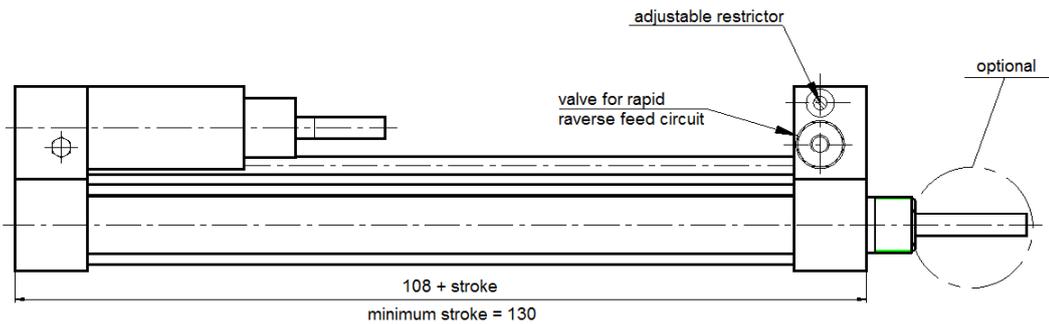
The closed oil circuit with large oil reserve guarantees a long service life and a finely adjustable feed rate and high degree of reliability.

Oil brake cylinder Z

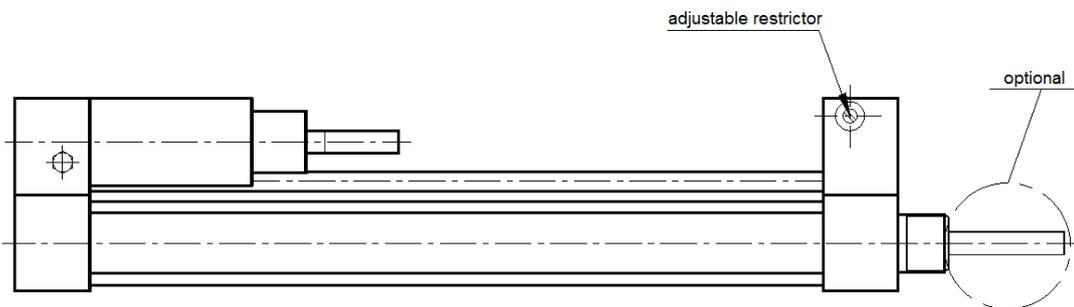
rapid traverse feed circuit
and stopping device



Oil brake cylinder Z rapid traverse feed circuit



Oil brake cylinder Z



The ends for the piston rod are available in different versions

external thread

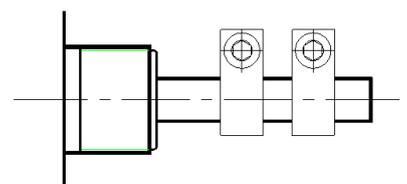
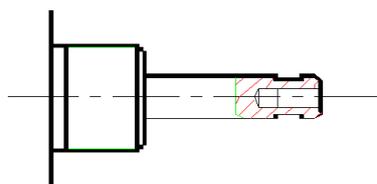
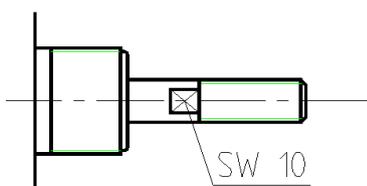
internal thread

Without any thread

A = external thread

I = internal thread

O = without any thread

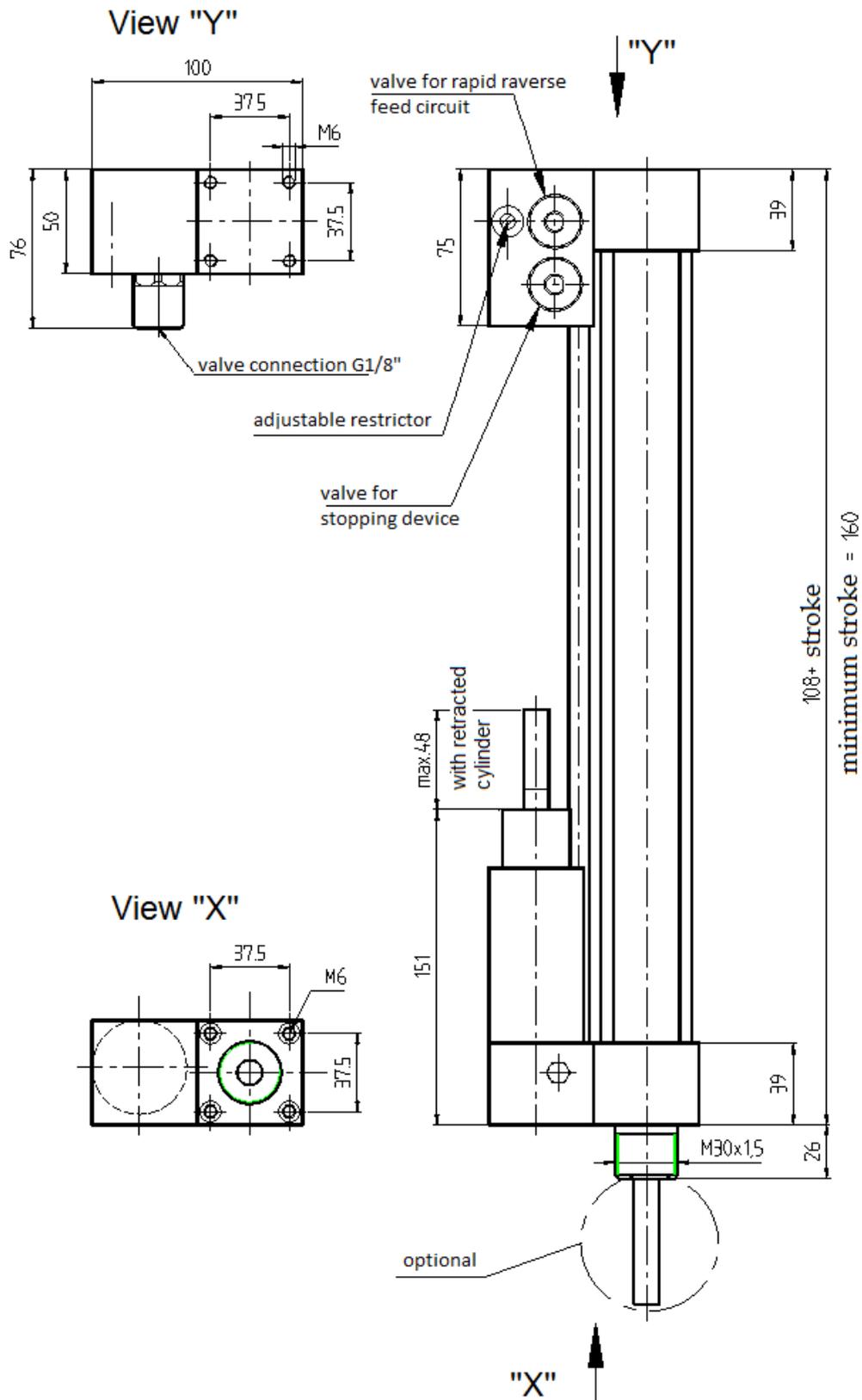


Technical data:

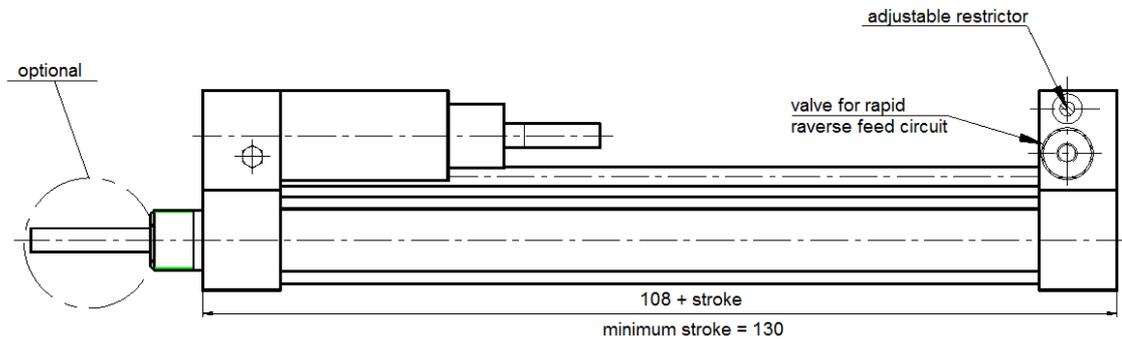
- Stroke length:** Up to 900 mm = standard to ca. 1700 mm possible
- Mass to be braked:** For a Ø32 cylinders, at a rapid traverse feed or stop, approx. 2180N,
For a Ø40 cylinders, at a rapid traverse feed or stop, approx. 3510N
Without rapid traverse feed or stop Ø32, approx. 3510, at Ø40, an approximate 5490N
- Feed speed:** Approx. 0 - 3 m/min; however, this depends on the size of the mass to be decelerated
- Rapid traverse speed:** Approx. 4 - 6 m/min; however, this depends on the size of the mass to be decelerated
- Mounting:** any
- Operating range:** 0 to +80°C
- Materials:**
- Housing: anodized aluminum
 - Rod C45 HC
 - Seals: nitrile, polyurethane

Oil brake cylinder D

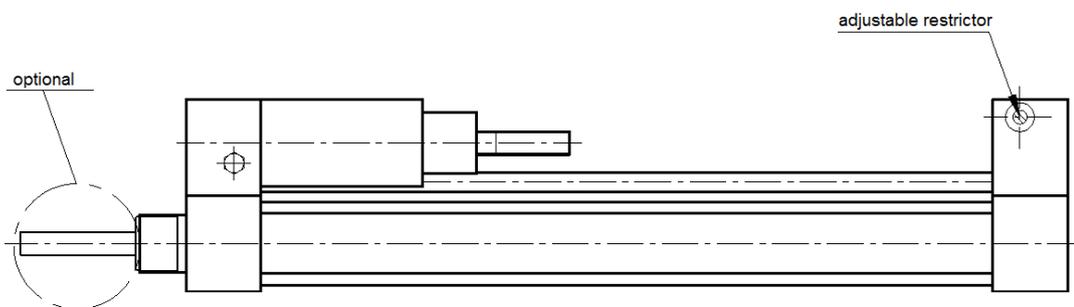
rapid traverse feed circuit
and stopping device



Oil brake cylinder D rapid traverse feed circuit



Oil brake cylinder D

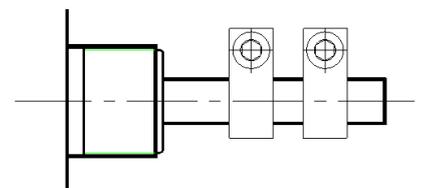
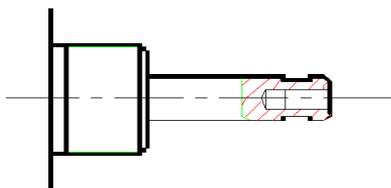
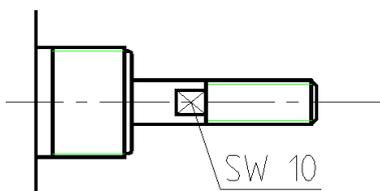


The ends for the piston rod are available in different versions
 external thread internal thread Without any thread

A = external thread

I = internal thread

O = without any thread

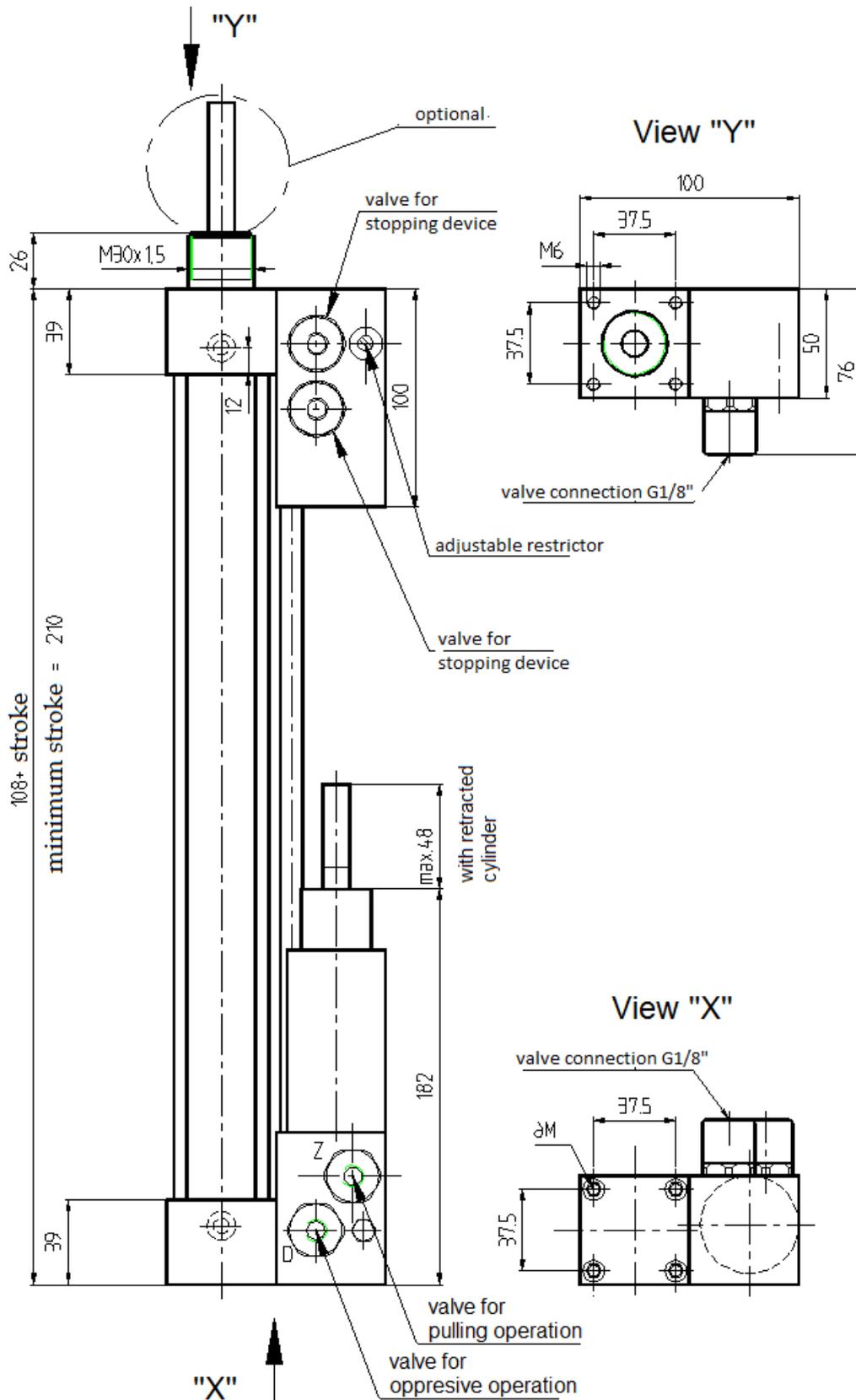


Technical data:

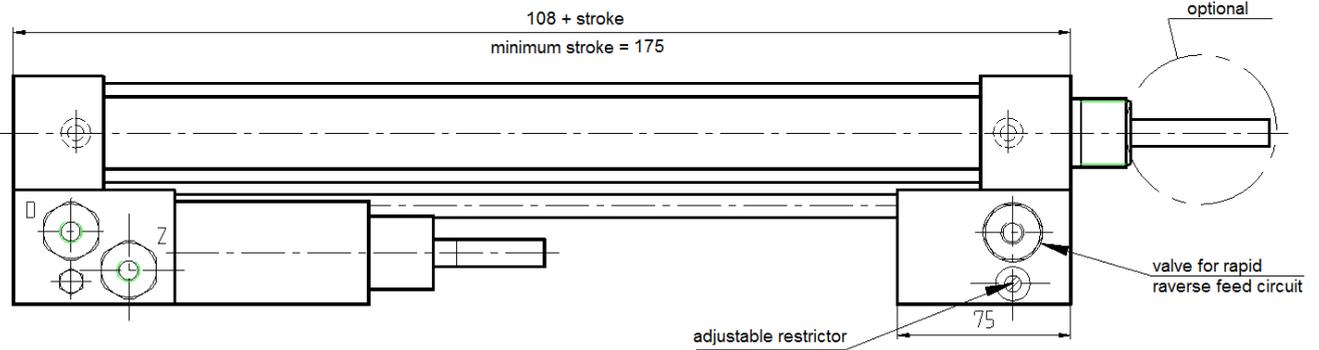
- Stroke length:** Up to approx. 400 mm due to the risk that the piston rod could buckle
- Mass to be braked:** For a Ø32 cylinders, at a rapid traverse feed or stop, approx. 2180N,
 For a Ø40 cylinders, at a rapid traverse feed or stop, approx. 3510N
 Without rapid traverse feed or stop Ø32, approx. 3510, at Ø40, an approximate 5490N
- Feed speed:** Approx. 0 - 3 m/min; however, this depends on the size of the mass to be decelerated
- Rapid traverse speed:** Approx. 4 - 6 m/min; however, this depends on the size of the mass to be decelerated
- Mounting:** any
- Operating range:** 0° to +80°C
- Materials:**
- Housing: anodized aluminum
 - Rod C45 HC
 - Seals: nitrile, polyurethane

Oil brake cylinder Z and D

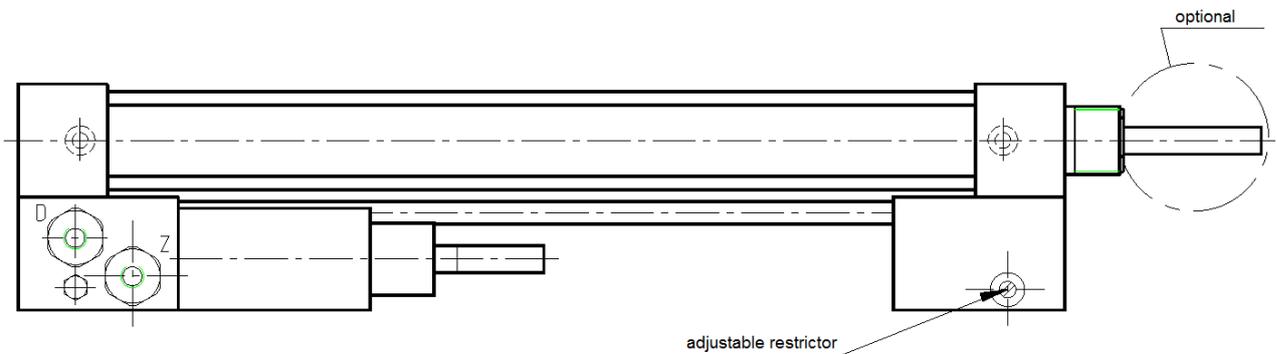
rapid traverse feed circuit and stopping device



Oil brake cylinder Z and D rapid traverse feed circuit



Oil brake cylinder Z and D

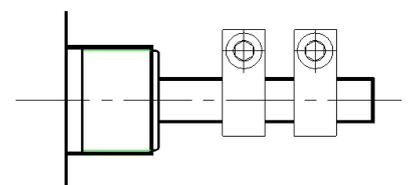
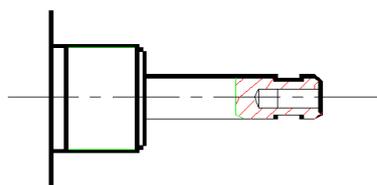
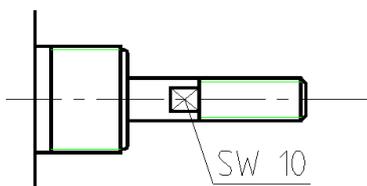


The ends for the piston rod are available in different versions
external thread internal thread without any thread

A = external thread

I = internal thread

O = without any thread



Technical data:

Stroke length:	Up to approx. 400 mm due to the risk that the piston rod could buckle
Mass to be braked:	For a Ø32 cylinder approx. 2180N, for a Ø40 cylinder approx. 3510N
Feed speed:	Approx. 0 - 3 m/min; however, this depends on the size of the mass to be decelerated
Rapid traverse speed:	Approx. 4 - 6 m/min; however, this depends on the size of the mass to be decelerated
Mounting:	any
Operating range:	0° to +80°C
Materials:	- Housing: anodized aluminum - Rod C45 HC - Seals: nitrile, polyurethane

Hydropneumatic – Rapid feedrate Cylinder

Pneumatic - Cylindrical according to ISO 15552 (ISO 6431 VDMA replaced) with integrated oil cylinder.

The cylinder is connected to the main dimensions identical to the ISO - cylinder 15552nd It has the advantage of an individually adjustable feed rate and a relatively high rapid traverse rate of up to 6 m / min. This represents approximately 50% of a conventional pneumatic - cylinder. Over the, in the piston rod, integrated oil brake cylinder of the cylinder operates without the otherwise occurring bending moment, as the movement and braking force are in one axis.

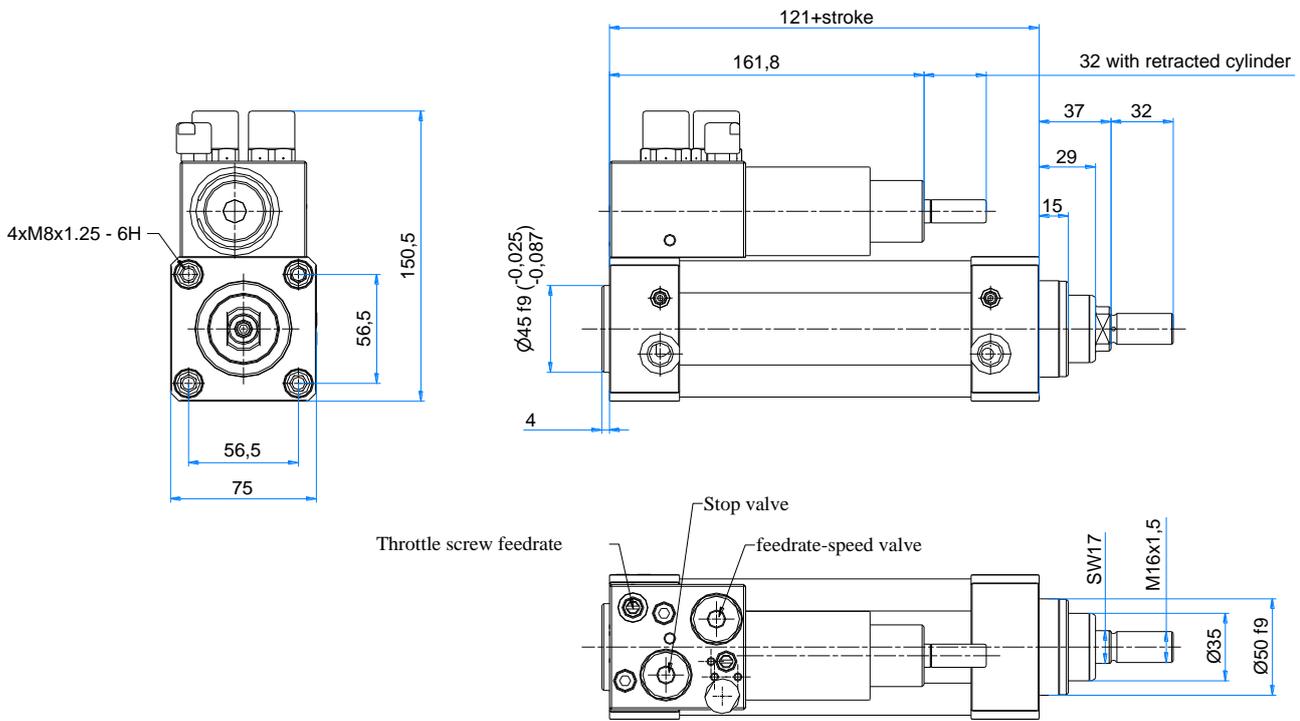


The cylinder is first offered in a basic version. This includes all the important functions like an incoming and extends the federate – Rapid with a throttle. While the retraction of the cylinder is considered to be subordinate function. In addition, the cylinder is in the basic version retraction and extension during a stop function.

The cylinder is also available in the following other features:

- Extending the feedrate
- - Extending the feedrate - Rapid
- - Extending the feedrate - Rapid - Stop
- - Retracts in the feedrate
- - Retracts in feedrate - Rapid
- - Retracts in feedrate - Rapid - Stop
- Resp. all these models with an external inductor.

The cylinders are fitted with an end position damping and a non-contact signal transfer, which can be called via a magnetic sensor.



piston-Ø	piston rods-Ø	stroke direction	effective piston area	theoretical piston power in dependence with the operating preasure [N]									
				1 bar	2 bar	3 bar	4 bar	5 bar	6 bar	7 bar	8 bar	9 bar	10 bar
[mm]	[mm]		[cm ²]										
50*	25	Extending	19,6	0	0	0	0	0	0	0	0	0	10
		Retracts	14,7	190	390	580	780	980	1170	1370	1570	1760	1960
63	35	Extending	31,2	140	290	440	580	730	880	1030	1170	1320	1470
		Retracts	21,6	310	620	930	1240	1550	1870	2180	2490	2800	3110
80*	40	Extending	50,3	210	430	640	860	1070	1290	1500	1720	1930	2150
		Retracts	37,7	500	1000	1500	2010	2510	3010	3510	4020	4520	5020

* in time not available

Specifications:

- Stroke length: up to 500 mm
- Feed speed: 0 - 3 m / min, but is dependent on cylinder size and the mass to be decelerated
- Rapid traverse rate: 4 - 6 m / min, but is dependent on cylinder size and the mass to be decelerated
- Mounting: any
- Temperature range: 0 to +80°C
- Operating pressure: 1 to 10 bar
- Materials:
 - Housing: anodized aluminum,
 - Rod: C45 HC
 - Seals: nitrile, polyurethane

Safety clamping cylinder



Our safety clamping cylinder solves a variety of clamping problems that could otherwise be risky, and it does this without having to resort to traditional safety devices. Thus, it is possible to realize even greater clamping strokes without running the risk of getting hurt.

The cylinder operates according to a principle of clamping only flat surfaces or flat surfaces that have a deviation of up to 2°. The permissible deviation of 2° was established in collaboration with the BIA (BG Institute for Occupational Safety). The BIA was also responsible for signing off on the approval inspection for the cylinder.

This means we are the first company to be able to offer you a clamping cylinder that has been accepted and certified by the BIA and has received approval ratings for clamping without using safety devices.

The streamlined cylinder's design keeps costs in check so that it is only slightly more expensive than other clamping cylinders currently on the market. Its simple design means that it works properly every time.

Customized clamping pieces are available for clamping work pieces whose surface deviation is greater than 2° or even stepped clamping surfaces. Thus, almost every conceivable work piece can be clamped properly.

Cylinder size ranges from 40 mm and 63 mm in double-acting and single-acting versions.

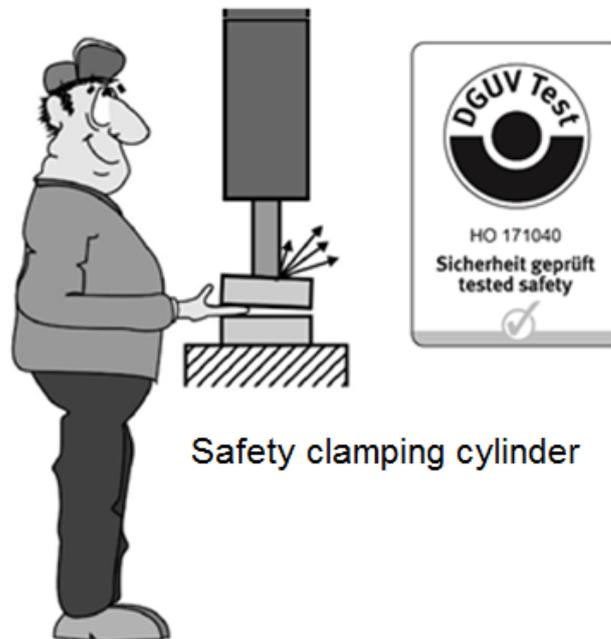
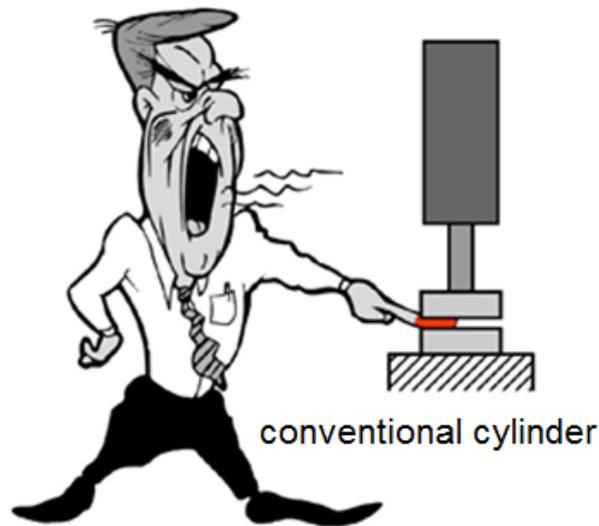
DW = Double-acting

EW = Single-acting

Design and operation:

- Head cover, cylinder tube and clamping head are made of anodized aluminium; the other parts are made from corrosion-resistant material.
- The clamping plate is custom-manufactured according to the needs of the user.
- High-quality bearings and sealing materials ensure maintenance-free operation and long service life.
- For technical reasons, the cylinder only should be operated using air that is free of oil, and is clean and dry.

Control of transverse forces during clamping



certificate
no. HO 121112
dated 08.11.2012

Translation

DGUV Test Certificate

Name and address of the holder of the certificate: (customer):	Somatec Klaus Mayer Gewerbestraße 19 88636 Illmensee
Name and address of the Manufacturer:	see above
Product designation:	Pneumatic safety clamping cylinder
Type:	40x40 to 40x400, 50x40 to 50x400, 63x40 to 63x400 EW: single-action cylinder, DW: double-action cylinder
Intended purpose:	Clamping of workpieces.
Testing based on:	GS-HO-01 Principles for testing and certification of woodworking machines, issue 09.2010 with test regulations issue 09.2010.
Test report:	112046
Remarks/ specific aspect:	Follow up certificate to Nr. HO 071169 dated 13.12.2007.

The type tested complies with the test basis specified above.
The holder of the certificate is entitled to affix the DGUV Test mark shown overlaid to the products complying with the type tested, including the specification given under the heading 'remarks'.

The present certificate including the right to affix the DGUV Test mark is valid until:
08.11.2017

Further provisions concerning the validity, the extension of the validity and other conditions are laid down in the Rules of Procedure for Testing and Certification of August 2012.



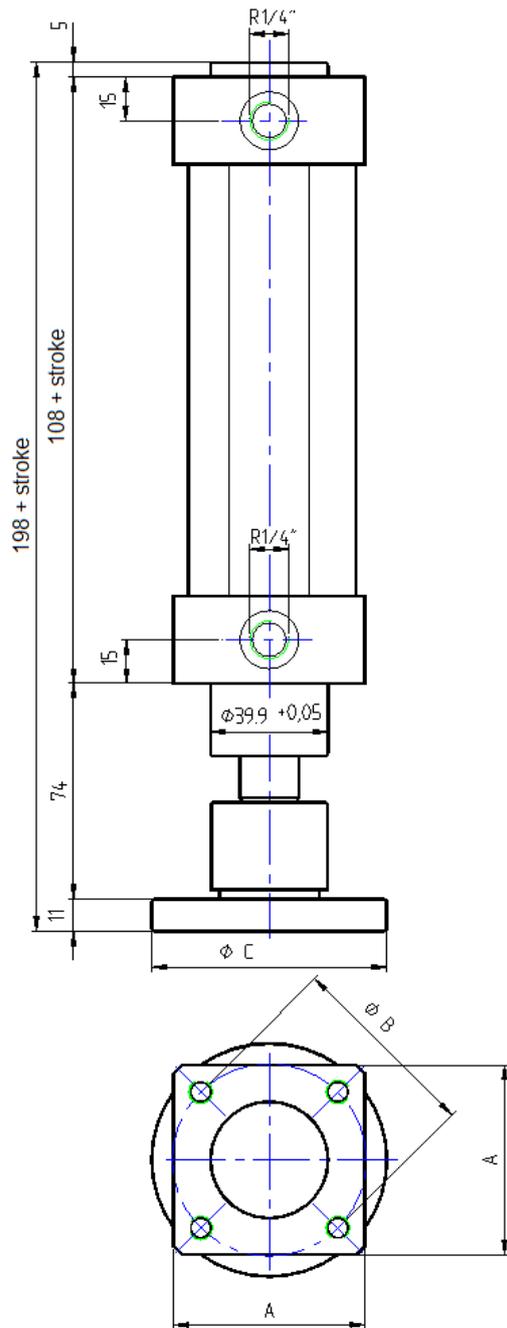
F. Hagedorn
Head of testing and certification body
Frank Hagedorn

Postal address: Postfach 80 04 80 • 70504 Stuttgart • Office: Vollmoellenstrasse 11 • 70563 Stuttgart
Phone +49 (0) 711/1334-11171 • Fax +49 (0) 711/1334-21171 • E-Mail: ps-holz.fhbm@bghm.de •
http://www.dguv.de/fb-holzundmetall/prauestellen/holz • Wa • product group 009 006001

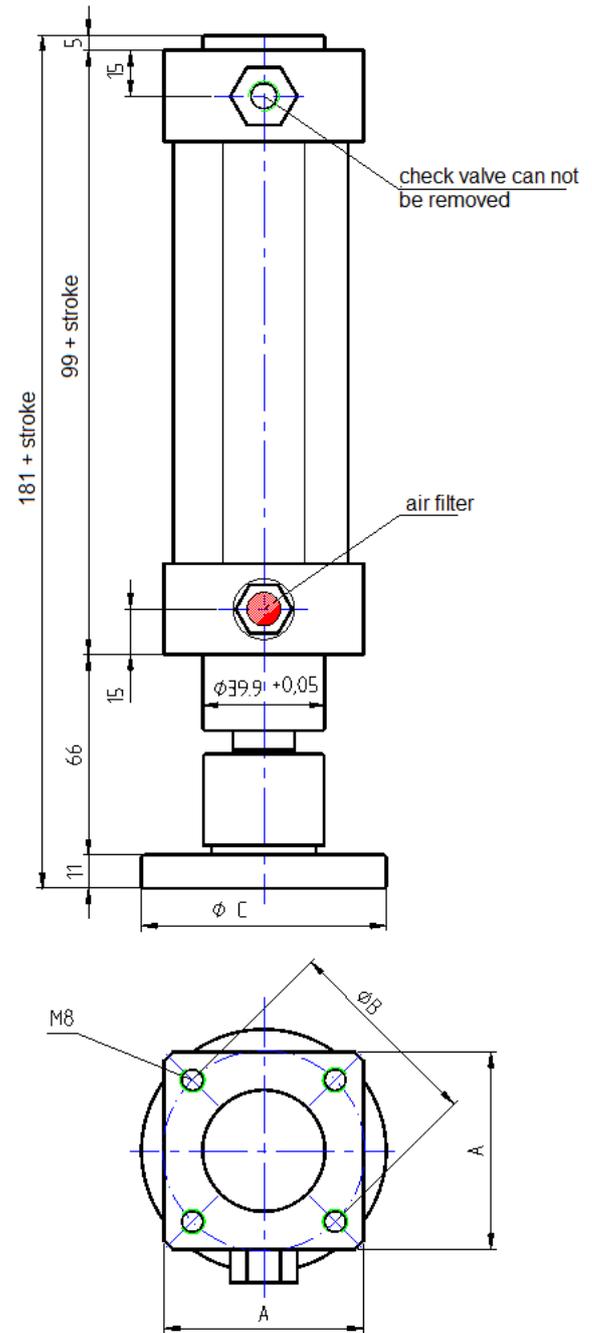
PSZ006
07/19

In any case, the German original shall prevail.

Safety clamping cylinder DW



Safety clamping cylinder EW



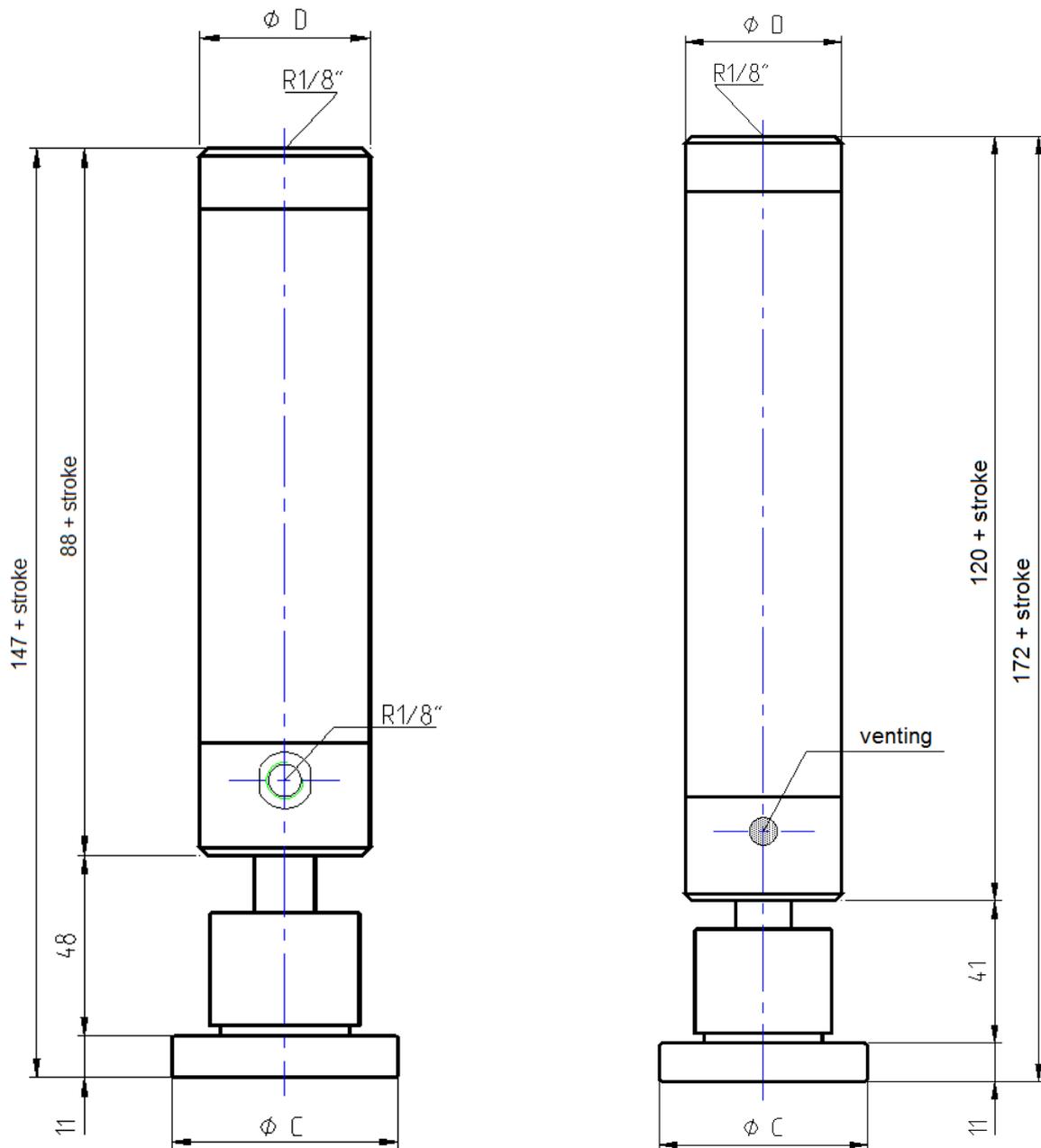
Double-acting cylinder

Size	A	Ø B	Ø C	Stroke
50 DW	65 mm	66 mm	min 80 mm	up to 40 mm
63 DW	75 mm	80,6 mm	min 80 mm	up to 40 mm

Single-acting cylinder

Size	A	Ø B	Ø C	Stroke
50 EW	65 mm	66 mm	min 80 mm	up to 40 mm to max. 100 mm
63 EW	75 mm	80,6 mm	min 80 mm	up to 40 mm to max. 100 mm

Round safety clamping cylinder



Double-acting cylinder

Size	Ø D	Ø C	Stroke
40 DW	45 mm	min 60 mm	ab 40 mm
50 DW	55 mm	min 80 mm	ab 40 mm

Single-acting cylinder

Size	Ø D	Ø C	Stroke
40 EW	45 mm	min Ø 60	up to 40 mm to max. 80 mm
50 EW	55 mm	min Ø 80	up to 40 mm to max. 100 mm

Customized cylinders

Whether one-off production, small or large series, we develop and manufacture customized special cylinders. Here are some examples:



Pneumatic stopper cylinder



Shut-off valves for engine stop



Customized oil brake cylinder



Customized oil brake cylinder

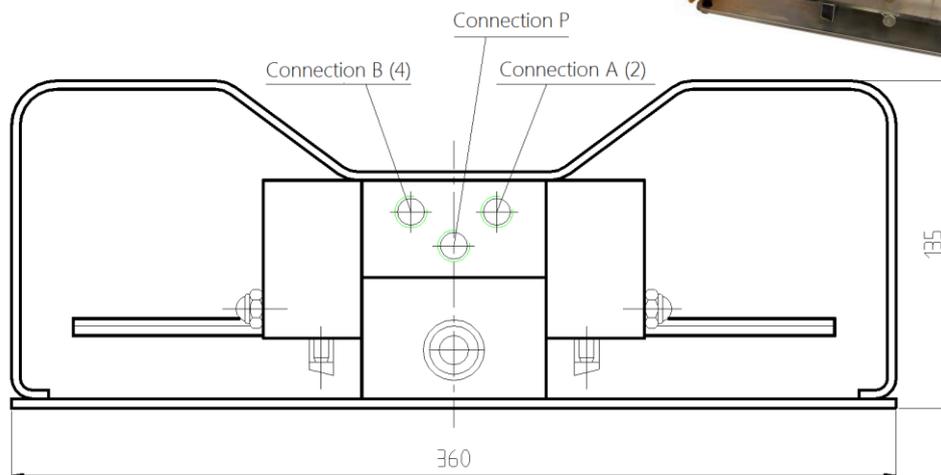
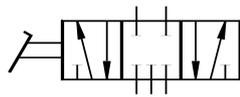


Pneumatic / hydraulic chain
tensioning cylinder



Custom grippers

Foot valve 5/3



Application:

Our check valve is designed to function as a piston slide valve, thereby ensuring a precise dosage of the required amount of air. High-quality piston seal rings ensure a high degree of reliable leakproofness and long service life. The valve is therefore ideally suited for hoisting equipment, elevating platforms, etc. in any situation where a high degree of operating safety is absolutely required.

Design:

Valve is suitable for maintenance-free operation, it is recommended only clean and dry air.

The valve housing is made of anodized aluminum. The other parts are made of corrosion-free or corrosion-resistant materials.

Design:	5/3 control valve, normally closed in its basic position
- NEW -	5/3 control valve, Basic position exhausted
Medium:	Filtered, lubricated or non-lubricated compressed air
Connection:	G 1/4"
Weight:	5 Kg
Air consumption:	6 mm
Air consumption:	approx. 900 l/min
Operating pressure:	2 till 8 bar

Hand valve

3/2 Control valve



3/2-5/2 Air pulse valve



Application:

Our hand valves are used where carriage and units of machines and devices are moved by hand and pneumatic signals simultaneously need to be made. The valves are in two options, as a 3/2 and as 3/2-5/2 air pulse.

Design:

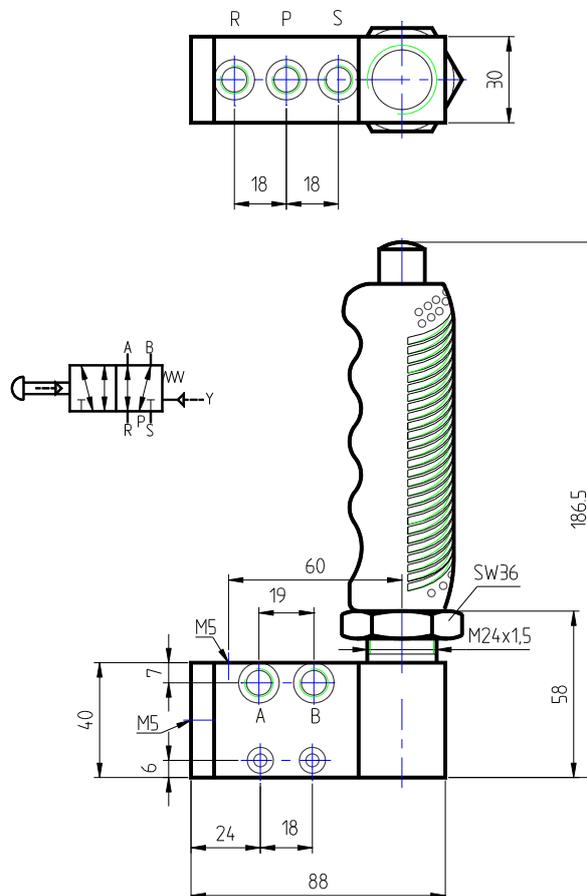
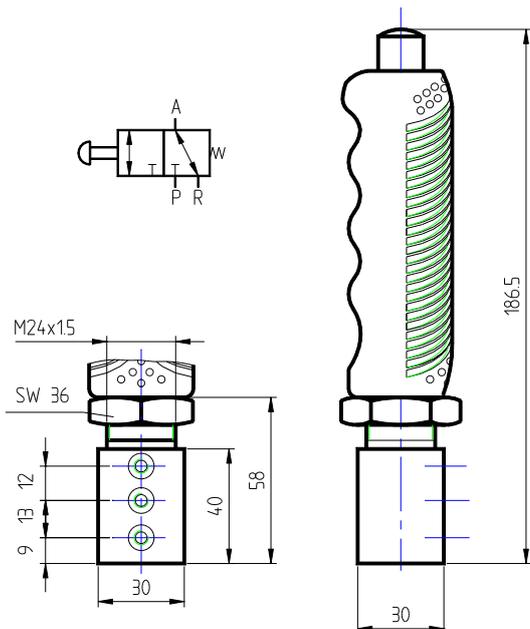
Valves are suitable for maintenance-free operation, it is recommended only clean and dry air.

The valve housing is made of anodized aluminum. The other parts are made of corrosion-free or corrosion-resistant materials.

3/2 Control valve

3/2-5/2 Air pulse valve

pneumatically actuated
or with spring reset



Technical Data hand valve:

Design: 3/2 Control valve
(Item no. 5002)

Connection: M5

Air consumption: 2 mm

Air consumption: approx. 120 l/min

Operating pressure: max. 8 bar

Medium: Filtered, lubricated or non-lubricated compressed air

**3/2 - 5/2 Air pulse valve
pneumatic (Item no. 5003)
spring reset (Item no. 5005)**

G1/8"

3 mm

approx. 250 l/min

max. 8 bar

Switching valve 2/2-way valve Air motor off / on



Application:

The switching valve is used for example for controlling air motors. When pulsing while the air motor is turned on / stopped.

Execution:

The valve is suitable for maintenance-free operation. Only clean and dry air is recommended. The valve body is made of aluminum. The other parts are made of corrosion-resistant or corrosion-protected materials.

Article designation and pneumatic symbol:

Shut-off valve SVA 7 (Part No. 12 06 00 1000)

Switching valve engine off
 Connection G 1/8"; nominal width 7mm

Switch-on valve SVE7 (Part No. 12 06 00 1001)

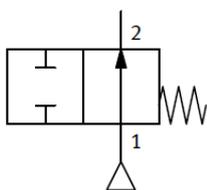
Switching valve engine on
 Connection G 1/8"; nominal width 7mm

Shut-off valve SVA 8 (Part No. 12 06 00 1002)

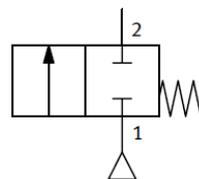
Switching valve engine off
 Connection G 1/4"; nominal width 8mm

Switch-on valve SVE 8 (Part No. 12 06 00 1003)

Switching valve engine on
 Connection G 1/4"; nominal width 8mm



normally open



normally closed

Technical data:

Version:	Switching valve motor off / motor on	
Medium:	Filtered, lubricated or non-lubricated compressed air	
Connection:	SVA7 + SVE7: G 1/8"	SVA8 + SVE8: G 1/4"
Nominal diameter:	SVA7 + SVE7: NW 7 mm	SVA8 + SVE8: NW 8 mm
Control air:	at least 2.5 bar	
Weight:	SVA7 + SVE7: 0.2 Kg	SVA8 + SVE8: 0.3 Kg

