



Superior Clamping and Gripping



Product Information

Universal swivel unit SRU-plus

SRU-plus

Universal swivel unit

Robust. Fast. High Performance.

Universal rotary actuator SRU-plus

Universally usable unit for pneumatic swivel and turning movements

Field of application

Can be used in either clean or dirty areas, or wherever pneumatic swiveling is required.



Advantages – Your benefits

Finely graded series with a steady increase in torque for multiple cases of application, the correct size as a standard product is available

Swivel angle can be selected as either 90° or 180° complete flexibility in selecting the angle of rotation, application-specific angles possible on request

End position adjustability +3°/-3° (small) or +3°/-90° (large) can be selected

Middle position can be selected as pneumatic or locked
The locked middle position can be unlocked when loaded.
The two types of middle positions always allow further rotation in either direction.

Fluid feed-through can be used for gases, fluids, and vacuum therefore no interfering hoses

Electrical rotary feed-through for long-lasting, reliable feed-through of sensor, actuator or optionally bus signals

Choice of electronic magnetic sensors or inductive proximity sensors for absolute variability of position monitoring

Exchangeable screw-in guide sleeves (bushing) allow for easy maintenance and rapid exchange t after several million cycles.

Series extends downwards with the SRU-mini series, for a wide range of applications



Sizes
Quantity: 8



Weight
1.2 .. 26.5 kg



Torque
3 .. 115 Nm



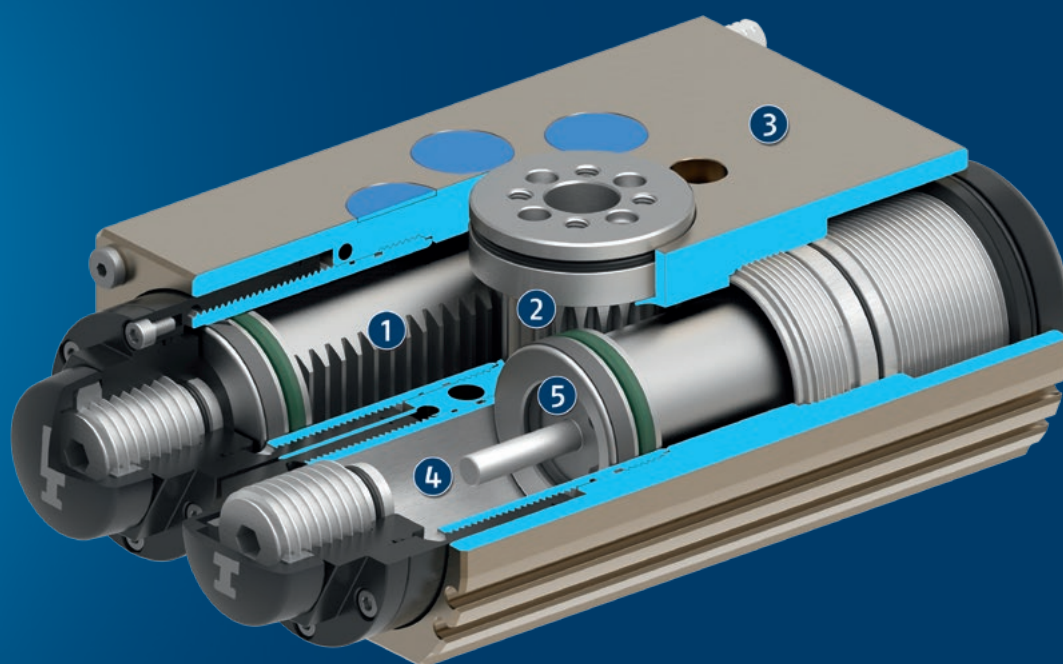
Repeat accuracy
0.05°



Angle of rotation
90 .. 180°

Functional description

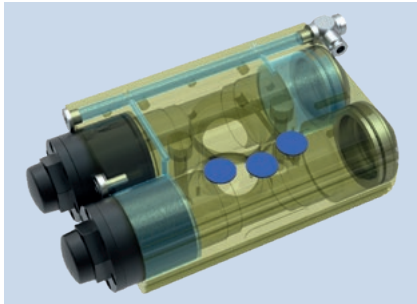
When subjected to pressure, the two pneumatic pistons move their end faces in a straight line in their respective bores thus turning the pinion by means of the serrations on their sides.



- ① **Drive**
Pneumatic, powerful double piston drive
- ② **Pinion**
stable pinion, optionally available with fluid feed-through, for transforming the piston movement into a rotary movement
- ③ **Housing**
weight-optimized due to the use of hard-anodized aluminum alloy
- ④ **Sleeve technology**
For radial adjustment of the end positions without a settling effect and ensuring rapid exchange for maintenance
- ⑤ **Damping**
Hydraulic shock absorbers for high moments of inertia

Detailed functional description

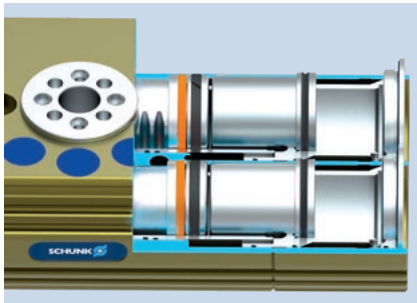
Pneumatic drive



Double acting

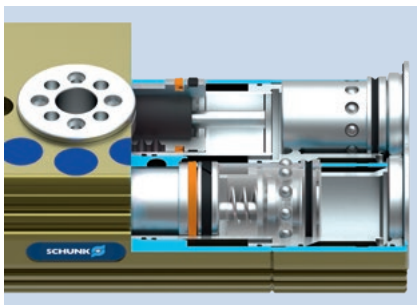
- high torques despite small installation space

Pneumatic middle position (M)



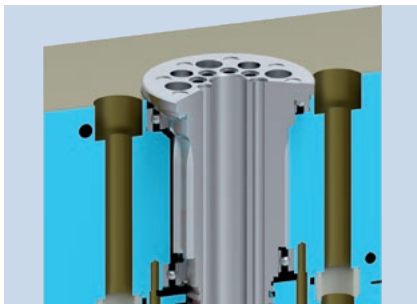
- Pneumatic center position for flexibility in the intermediate position
- Center position can be adjusted by $\pm 3^\circ$ for quick fine adjustment

Locked middle position (VM)



- Mechanically locked and hydraulically damped center position for short swiveling times, not only with heavy loads
- Center position can be adjusted by $\pm 3^\circ$ for quick fine adjustment

Fluid feed-through



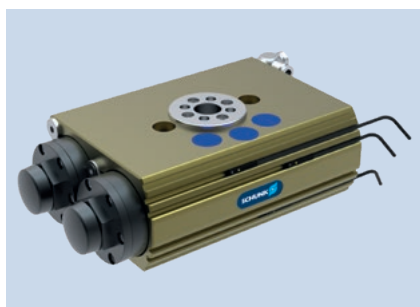
- Hose-free fluid feed-through and a large center bore save space
- No rotating hoses or cables lead to higher process reliability

Electrical rotary feed-through



- Completely integrated feed-through for sensor, actuator and special bus signals
- Connection via housing plugs and couplings

Monitoring via electronic magnetic switches



- Electronic magnetic switch can be completely recessed in the groove in order to minimize the interfering contour
- Up to three positions can be monitored

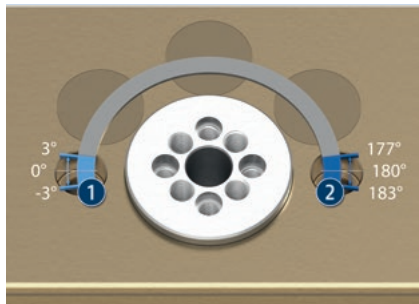
Monitoring via inductive proximity sensors and adjustable control cam



- Inductive proximity switch, M8 version, for quick assembly with an attachment kit
- Reliable monitoring of up to three positions

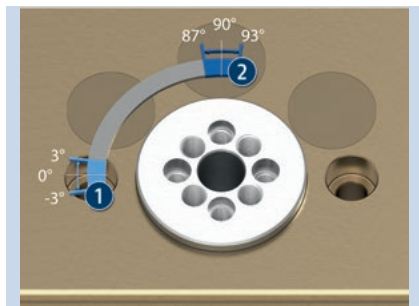
Adjustment range of end positions and swivel angle

Versions with small end position adjustability



Slight end position adjustability for fine adjustment of both end positions ($\pm 3^\circ$) in case of swivel units with a swivel angle of 180°

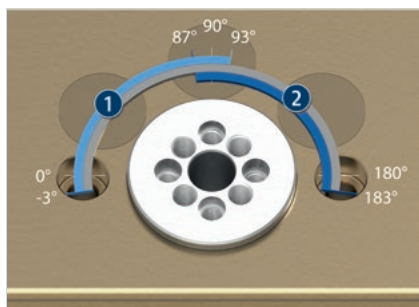
- ❶ Adjustment range starting angle
- ❷ Adjustment range end angle



Slight end position adjustability for fine adjustment of both end positions ($\pm 3^\circ$) in case of swivel units with a swivel angle of 90°

- ❶ Adjustment range starting angle
- ❷ Adjustment range end angle

Version with large end position adjustability



Large end position adjustability for variable adjustment of the swivel angle between 0° and 186° . Both end positions can each be limited by 90° ($\pm 3^\circ$).

- ❶ Adjustment range starting angle
- ❷ Adjustment range end angle

General notes about the series

Standard conditions: The technical data shown refers to an environment of 20 °C and atmospheric pressure.

Housing material: Aluminum (extruded profile)

Actuation: pneumatic, with filtered compressed air as per ISO 8573-1:2010 [7:4:4].

Operating principle: Double piston rack and pinion principle

Scope of delivery: Flow control valves, centering bushings, O-rings for direct connection, fitting screws (SRU-plus 63 only), assembly and operating manual with manufacturer's declaration

Warranty: 24 months

Repeat accuracy: is defined as a distribution of the end position for 100 consecutive cycles.

Cleanroom class ISO 14644-1: 5

Pinion position: is always shown in the left end position. The pinion rotates from here to the right in clockwise direction. The arrow makes the direction of rotation clear.

Pinion screw connection diagram: When setting a swivel angle smaller than 90°, the left end stop must be completely turned in. This means that the left end position has a screw connection diagram on the pinion which is clockwise turned by 90° compared to the main view, which shows a swivel angle of 180°.

Customized angle of rotation: More swivel angles are available on request.

Torque in the end positions: Please note that the final angular degrees (approx. 2°) before the end position can only be approached using the force of a single drive piston. For this reason, double actuated modules only have about half the rated torque available in this area. An external stop can be used to provide the full torque even in the end positions.

Travel to the pneumatic middle position: is carried out using only half of the nominal torque.

Cycle time: is the rotation time of pinion/flange around the nominal rotation angle. Valve switching times, hose filling times, or PLC reaction times are not included and are to be considered when cycle times are calculated.

Application example

Unit for turning and joining of small components

- ① Rotary actuator SRU-plus
- ② Tolerance compensation unit TCU
- ③ 2-finger parallel gripper PGN-plus
- ④ Linear module KLM
- ⑤ Linear module LM



SCHUNK offers more ...

The following components make the product even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.



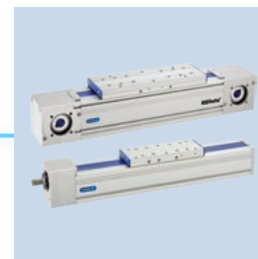
Universal gripper



Sealed gripper



Angular gripper



Linear module



Inductive proximity switches



Magnetic switches



Pressure maintenance valve



Line gantry



Fastened with screws

① For more information on these products can be found on the following product pages or at schunk.com.

Options and special information

For particularly damping-intensive swivel movements, additional, external shock absorbers can be fitted. Due to the innovative sleeve technology, special rotation angles of more than 180° can be provided quickly and economically. Please contact us for assistance.

On request, we can also provide our electric feed-throughs with M5 or M12 connection sockets. On request, the electric feed-throughs can also be used to transmit bus signals.

Please note that suitable emergency stop scenarios (e.g. controlled shut down) and restarting scenarios (e.g. pressure build-up valves, appropriate valve switching sequences) are needed for all pneumatic actuators.

Cutting off the pressure in an uncontrolled manner could lead to undefined states and behavior.

SRU-plus

Universal swivel unit

Application-specific parameters

- Torque
- Mass moment of inertia
- Swiveling time
- Cycles per hour

Size

20 25 30 35 40 50 60 63

Damping

Speed

Soft

Hard

Swivel angle

0° – 90°

0° – 180°

0° – 90° – 180°

End position adjustability

3°

3°

90°

3°

90°

3°

Center position

none

pneumatic (M)

locked (VM)

Fluid feed-through

without

with fluid feed-through

with EDF fluid feed-through and electric feed-through

without

with fluid feed-through

EDF with fluid feed-through and electric feed-through

Accessories

- Magnetic proximity switches MMS 22
- Inductive proximity switches IN 80 and mounting kits

We are happy to assist you with your selection.
SCHUNK Technical Hotline +49-7133-103-2696

Ordering example

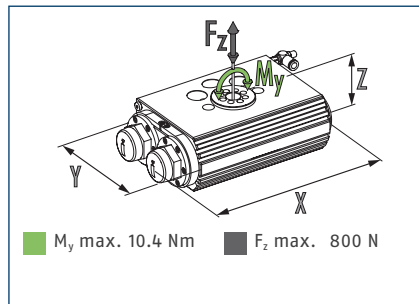
	SRU-plus	20	-	S	-	180	-	3	-	M	-	4	-	M8	-	AS
Description SRU-plus																
Size 20/25/30/35/40/50/60/63																
Type of damping method S = speed (with size 20) W = soft H = hard (for high loads)																
Swivel angle 90°/180°																
End position adjustability 3°/90°																
Middle position - = no M = pneumatic center position VM = Locked center position																
Number of air feed-throughs - = no fluid feed-through 4 = for sizes 20 – 35 8 = for sizes 40 – 63																
Connector size for electric feed-through - = no electrical feed-through M5 = M5 plug connector on the rotating side M8 = M8 plug connector on the rotating side M12 = M12 plug connector on the rotating side																
Mounting kit for inductive proximity switch - = no mounting kit AS = with mounting kit																

SRU-plus 20

Universal swivel unit



Dimensions and maximum loads

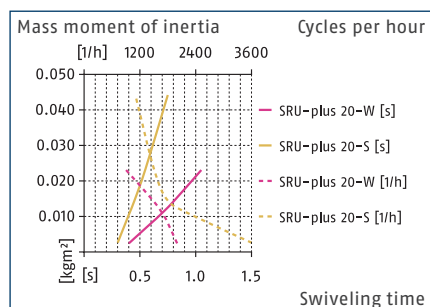


① The indicated moments and forces are static values and may appear simultaneously. Throttling has to be done for ensuring that the rotary movement takes place without impact or bouncing. Otherwise the service life reduces.

Technical data of SRU-plus without middle position

Designation (soft damping)		SRU-plus 20-W-90-3	SRU-plus 20-W-180-3	SRU-plus 20-W-180-90
ID		0361400	0361420	0361450
End position damping		Spring-elastomer	Spring-elastomer	Spring-elastomer
Description (Speed Damping)		SRU-plus 20-S-90-3	SRU-plus 20-S-180-3	SRU-plus 20-S-180-90
ID		0361300	0361320	0361350
End position damping		Damper-elastomer	Damper-elastomer	Damper-elastomer
Angle of rotation	[°]	90.0	180.0	180.0
End position adjustability	[°]	3.0	3.0	90.0
Torque	[Nm]	3.4	3.4	3.4
Number of intermediate positions		none	none	none
IP protection class		67	67	67
Weight	[kg]	1.2	1.2	1.24
Fluid consumption (2x nom. angle)	[cm³]	36.0	60.0	60.0
Min./nom./max. operating pressure	[bar]	4/6/8	4/6/8	4/6/8
Diameter of connecting hose		6 x 3.9 x 1.05	6 x 3.9 x 1.05	6 x 3.9 x 1.05
Min./max. ambient temperature	[°C]	5/60	5/60	5/60
Repeat accuracy	[°]	0.05	0.05	0.05
Dimensions X x Y x Z	[mm]	158.9 x 76 x 47	158.9 x 76 x 47	166 x 76 x 47
Options with fluid feed-through				
Designation (soft damping)		SRU-plus 20-W-90-3-4	SRU-plus 20-W-180-3-4	SRU-plus 20-W-180-90-4
ID		0361402	0361422	0361452
Description (Speed Damping)		SRU-plus 20-S-90-3-4	SRU-plus 20-S-180-3-4	SRU-plus 20-S-180-90-4
ID		0361302	0361322	0361352
Torque	[Nm]	3.0	3.0	3.0
Weight	[kg]	1.4	1.4	1.44
No. of fluid feed-throughs		4	4	4
Max. pressure fluid feed-through	[bar]	8	8	8
Dimensions X x Y x Z	[mm]	158.9 x 76 x 63.5	158.9 x 76 x 63.5	166 x 76 x 63.5
Options with fluid and electric feed-through				
Designation (soft damping)		SRU-plus 20-W-90-3-4-M8	SRU-plus 20-W-180-3-4-M8	SRU-plus 20-W-180-90-4-M8
ID		0361404	0361424	0361454
Description (Speed Damping)		SRU-plus 20-S-90-3-4-M8	SRU-plus 20-S-180-3-4-M8	SRU-plus 20-S-180-90-4-M8
ID		0361304	0361324	0361354
Weight	[kg]	2.05	2.05	2.09
Number/size of electrical connections on the output end		6/M8	6/M8	6/M8
Max. voltage	[V]	24	24	24
Max. current per wire/total	[A]	1/1	1/1	1/1
Dimensions X x Y x Z	[mm]	158.9 x 76 x 109.6	158.9 x 76 x 109.6	166 x 76 x 109.6
Options with fluid and electric feed-through and mounting kit				
Designation (soft damping)		SRU-plus 20-W-90-3-4-M8-AS	SRU-plus 20-W-180-3-4-M8-AS	SRU-plus 20-W-180-90-4-M8-AS
ID		0361407	0361427	0361457
Description (Speed Damping)		SRU-plus 20-S-90-3-4-M8-AS	SRU-plus 20-S-180-3-4-M8-AS	SRU-plus 20-S-180-90-4-M8-AS
ID		0361307	0361327	0361357
Dimensions X x Y x Z	[mm]	158.9 x 76 x 121	158.9 x 76 x 121	166 x 76 x 121

① All units are also available in an FKM version. Please contact us for details.

Max. permissible inertia J*

* The diagrams are valid for swivel angles of 90° and 180°, units without center position and for applications with a vertical swivel axis as well as for absolutely centric loads with a horizontal rotary axis and with a pneumatic operating pressure of 6 bar. The swiveling times per throttling have to be observed, otherwise the life time could reduce. We will be happy to help you to design other cases of application.

Technical data of SRU-plus with middle position

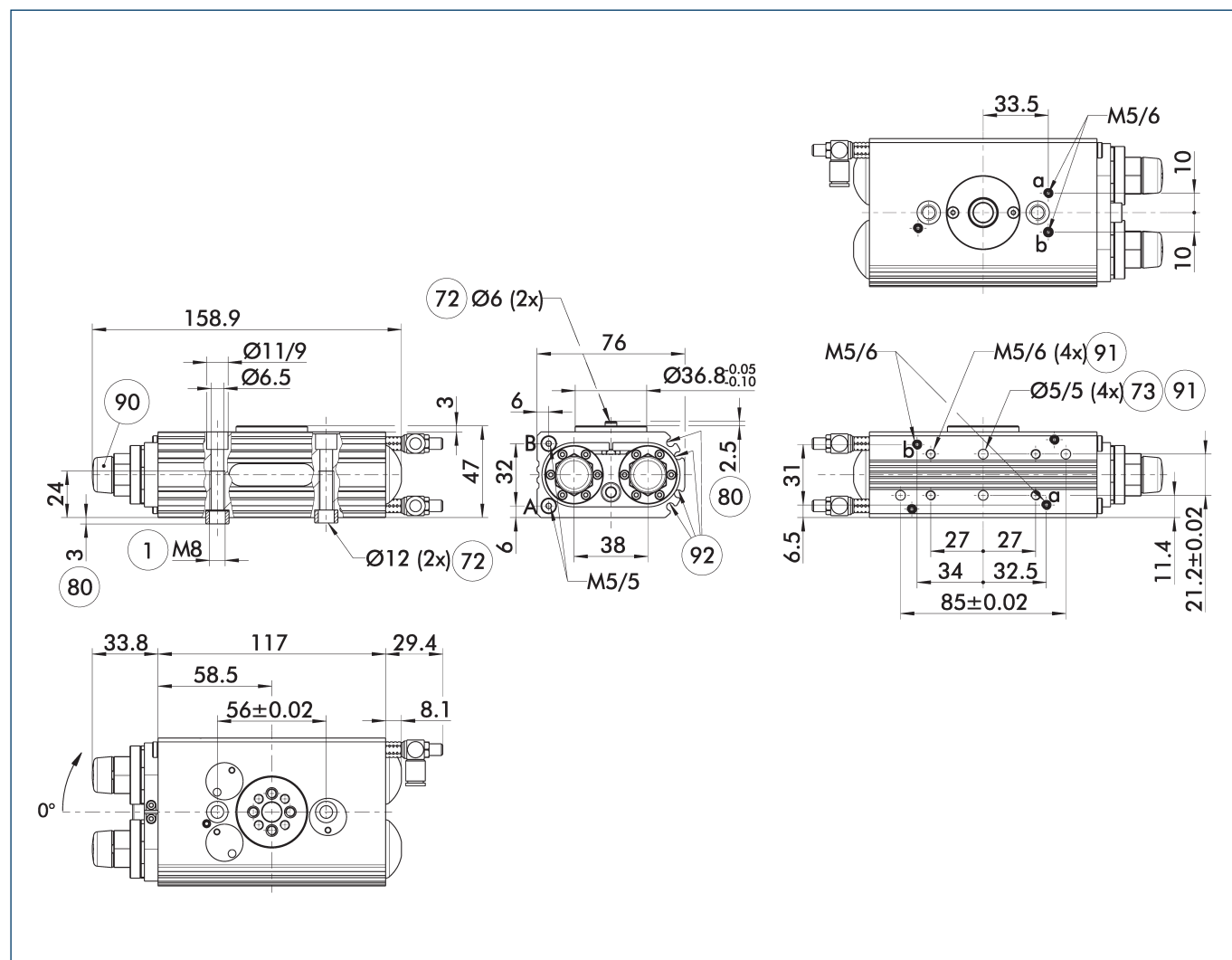
Description (Speed Damping)		SRU-plus 20-S-180-3-M	SRU-plus 20-S-180-3-VM	SRU-plus 20-S-180-90-M
ID		0361330	0361340	0361360
End position damping		Damper-elastomer	Damper-elastomer	Damper-elastomer
Angle of rotation	[°]	180.0	180.0	180.0
End position adjustability	[°]	3.0	3.0	90.0
Torque	[Nm]	3.4	3.4	3.4
Number of intermediate positions		1 x M (pneumatic)	1 x VM (locked)	1 x M (pneumatic)
Adjustability of middle position	[°]	3.0	3.0	3.0
IP protection class		67	67	67
Weight	[kg]	1.55	1.76	1.6
Fluid consumption (2x nom. angle)	[cm³]	60.0	60.0	60.0
Min./nom./max. operating pressure	[bar]	4/6/8	4/6/6.5	4/6/8
Diameter of connecting hose		6 x 3.9 x 1.05	6 x 3.9 x 1.05	6 x 3.9 x 1.05
Min./max. ambient temperature	[°C]	5/60	5/60	5/60
Repeat accuracy	[°]	0.05	0.05	0.05
Dimensions X x Y x Z	[mm]	194.9 x 76 x 47	225.9 x 76 x 47	202 x 76 x 47
Options with fluid feed-through				
Description (Speed Damping)		SRU-plus 20-S-180-3-M-4	SRU-plus 20-S-180-3-VM-4	SRU-plus 20-S-180-90-M-4
ID		0361332	0361342	0361362
Torque	[Nm]	3.0	3.0	3.0
Weight	[kg]	1.75	1.96	1.8
No. of fluid feed-throughs		4	4	4
Max. pressure fluid feed-through	[bar]	8	8	8
Dimensions X x Y x Z	[mm]	194.9 x 76 x 63.5	225.9 x 76 x 63.5	202 x 76 x 63.5
Options with fluid and electric feed-through				
Description (Speed Damping)		SRU-plus 20-S-180-3-M-4-M8	SRU-plus 20-S-180-3-VM-4-M8	SRU-plus 20-S-180-90-M-4-M8
ID		0361334	0361344	0361364
Weight	[kg]	2.4	2.61	2.45
Number/size of electrical connections on the output end		6/M8	6/M8	6/M8
Max. voltage	[V]	24	24	24
Max. current per wire/total	[A]	1/1	1/1	1/1
Dimensions X x Y x Z	[mm]	194.9 x 76 x 109.6	225.9 x 76 x 109.6	202 x 76 x 109.6
Options with fluid and electric feed-through and mounting kit				
Description (Speed Damping)		SRU-plus 20-S-180-3-M-4-M8-AS	SRU-plus 20-S-180-3-VM-4-M8-AS	SRU-plus 20-S-180-90-M-4-M8-AS
ID		0361337	0361347	0361367
Dimensions X x Y x Z	[mm]	194.9 x 76 x 121	225.9 x 76 x 121	202 x 76 x 121

① All units are also available in an FKM version. Please contact us for details.

SRU-plus 20

Universal swivel unit

Main view for SRU-plus without EDF



The main view shows the SRU-plus in the most basic version, with a swivel angle of 180°/90°, small end position adjustability of 3°, without a middle position, and without fluid feed-through.

① The SDV-P pressure maintenance valve can be used to maintain the position in the case of a loss of pressure (see "Accessories" catalog section).

A, a Main / direct connection, rotary actuator rotates clockwise

B, b Main / direct connection, rotary actuator rotates counterclockwise

① Connection swivel unit

⑦② Fit for centering sleeves

⑦③ Fit for centering pins

⑧① Depth of the centering sleeve hole in the counter part

⑨① Cover caps

⑨① Not intended for mounting the unit, only for attachments

⑨② Sensor MMS 22..

Technical drawings of the 4/3-way solenoid valve 5232, showing front, side, and detail views with dimensions and part numbers.

Front View (Top Left): Shows the valve body with dimensions 9.5, 0, 9.5, 9.5, 0, 9.5. Part numbers 84 M8, M8 83, 19, 19, 42.5, 34.5, 9, 9, 25 M5/8 (4x).

Side View (Middle Left): Shows the valve body with dimensions 9, 8, 66.4, 3, 80, 72 Ø12 (2x), 12, 26, 50, 8, 1, M8 (2x).

Detail View (Bottom Left): Shows the valve body with dimensions 29, 9, 2.5, 80, 72 Ø8 (2x), 2, M5 (2x), 2, M5 (2x), 9, C-C.

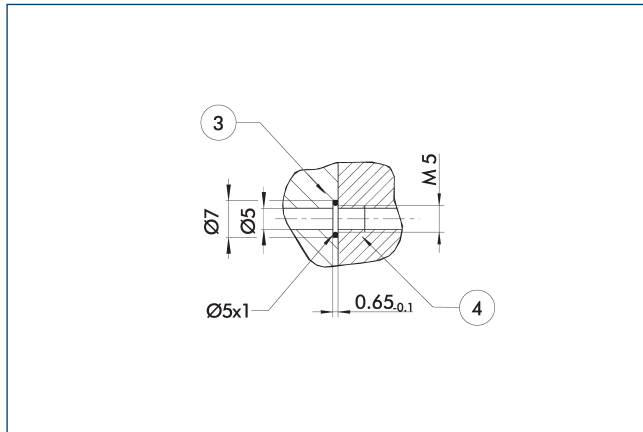
Top View (Top Right): Shows the valve body with dimensions 18, 10, 18, 10, 24, 24, 28, 28, 33.5, M5/5, 25, 1, 2, 3, 4, a, b.

Side View (Middle Right): Shows the valve body with dimensions 109.6, 26, 13, 13, 19, 19, 9, 20, 83 M8, M8 84, 25 M5/5.

Detail View (Bottom Right): Shows the valve body with dimensions 5.5, 5.5, 27, 27, 70, 86.8, 68, 2, 1, 3, 4, A, B, C, 25, Ø6/0.75 (4x), M4/6 (4x).

(85) Sensor feed-through output

Hose-free direct connection M5

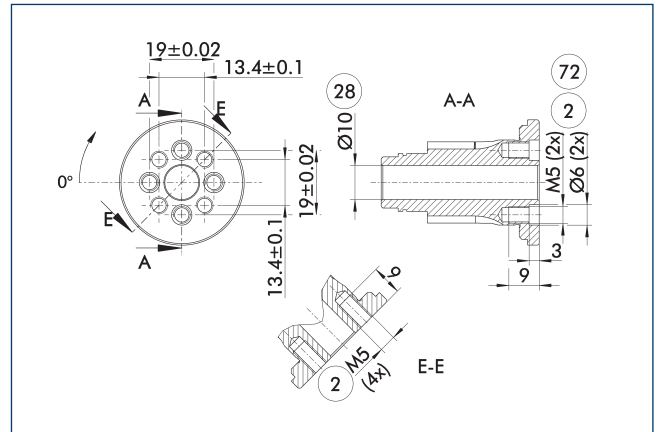


③ Adapter

④ Rotary unit

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Pinion without fluid feed-through



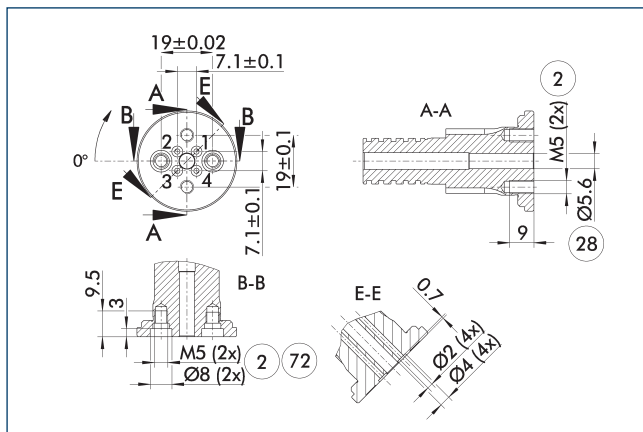
② Attachment connection

⑦② Fit for centering sleeves

②⑧ Through-hole

Mounting pattern for fastening the rotating load to the pinion. The "4x large threads for 4 screws and 2 counter bores for centering sleeves" option is preferable to the "4x small threads for 2 screws and 2 shoulder bolts (in the deeper counter bores)" option.

Pinion with fluid feed-through



② Attachment connection

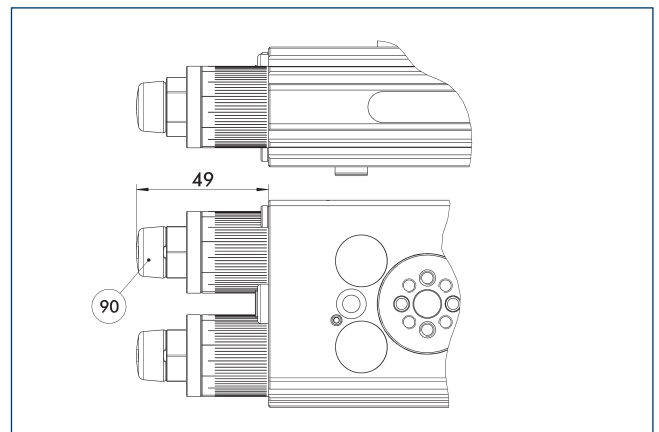
⑦② Fit for centering sleeves

②⑧ Through-hole

Pinion screw connection diagram for the fluid feed-through option. The preferred drilling pattern is 2 x screws and 2 x screws with centering sleeve (in Ø 8 H7).

① View applicable only for versions without EDF!

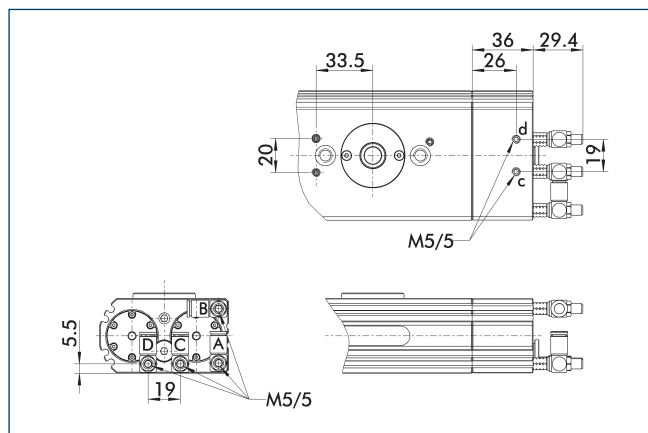
Large end position adjustability 90°



⑨⑩ Cover caps

Dimensional changes for the option with "large end position adjustability (90°)". This permits the end positions to be adjusted by up to 93°. More information can be found in the introduction to the series.

Locked middle position (VM)

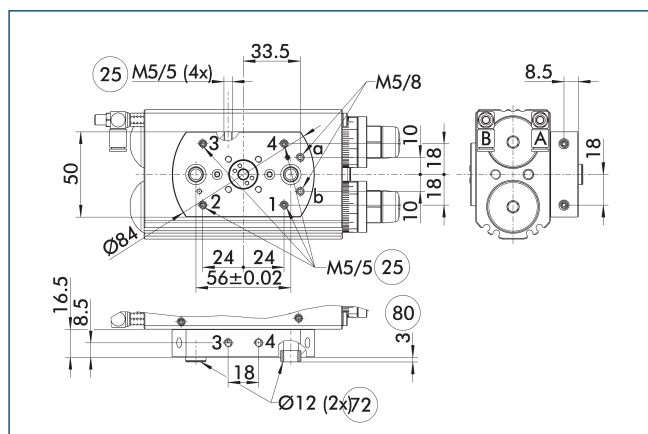


-

- | | |
|---|---|
| A, a Main / direct connection,
rotary actuator rotates
clockwise | C, c Main / direct connection,
middle position |
| B, b Main / direct connection,
rotary actuator rotates
counterclockwise | D, d Main / direct connection,
middle position |

Dimensional changes with the "locked middle position (VM)" option. The middle position is locked and is actuated with the force of the main drive piston. Shock absorbers dampen the travel to the middle position and prevent overshooting.

Adapter plate design

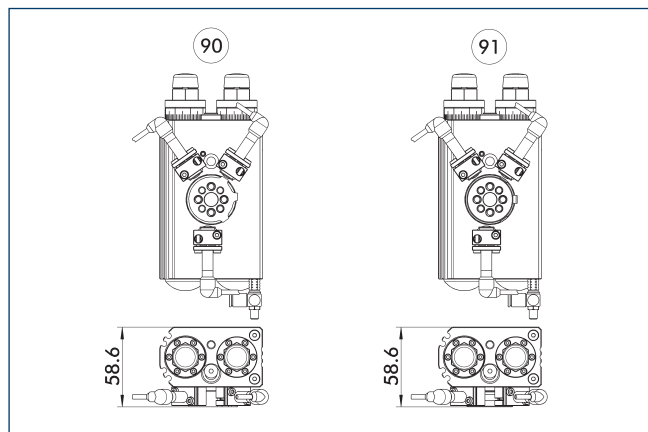


- | | |
|---|--|
| A, a Main / direct connection,
rotary actuator rotates
clockwise | ②5 Fluid feed-through |
| | ⑦2 Fit for centering sleeves |
| B, b Main / direct connection,
rotary actuator rotates
counterclockwise | ⑧0 Depth of the centering sleeve
hole in the counter part |

View applicable only for versions without EDF!

 View applicable only for versions without EDF!

Attachment kit for proximity switch at SRU-plus without EDF



90 AS-NHS-F-SRU-plus 20

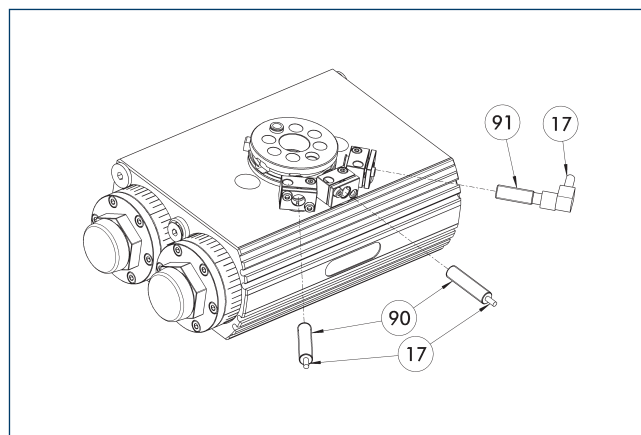
91 AS-NHS-SRU-plus 20

The size-specific attachment kit is required for installing the inductive proximity switches. Up to three proximity switches (2x end position, 1x middle position) can be attached using the attachment kit.

Description	ID	
Mounting kit for proximity switch with fixed cam		
AS-NHS-F-SRU-plus 20	0361495	
AS-NHS-F-SRU-plus 20-4	0361494	
Mounting kit for proximity switch with adjustable cam		
AS-NHS-SRU-plus 20/25/30-4	0361491	
AS-NHS-SRU-plus 20/30	0361490	

① Please note the number of necessary feed-throughs for your swivel unit when selecting the proper attachment kit.

Inductive proximity switches IN for SRU-plus without EDF



17 Cable outlet

91 Sensor IN...-SA

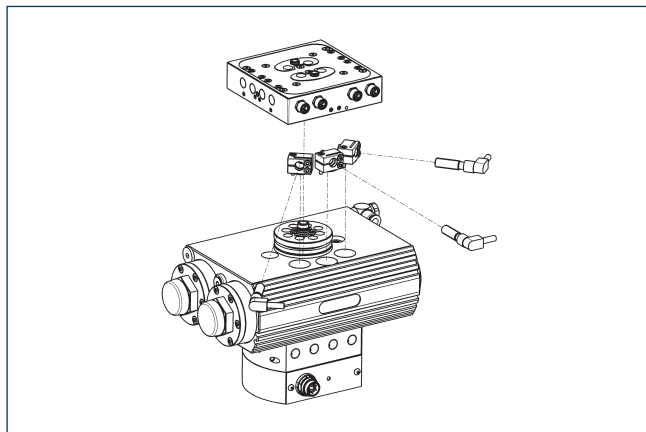
90 Sensor IN ...

End and intermediate position monitoring can be mounted with mounting kit

Description	ID	Often combined
Mounting kit for proximity switch with fixed cam		
AS-NHS-F-SRU-plus 20	0361495	
AS-NHS-F-SRU-plus 20-4	0361494	
Mounting kit for proximity switch with adjustable cam		
AS-NHS-SRU-plus 20/25/30-4	0361491	
AS-NHS-SRU-plus 20/30	0361490	
Inductive proximity switches		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
IN-C 80-S-M8-PNP	0301475	
INK 80-S	0301550	
INK 80-SL	0301579	
Inductive proximity switch with lateral cable outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	●
INK 80-S-SA	0301566	

① View applicable only for versions without EDF!

Inductive proximity switches IN for SRU-plus with EDF

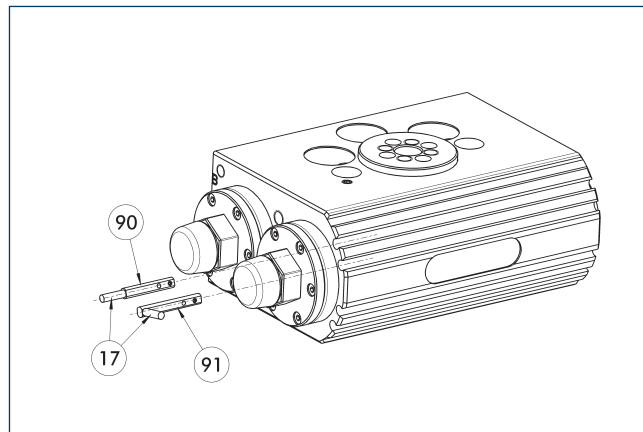


End and intermediate position monitoring mounted directly

Description	ID	Often combined
Inductive proximity switches		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
IN-C 80-S-M8-PNP	0301475	
INK 80-S	0301550	
INK 80-SL	0301579	
Inductive proximity switch with lateral cable outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	●
INK 80-S-SA	0301566	
Cable extension		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	
clip for plug/socket		
CLI-M12	0301464	
CLI-M8	0301463	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Sensor distributor		
V2-M12	0301776	●
V2-M8	0301775	●
V4-M12	0301747	
V4-M8	0301746	
V8-M12	0301752	
V8-M8	0301751	

- ① Two sensors are required per unit for monitoring two positions. On option, extension cables and sensor distributors are available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor system.

Electronic magnetic switch MMS



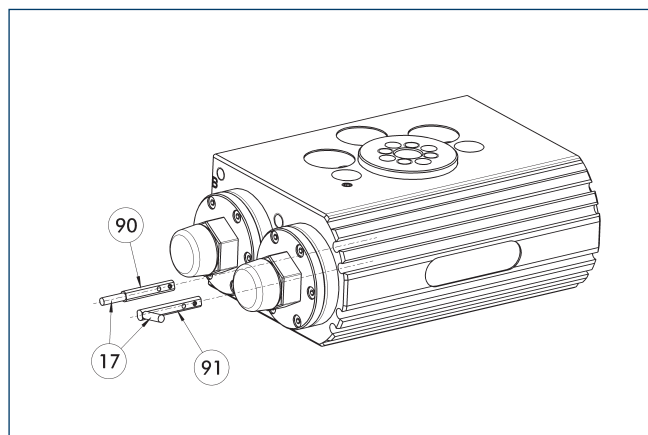
- ①7 Cable outlet
①90 Sensor MMS 22..
①91 Sensor MMS 22...-SA

End and intermediate position monitoring mounted in C-slot

Description	ID	Often combined
Electronic magnetic switch		
MMS 22-S-M8-PNP	0301032	●
MMSK 22-S-PNP	0301034	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M8-PNP-SA	0301042	●
MMSK 22-S-PNP-SA	0301044	
Cable extension		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
clip for plug/socket		
CLI-M8	0301463	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
Sensor distributor		
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

- ① Two sensors are required per unit for monitoring two positions. On option, extension cables and sensor distributors are available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor system.

Programmable magnetic switch MMS 22-PI1



①⑦ Cable outlet

①⑨ Sensor MMS 22 ..-PI1-...-SA

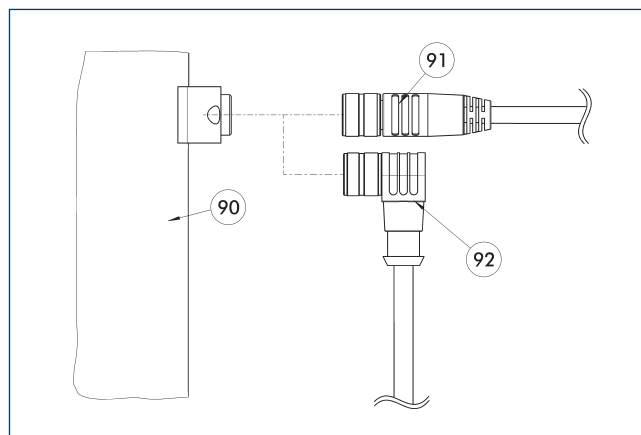
①⑩ Sensor MMS 22 PI1-...

Position monitoring with one programmable position per sensor and integrated electronic system in the sensor. Can be programmed using MT magnetic teaching tool (included in the scope of delivery) or ST plug teaching tool (optional). End position monitoring for mounting in the C-slot. If the ST plug teaching tools are listed in the table provided, teaching is only possible with the ST teaching tools.

Description	ID	Often combined
Programmable magnetic switch		
MMS 22-PI1-S-M8-PNP	0301160	●
MMSK 22-PI1-S-PNP	0301162	
Programmable magnetic switch with lateral cable outlet		
MMS 22-PI1-S-M8-PNP-SA	0301166	●
MMSK 22-PI1-S-PNP-SA	0301168	
Programmable magnetic switch with stainless steel housing		
MMS 22-PI1-S-M8-PNP-HD	0301110	●
MMSK 22-PI1-S-PNP-HD	0301112	

① Two sensors are required per unit for monitoring two positions. On option, extension cables and sensor distributors are available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor system.

Connection cables



①⑩ Electrical connection component

①⑨ Cable with straight connector

①⑫ Cable with angled connector

Description	ID	Length
		[m]
Connection cables		
KA BG16-L 12P-1000	0301801	10
KA BW16-L 12P-0500	0323005	5

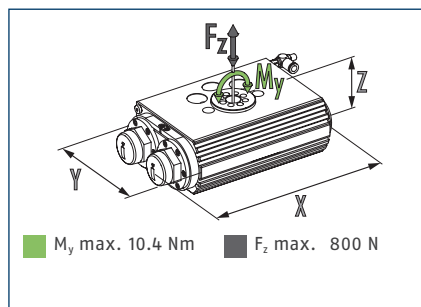
① BG stands for a connection cable with a straight female connector and BW for an angled female connector. SG stands for a connection cable with a straight male connector and SW for an angled male connector.

SRU-plus 25

Universal swivel unit



Dimensions and maximum loads



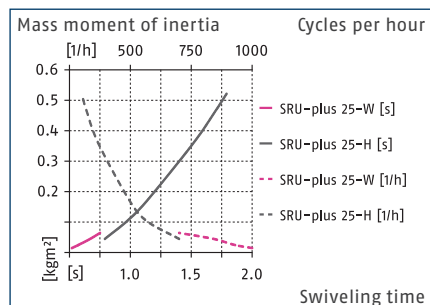
① The indicated moments and forces are static values and may appear simultaneously. Throttling has to be done for ensuring that the rotary movement takes place without impact or bouncing. Otherwise the service life reduces.

Technical data of SRU-plus without middle position

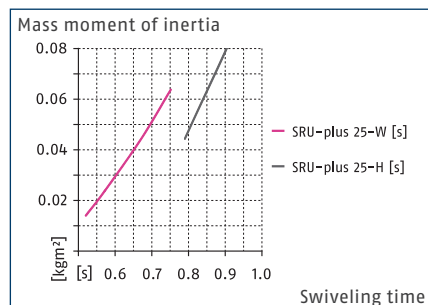
Designation (soft damping)		SRU-plus 25-W-90-3	SRU-plus 25-W-180-3	SRU-plus 25-W-180-90
ID		0361600	0361620	0361650
Designation (hard damping)		SRU-plus 25-H-90-3	SRU-plus 25-H-180-3	SRU-plus 25-H-180-90
ID		0361700	0361720	0361750
End position damping		hydr. damper	hydr. damper	hydr. damper
Angle of rotation	[°]	90.0	180.0	180.0
End position adjustability	[°]	3.0	3.0	90.0
Torque	[Nm]	5.0	5.0	5.0
Number of intermediate positions		none	none	none
IP protection class		67	67	67
Weight	[kg]	1.6	1.6	1.65
Fluid consumption (2x nom. angle)	[cm³]	60.0	88.0	88.0
Min./nom./max. operating pressure	[bar]	4/6/8	4/6/8	4/6/8
Diameter of connecting hose		6 x 3.9 x 1.05	6 x 3.9 x 1.05	6 x 3.9 x 1.05
Min./max. ambient temperature	[°C]	5/60	5/60	5/60
Repeat accuracy	[°]	0.05	0.05	0.05
Dimensions X x Y x Z	[mm]	159.6 x 86 x 55	159.6 x 86 x 55	175.3 x 86 x 55
Options with fluid feed-through				
Designation (soft damping)		SRU-plus 25-W-90-3-4	SRU-plus 25-W-180-3-4	SRU-plus 25-W-180-90-4
ID		0361602	0361622	0361652
Designation (hard damping)		SRU-plus 25-H-90-3-4	SRU-plus 25-H-180-3-4	SRU-plus 25-H-180-90-4
ID		0361702	0361722	0361752
Torque	[Nm]	4.6	4.6	4.6
Weight	[kg]	1.8	1.8	1.85
No. of fluid feed-throughs		4	4	4
Max. pressure fluid feed-through	[bar]	8	8	8
Dimensions X x Y x Z	[mm]	159.6 x 86 x 71.5	159.6 x 86 x 71.5	175.3 x 86 x 71.5
Options with fluid and electric feed-through				
Designation (soft damping)		SRU-plus 25-W-90-3-4-M8	SRU-plus 25-W-180-3-4-M8	SRU-plus 25-W-180-90-4-M8
ID		0361604	0361624	0361654
Designation (hard damping)		SRU-plus 25-H-90-3-4-M8	SRU-plus 25-H-180-3-4-M8	SRU-plus 25-H-180-90-4-M8
ID		0361704	0361724	0361754
Weight	[kg]	2.45	2.45	2.5
Number/size of electrical connections on the output end		6/M8	6/M8	6/M8
Max. voltage	[V]	24	24	24
Max. current per wire/total	[A]	1/1	1/1	1/1
Dimensions X x Y x Z	[mm]	159.6 x 86 x 117.5	159.6 x 86 x 117.5	175.3 x 86 x 117.5
Options with fluid and electric feed-through and mounting kit				
Designation (soft damping)		SRU-plus 25-W-90-3-4-M8-AS	SRU-plus 25-W-180-3-4-M8-AS	SRU-plus 25-W-180-90-4-M8-AS
ID		0361607	0361627	0361657
Designation (hard damping)		SRU-plus 25-H-90-3-4-M8-AS	SRU-plus 25-H-180-3-4-M8-AS	SRU-plus 25-H-180-90-4-M8-AS
ID		0361707	0361727	0361757
Dimensions X x Y x Z	[mm]	159.6 x 86 x 129	159.6 x 86 x 129	175.3 x 86 x 129

① All units are also available in an FKM version. Please contact us for details.

Max. permissible inertia J*



Max. permissible inertia J*



* The diagrams are valid for swivel angles of 90° and 180°, units without center position and for applications with a vertical swivel axis as well as for absolutely centric loads with a horizontal rotary axis and with a pneumatic operating pressure of 6 bar. The swiveling times per throttling have to be observed, otherwise the life time could reduce. We will be happy to help you to design other cases of application.

Technical data of SRU-plus with middle position

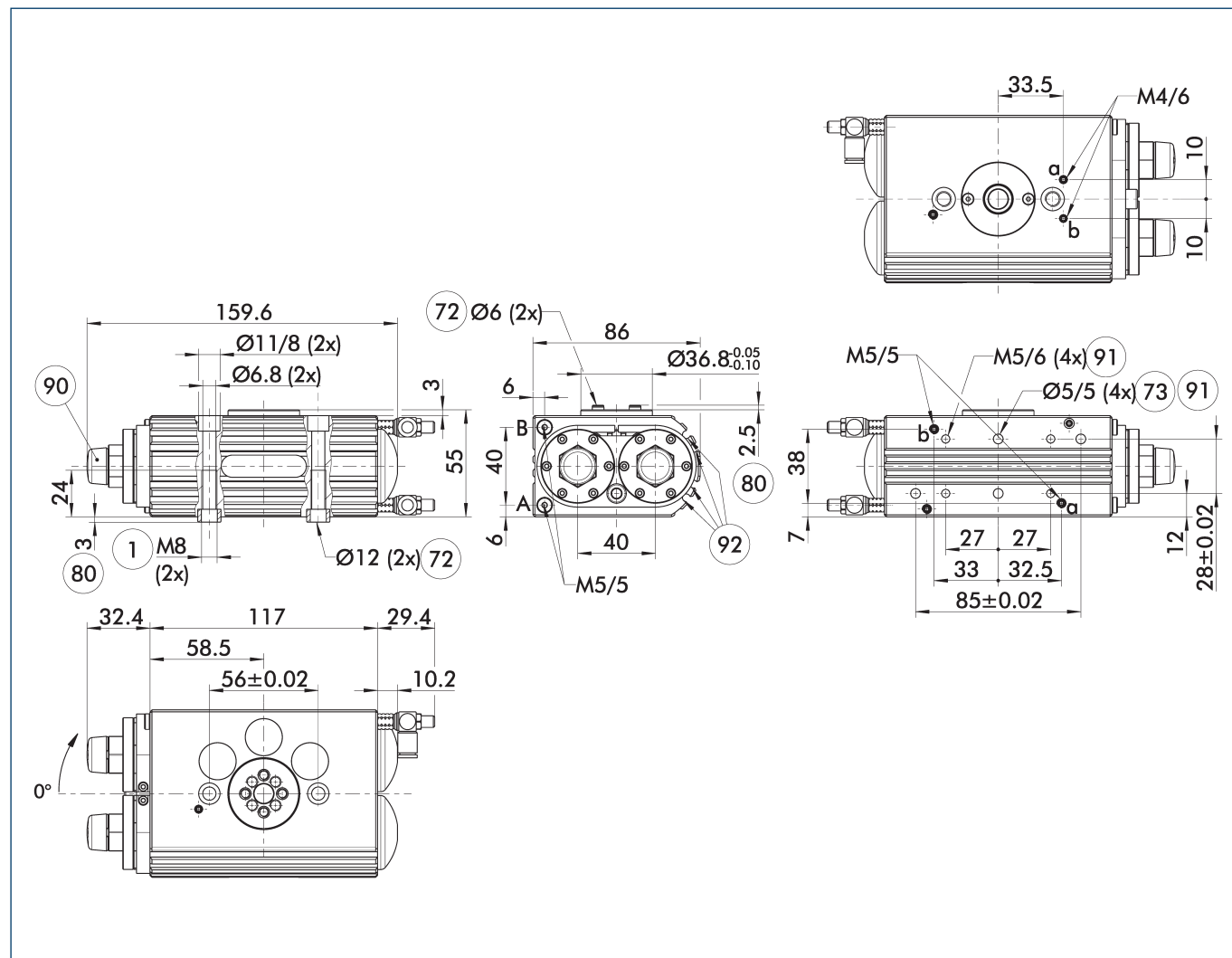
Designation (soft damping)		SRU-plus 25-W-180-3-M	SRU-plus 25-W-180-3-VM	SRU-plus 25-W-180-90-M
ID		0361630	0361640	0361660
End position damping		hydr. damper	hydr. damper	hydr. damper
Angle of rotation	[°]	180.0	180.0	180.0
End position adjustability	[°]	3.0	3.0	90.0
Torque	[Nm]	5.0	5.0	5.0
Number of intermediate positions		1 x M (pneumatic)	1 x VM (locked)	1 x M (pneumatic)
Adjustability of middle position	[°]	3.0	3.0	3.0
IP protection class		67	67	67
Weight	[kg]	2.2	2.6	2.25
Fluid consumption (2x nom. angle)	[cm³]	88.0	88.0	88.0
Min./nom./max. operating pressure	[bar]	4/6/8	4/6/6.5	4/6/8
Diameter of connecting hose		6 x 3.9 x 1.05	6 x 3.9 x 1.05	6 x 3.9 x 1.05
Min./max. ambient temperature	[°C]	5/60	5/60	5/60
Repeat accuracy	[°]	0.05	0.05	0.05
Dimensions X x Y x Z	[mm]	202.6 x 86 x 55	230.8 x 86 x 55	218.3 x 86 x 55
Options with fluid feed-through				
Designation (soft damping)		SRU-plus 25-W-180-3-M-4	SRU-plus 25-W-180-3-VM-4	SRU-plus 25-W-180-90-M-4
ID		0361632	0361642	0361662
Torque	[Nm]	4.6	4.6	4.6
Weight	[kg]	2.4	2.8	2.45
No. of fluid feed-throughs		4	4	4
Max. pressure fluid feed-through	[bar]	8	8	8
Dimensions X x Y x Z	[mm]	202.6 x 86 x 71.5	230.8 x 86 x 71.5	218.3 x 86 x 71.5
Options with fluid and electric feed-through				
Designation (soft damping)		SRU-plus 25-W-180-3-M-4-M8	SRU-plus 25-W-180-3-VM-4-M8	SRU-plus 25-W-180-90-M-4-M8
ID		0361634	0361644	0361664
Weight	[kg]	3.05	3.45	3.1
Number/size of electrical connections on the output end		6/M8	6/M8	6/M8
Max. voltage	[V]	24	24	24
Max. current per wire/total	[A]	1/1	1/1	1/1
Dimensions X x Y x Z	[mm]	202.6 x 86 x 117.5	230.8 x 86 x 117.5	218.3 x 86 x 117.5
Options with fluid and electric feed-through and mounting kit				
Designation (soft damping)		SRU-plus 25-W-180-3-M-4-M8-AS	SRU-plus 25-W-180-3-VM-4-M8-AS	SRU-plus 25-W-180-90-M-4-M8-AS
ID		0361637	0361647	0361667
Dimensions X x Y x Z	[mm]	202.6 x 86 x 129	230.8 x 86 x 129	218.3 x 86 x 129

① All units are also available in an FKM version. Please contact us for details.

SRU-plus 25

Universal swivel unit

Main view for SRU-plus without EDF



The main view shows the SRU-plus in the most basic version, with a swivel angle of 180°/90°, small end position adjustability of 3°, without a middle position, and without fluid feed-through.

① The SDV-P pressure maintenance valve can be used to maintain the position in the case of a loss of pressure (see "Accessories" catalog section).

A, a Main / direct connection, rotary actuator rotates clockwise

B, b Main / direct connection, rotary actuator rotates counterclockwise

① Connection swivel unit

⑦② Fit for centering sleeves

⑦③ Fit for centering pins

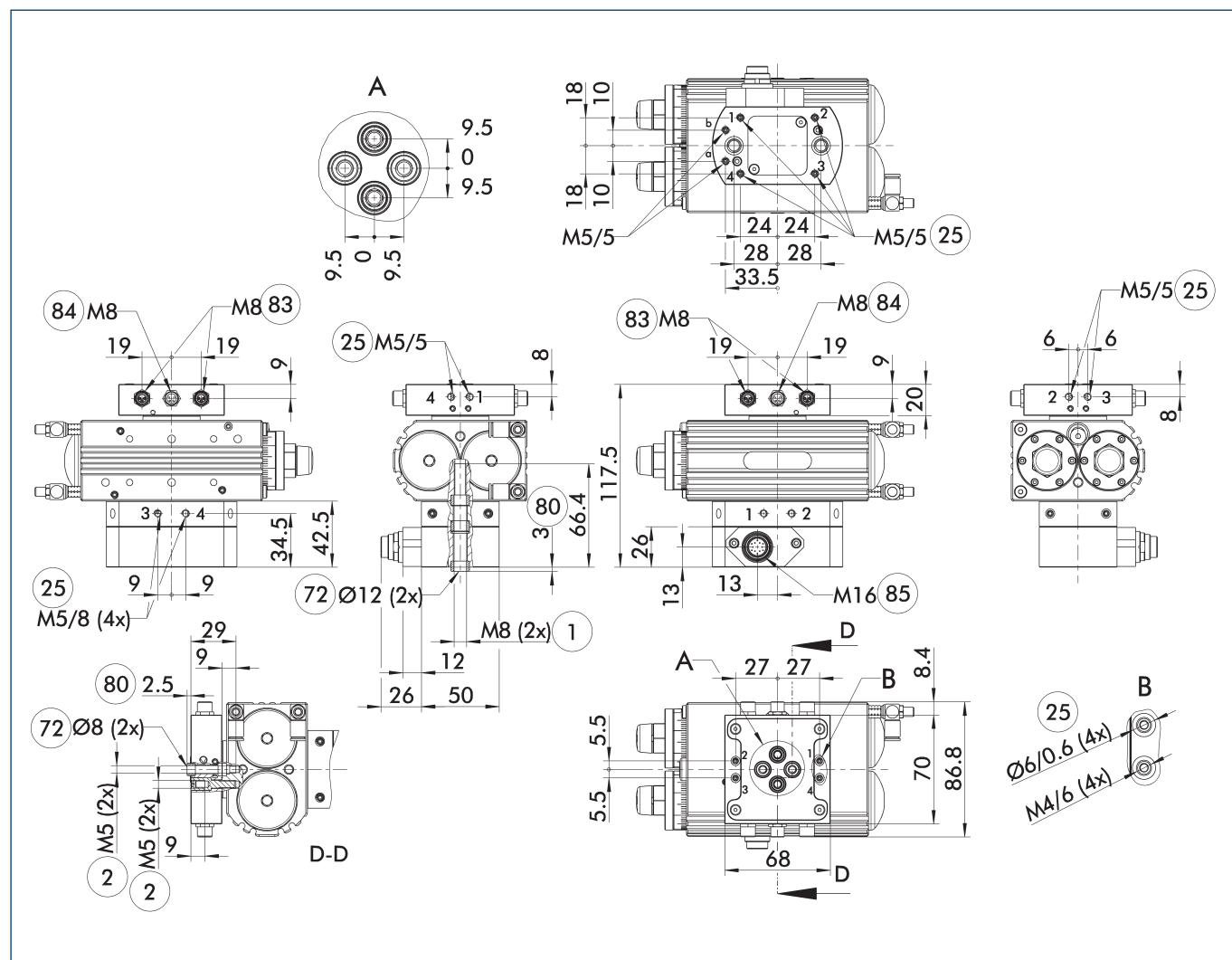
⑧① Depth of the centering sleeve hole in the counter part

⑨① Cover caps

⑨① Not intended for mounting the unit, only for attachments

⑨② Sensor MMS 22..

Main view for SRU-plus with EDF



The main view shows the SRU-plus with the EDF and fluid feed-through in the most basic version, with a swivel angle of 180°/90°, small end position adjustability of 3°, and without a middle position.

① The SRU-plus swivel unit with the EDF option can only be mounted from the bottom.

A, a Main / direct connection, rotary actuator rotates clockwise

B, b Main / direct connection, rotary actuator rotates counterclockwise

① Connection swivel unit

② Attachment connection

②⑤ Fluid feed-through

⑦② Fit for centering sleeves

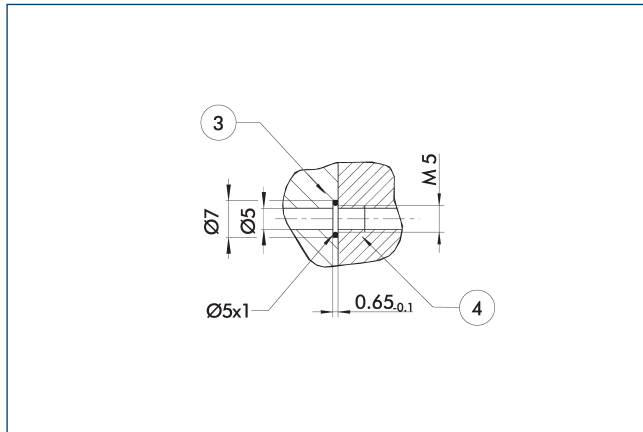
⑧① Depth of the centering sleeve hole in the counter part

⑧③ Input for 3 pole sensor feed-through

⑧④ Input for 4 pole sensor feed-through

⑧⑤ Sensor feed-through output

Hose-free direct connection M5

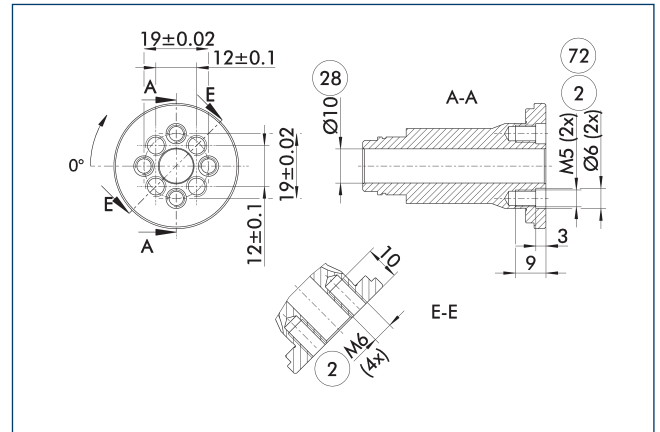


③ Adapter

④ Rotary unit

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Pinion without fluid feed-through



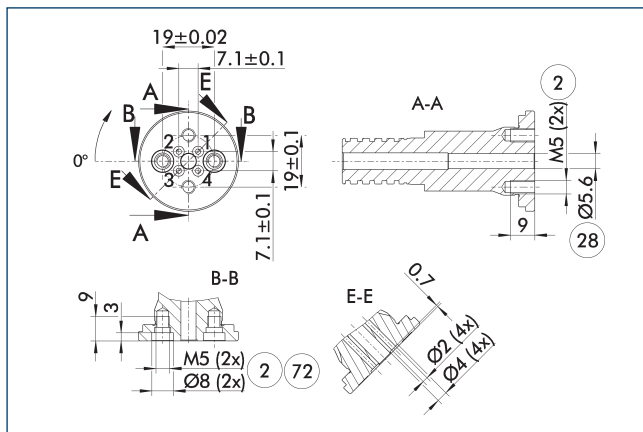
② Attachment connection

⑦② Fit for centering sleeves

②⑧ Through-hole

Mounting pattern for fastening the rotating load to the pinion. The "4x large threads for 4 screws and 2 counter bores for centering sleeves" option is preferable to the "4x small threads for 2 screws and 2 shoulder bots (in the deeper counter bores)" option.

Pinion with fluid feed-through



② Attachment connection

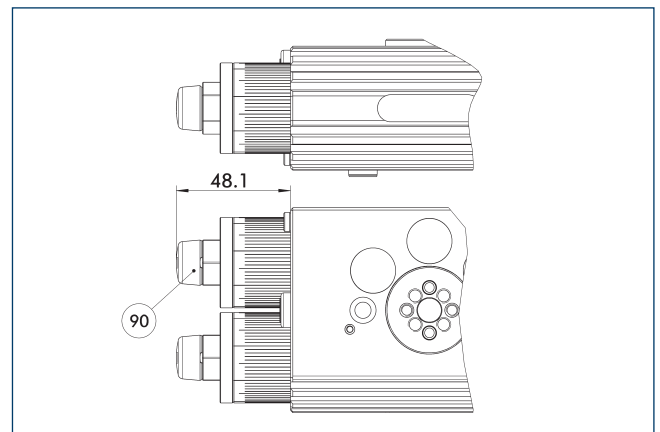
⑦② Fit for centering sleeves

②⑧ Through-hole

Pinion screw connection diagram for the fluid feed-through option. The preferred drilling pattern is 2 x screws and 2 x screws with centering sleeve (in Ø 8 H7).

① View applicable only for versions without EDF!

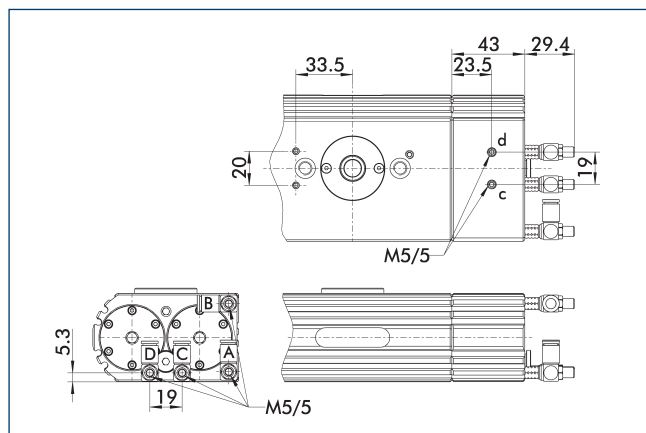
Large end position adjustability 90°



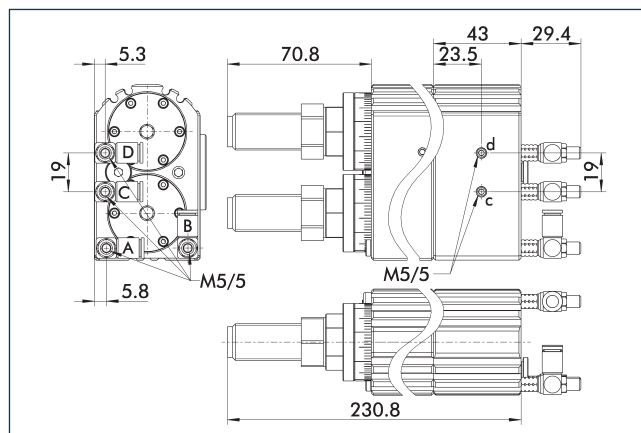
⑨⑩ Cover caps

Dimensional changes for the option with "large end position adjustability (90°)". This permits the end positions to be adjusted by up to 93°. More information can be found in the introduction to the series.

Locked middle position (VM)

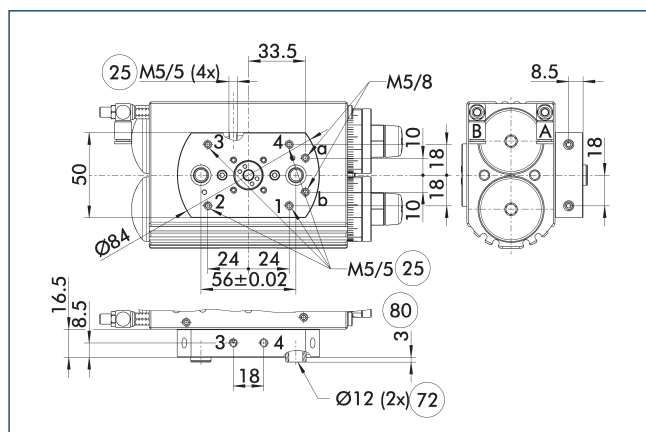


- Dimensional changes for the option with the "pneumatic middle position". Heavy attachments may swing before they reach the final position. The locked middle position (VM) can resolve this.



- Dimensional changes with the "locked middle position (VM)" option. The middle position is locked and is actuated with the force of the main drive piston. Shock absorbers dampen the travel to the middle position and prevent overshooting.

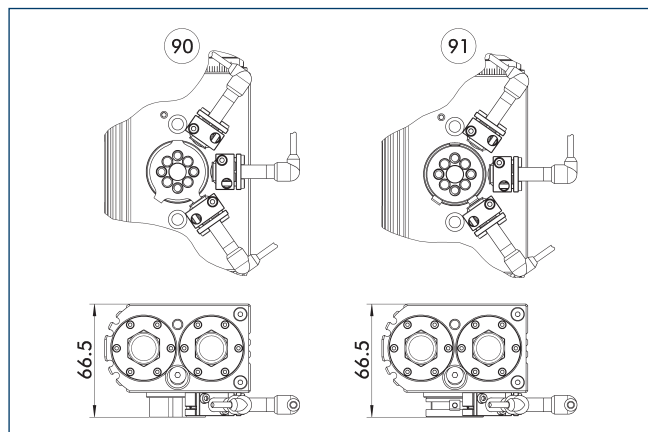
Adapter plate design



- Lower mounting plate for the fluid feed-through option. Vacuum, gases or fluids can be fed through. The connection may be a screw type or a direct connection.

View applicable only for versions without EDF!

Attachment kit for proximity switch at SRU-plus without EDF



90 AS-NHS-F-SRU-plus 25/30

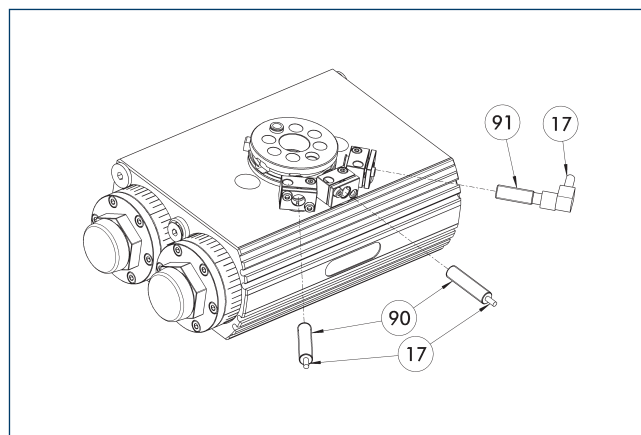
91 AS-NHS-SRU-plus 25

The size-specific attachment kit is required for installing the inductive proximity switches. Up to three proximity switches (2x end position, 1x middle position) can be attached using the attachment kit.

Description	ID	
Mounting kit for proximity switch with fixed cam		
AS-NHS-F-SRU-plus 25/30	0361695	
AS-NHS-F-SRU-plus 25/30-4	0361496	
Mounting kit for proximity switch with adjustable cam		
AS-NHS-SRU-plus 20/25/30-4	0361491	
AS-NHS-SRU-plus 25	0361690	

① Please note the number of necessary feed-throughs for your swivel unit when selecting the proper attachment kit.

Inductive proximity switches IN for SRU-plus without EDF



17 Cable outlet

91 Sensor IN...-SA

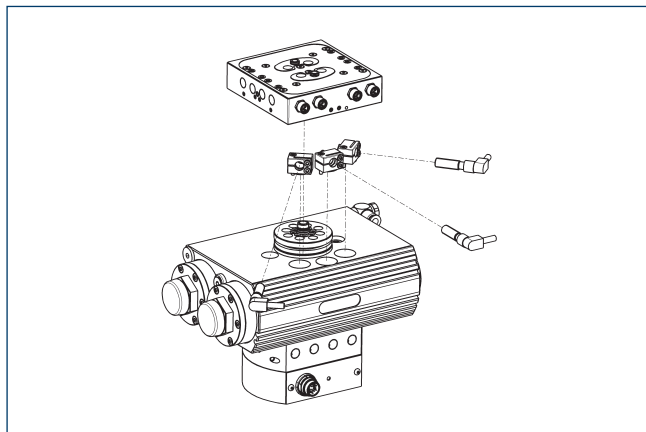
90 Sensor IN ...

End and intermediate position monitoring can be mounted with mounting kit

Description	ID	Often combined
Mounting kit for proximity switch with fixed cam		
AS-NHS-F-SRU-plus 25/30	0361695	
AS-NHS-F-SRU-plus 25/30-4	0361496	
Mounting kit for proximity switch with adjustable cam		
AS-NHS-SRU-plus 20/25/30-4	0361491	
AS-NHS-SRU-plus 25	0361690	
Inductive proximity switches		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
IN-C 80-S-M8-PNP	0301475	
INK 80-S	0301550	
INK 80-SL	0301579	
Inductive proximity switch with lateral cable outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	●
INK 80-S-SA	0301566	

① View applicable only for versions without EDF!

Inductive proximity switches IN for SRU-plus with EDF

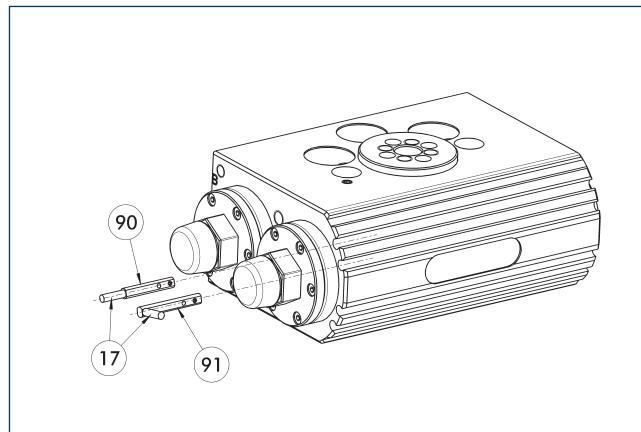


End and intermediate position monitoring mounted directly

Description	ID	Often combined
Inductive proximity switches		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
IN-C 80-S-M8-PNP	0301475	
INK 80-S	0301550	
INK 80-SL	0301579	
Inductive proximity switch with lateral cable outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	●
INK 80-S-SA	0301566	
Cable extension		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	
clip for plug/socket		
CLI-M12	0301464	
CLI-M8	0301463	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Sensor distributor		
V2-M12	0301776	●
V2-M8	0301775	●
V4-M12	0301747	
V4-M8	0301746	
V8-M12	0301752	
V8-M8	0301751	

- ① Two sensors are required per unit for monitoring two positions. On option, extension cables and sensor distributors are available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor system.

Electronic magnetic switch MMS



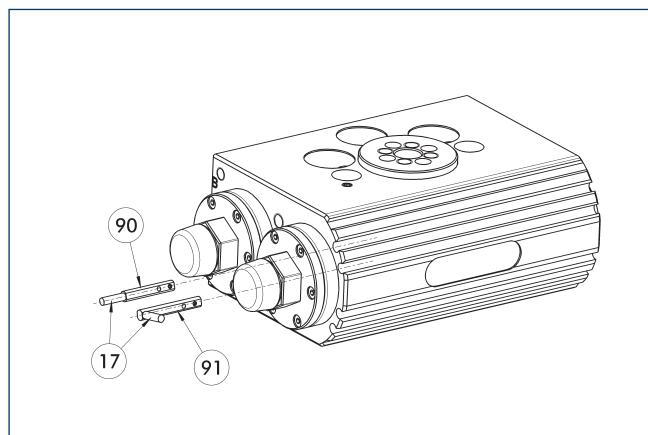
- ①7 Cable outlet
①90 Sensor MMS 22..
①91 Sensor MMS 22...-SA

End and intermediate position monitoring mounted in C-slot

Description	ID	Often combined
Electronic magnetic switch		
MMS 22-S-M8-PNP	0301032	●
MMSK 22-S-PNP	0301034	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M8-PNP-SA	0301042	●
MMSK 22-S-PNP-SA	0301044	
Cable extension		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
clip for plug/socket		
CLI-M8	0301463	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
Sensor distributor		
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

- ① Two sensors are required per unit for monitoring two positions. On option, extension cables and sensor distributors are available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor system.

Programmable magnetic switch MMS 22-PI1



①⑦ Cable outlet

①⑨ Sensor MMS 22 ..-PI1-...-SA

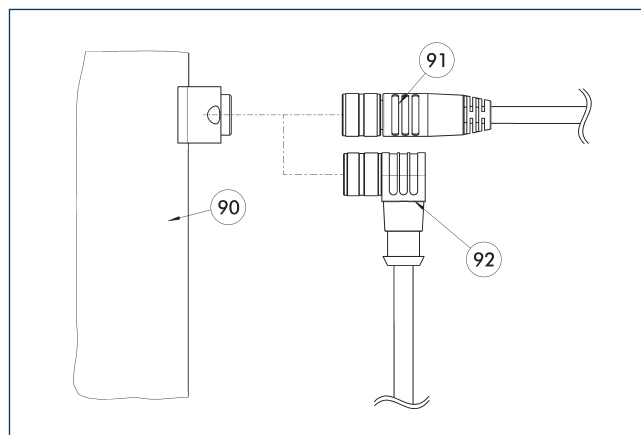
①⑩ Sensor MMS 22 PI1-...

Position monitoring with one programmable position per sensor and integrated electronic system in the sensor. Can be programmed using MT magnetic teaching tool (included in the scope of delivery) or ST plug teaching tool (optional). End position monitoring for mounting in the C-slot. If the ST plug teaching tools are listed in the table provided, teaching is only possible with the ST teaching tools.

Description	ID	Often combined
Programmable magnetic switch		
MMS 22-PI1-S-M8-PNP	0301160	●
MMSK 22-PI1-S-PNP	0301162	
Programmable magnetic switch with lateral cable outlet		
MMS 22-PI1-S-M8-PNP-SA	0301166	●
MMSK 22-PI1-S-PNP-SA	0301168	
Programmable magnetic switch with stainless steel housing		
MMS 22-PI1-S-M8-PNP-HD	0301110	●
MMSK 22-PI1-S-PNP-HD	0301112	

① Two sensors are required per unit for monitoring two positions. On option, extension cables and sensor distributors are available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor system.

Connection cables



①⑩ Electrical connection component

①⑨ Cable with straight connector

①⑫ Cable with angled connector

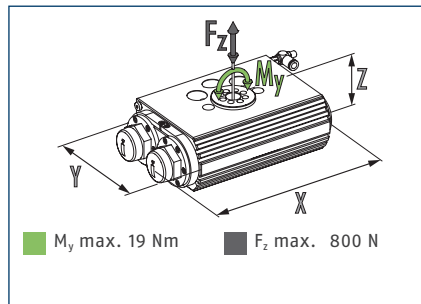
Description	ID	Length
		[m]
Connection cables		
KA BG16-L 12P-1000	0301801	10
KA BW16-L 12P-0500	0323005	5

① BG stands for a connection cable with a straight female connector and BW for an angled female connector. SG stands for a connection cable with a straight male connector and SW for an angled male connector.

SRU-plus 30

Universal swivel unit

Dimensions and maximum loads



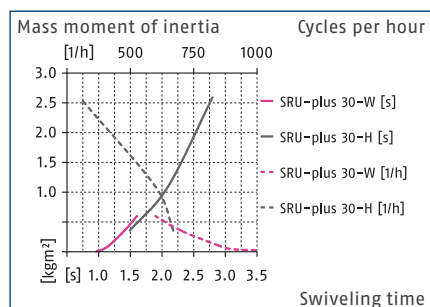
① The indicated moments and forces are static values and may appear simultaneously. Throttling has to be done for ensuring that the rotary movement takes place without impact or bouncing. Otherwise the service life reduces.

Technical data of SRU-plus without middle position

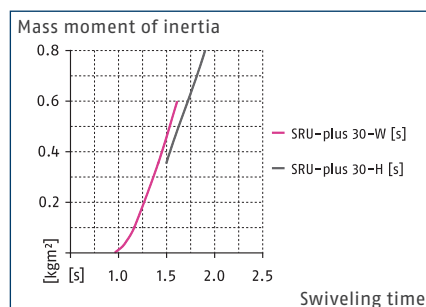
Designation (soft damping)		SRU-plus 30-W-90-3	SRU-plus 30-W-180-3	SRU-plus 30-W-180-90
ID		0361800	0361820	0361850
Designation (hard damping)		SRU-plus 30-H-90-3	SRU-plus 30-H-180-3	SRU-plus 30-H-180-90
ID		0361900	0361920	0361950
End position damping		hydr. damper	hydr. damper	hydr. damper
Angle of rotation	[°]	90.0	180.0	180.0
End position adjustability	[°]	3.0	3.0	90.0
Torque	[Nm]	9.5	9.5	9.5
Number of intermediate positions		none	none	none
IP protection class		67	67	67
Weight	[kg]	2.4	2.4	2.4
Fluid consumption (2x nom. angle)	[cm³]	90.0	145.0	145.0
Min./nom./max. operating pressure	[bar]	4/6/8	4/6/8	4/6/8
Diameter of connecting hose		6 x 3.9 x 1.05	6 x 3.9 x 1.05	6 x 3.9 x 1.05
Min./max. ambient temperature	[°C]	5/60	5/60	5/60
Repeat accuracy	[°]	0.05	0.05	0.05
Dimensions X x Y x Z	[mm]	188.5 x 96 x 55	188.5 x 96 x 55	203.9 x 96 x 55
Options with fluid feed-through				
Designation (soft damping)		SRU-plus 30-W-90-3-4	SRU-plus 30-W-180-3-4	SRU-plus 30-W-180-90-4
ID		0361802	0361822	0361852
Designation (hard damping)		SRU-plus 30-H-90-3-4	SRU-plus 30-H-180-3-4	SRU-plus 30-H-180-90-4
ID		0361902	0361922	0361952
Torque	[Nm]	9.0	9.0	9.0
Weight	[kg]	2.7	2.7	2.7
No. of fluid feed-throughs		4	4	4
Max. pressure fluid feed-through	[bar]	8	8	8
Dimensions X x Y x Z	[mm]	188.5 x 96 x 71.5	188.5 x 96 x 71.5	203.9 x 96 x 71.5
Options with fluid and electric feed-through				
Designation (soft damping)		SRU-plus 30-W-90-3-4-M8	SRU-plus 30-W-180-3-4-M8	SRU-plus 30-W-180-90-4-M8
ID		0361804	0361824	0361854
Designation (hard damping)		SRU-plus 30-H-90-3-4-M8	SRU-plus 30-H-180-3-4-M8	SRU-plus 30-H-180-90-4-M8
ID		0361904	0361924	0361954
Weight	[kg]	3.4	3.4	3.4
Number/size of electrical connections on the output end		6/M8	6/M8	6/M8
Max. voltage	[V]	24	24	24
Max. current per wire/total	[A]	1/1	1/1	1/1
Dimensions X x Y x Z	[mm]	188.5 x 96 x 117.5	188.5 x 96 x 117.5	203.9 x 96 x 117.5
Options with fluid and electric feed-through and mounting kit				
Designation (soft damping)		SRU-plus 30-W-90-3-4-M8-AS	SRU-plus 30-W-180-3-4-M8-AS	SRU-plus 30-W-180-90-4-M8-AS
ID		0361807	0361827	0361857
Designation (hard damping)		SRU-plus 30-H-90-3-4-M8-AS	SRU-plus 30-H-180-3-4-M8-AS	SRU-plus 30-H-180-90-4-M8-AS
ID		0361907	0361927	0361957
Dimensions X x Y x Z	[mm]	188.5 x 96 x 129	188.5 x 96 x 129	203.9 x 96 x 129

① All units are also available in an FKM version. Please contact us for details.

Max. permissible inertia J*



Max. permissible inertia J*



* The diagrams are valid for swivel angles of 90° and 180°, units without center position and for applications with a vertical swivel axis as well as for absolutely centric loads with a horizontal rotary axis and with a pneumatic operating pressure of 6 bar. The swiveling times per throttling have to be observed, otherwise the life time could reduce. We will be happy to help you to design other cases of application.

Technical data of SRU-plus with middle position

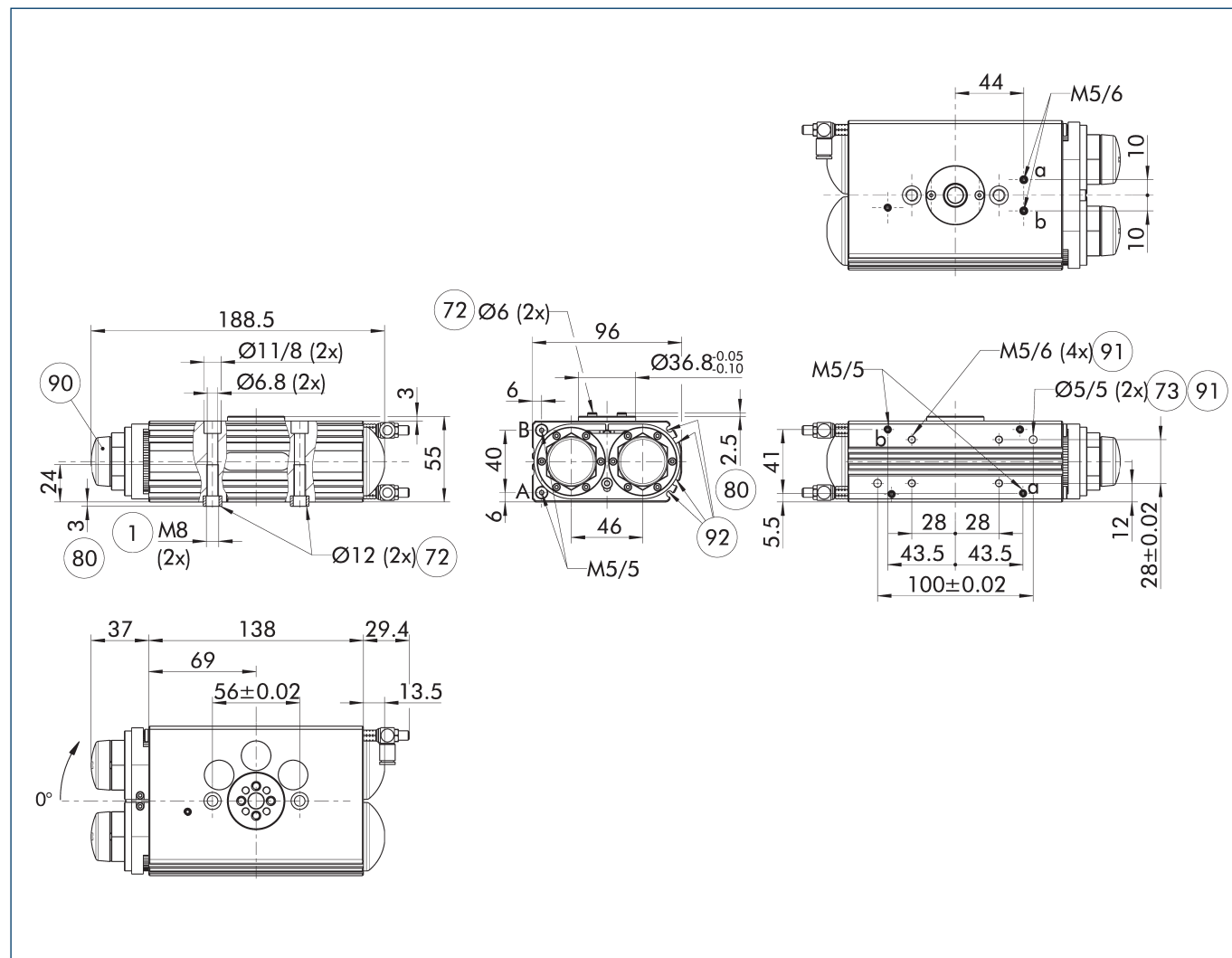
Designation (soft damping)		SRU-plus 30-W-180-3-M	SRU-plus 30-W-180-3-VM	SRU-plus 30-W-180-90-M
ID		0361830	0361840	0361860
End position damping		hydr. damper	hydr. damper	hydr. damper
Angle of rotation	[°]	180.0	180.0	180.0
End position adjustability	[°]	3.0	3.0	90.0
Torque	[Nm]	9.5	9.5	9.5
Number of intermediate positions		1 x M (pneumatic)	1 x VM (locked)	1 x M (pneumatic)
Adjustability of middle position	[°]	3.0	3.0	3.0
IP protection class		67	67	67
Weight	[kg]	3.2	3.4	3.3
Fluid consumption (2x nom. angle)	[cm³]	145.0	145.0	145.0
Min./nom./max. operating pressure	[bar]	4/6/8	4/6/6.5	4/6/8
Diameter of connecting hose		6 x 3.9 x 1.05	6 x 3.9 x 1.05	6 x 3.9 x 1.05
Min./max. ambient temperature	[°C]	5/60	5/60	5/60
Repeat accuracy	[°]	0.05	0.05	0.05
Dimensions X x Y x Z	[mm]	238.5 x 96 x 55	277.3 x 96 x 55	253.9 x 96 x 55
Options with fluid feed-through				
Designation (soft damping)		SRU-plus 30-W-180-3-M-4	SRU-plus 30-W-180-3-VM-4	SRU-plus 30-W-180-90-M-4
ID		0361832	0361842	0361862
Torque	[Nm]	9.0	9.0	9.0
Weight	[kg]	3.5	3.7	3.6
No. of fluid feed-throughs		4	4	4
Max. pressure fluid feed-through	[bar]	8	8	8
Dimensions X x Y x Z	[mm]	238.5 x 96 x 71.5	277.3 x 96 x 71.5	253.9 x 96 x 71.5
Options with fluid and electric feed-through				
Designation (soft damping)		SRU-plus 30-W-180-3-M-4-M8	SRU-plus 30-W-180-3-VM-4-M8	SRU-plus 30-W-180-90-M-4-M8
ID		0361834	0361844	0361864
Weight	[kg]	4.2	4.4	4.3
Number/size of electrical connections on the output end		6/M8	6/M8	6/M8
Max. voltage	[V]	24	24	24
Max. current per wire/total	[A]	1/1	1/1	1/1
Dimensions X x Y x Z	[mm]	238.5 x 96 x 117.5	277.3 x 96 x 117.5	253.9 x 96 x 117.5
Options with fluid and electric feed-through and mounting kit				
Designation (soft damping)		SRU-plus 30-W-180-3-M-4-M8-AS	SRU-plus 30-W-180-3-VM-4-M8-AS	SRU-plus 30-W-180-90-M-4-M8-AS
ID		0361837	0361847	0361867
Dimensions X x Y x Z	[mm]	238.5 x 96 x 129	277.3 x 96 x 129	253.9 x 96 x 129

① All units are also available in an FKM version. Please contact us for details.

SRU-plus 30

Universal swivel unit

Main view for SRU-plus without EDF



The main view shows the SRU-plus in the most basic version, with a swivel angle of 180°/90°, small end position adjustability of 3°, without a middle position, and without fluid feed-through.

① The SDV-P pressure maintenance valve can be used to maintain the position in the case of a loss of pressure (see "Accessories" catalog section).

A, a Main / direct connection, rotary actuator rotates clockwise

B, b Main / direct connection, rotary actuator rotates counterclockwise

① Connection swivel unit

⑦② Fit for centering sleeves

⑦③ Fit for centering pins

⑧① Depth of the centering sleeve hole in the counter part

⑨① Cover caps

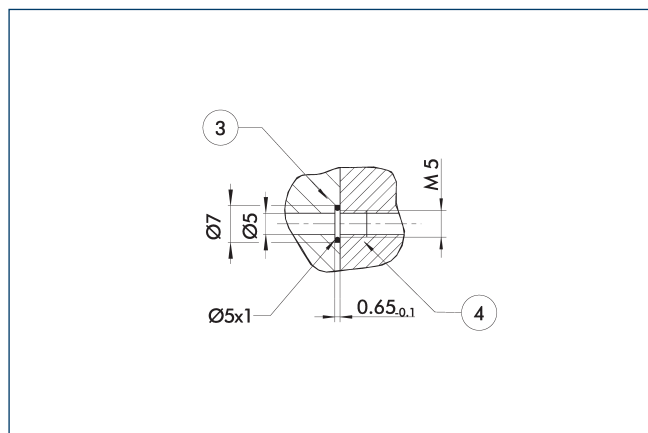
⑨① Not intended for mounting the unit, only for attachments

⑨② Sensor MMS 22..

[illegible]

(85) Sensor feed-through output

Hose-free direct connection M5

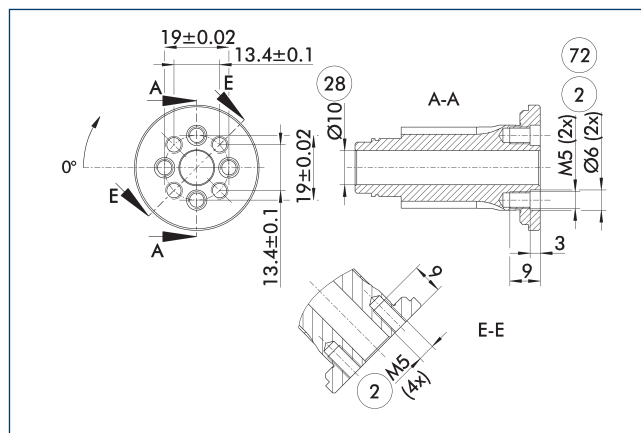


③ Adapter

④ Rotary unit

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Pinion without fluid feed-through



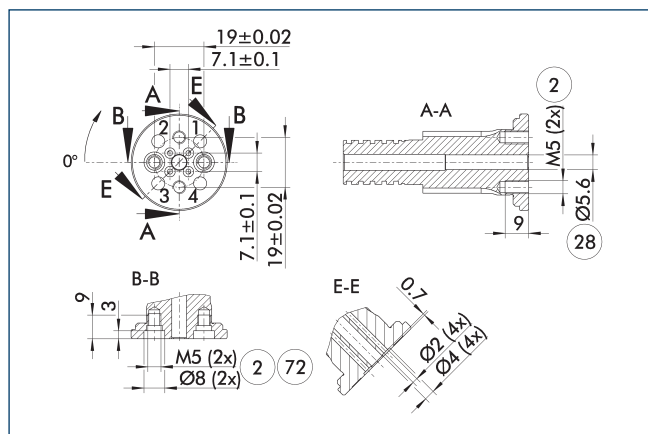
② Attachment connection

⑦② Fit for centering sleeves

②⑧ Through-hole

Mounting pattern for fastening the rotating load to the pinion. The "4x large threads for 4 screws and 2 counter bores for centering sleeves" option is preferable to the "4x small threads for 2 screws and 2 shoulder bolts (in the deeper counter bores)" option.

Pinion with fluid feed-through



② Attachment connection

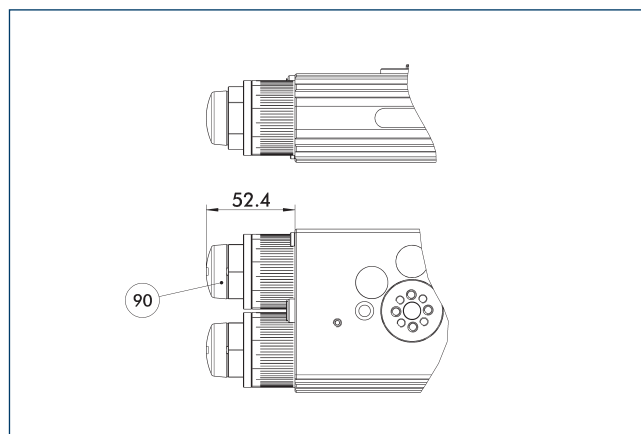
⑦② Fit for centering sleeves

②⑧ Through-hole

Pinion screw connection diagram for the fluid feed-through option. The preferred drilling pattern is 2 x screws and 2 x screws with centering sleeve (in Ø 8 H7).

① View applicable only for versions without EDF!

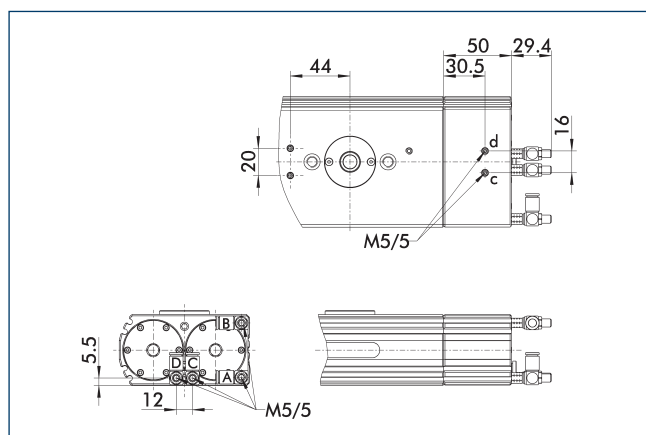
Large end position adjustability 90°



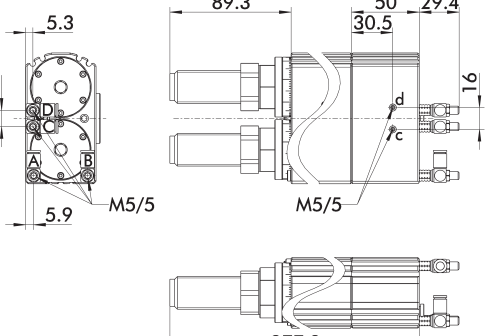
⑨⑩ Cover caps

Dimensional changes for the option with "large end position adjustability (90°)". This permits the end positions to be adjusted by up to 93°. More information can be found in the introduction to the series.

Locked middle position (VM)



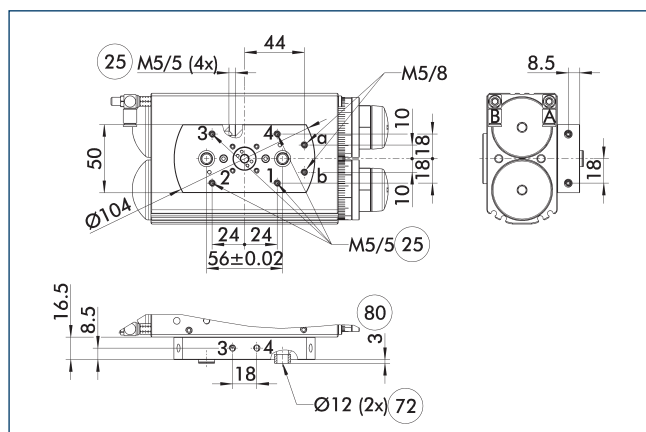
- C, c Main / direct connection,
middle position
- D, d Main / direct connection,
middle position




Technical drawing of the 1000 Series 1/2" (1000 Series 1/2") showing three views: front, side, and top. The front view shows a rectangular body with a central circular feature and four mounting holes. Dimensions include 12 (height), 5.3 (width), 5.9 (radius), and M5/5 (thread). The side view shows the profile of the body with dimensions 89.3 (total length), 50 (flange width), 29.4 (flange thickness), 30.5 (flange radius), 16 (flange height), and M5/5 (thread). The top view shows the top of the body with a dimension of 277.3 (total length).

- C, c Main / direct connection,
middle position
- D, d Main / direct connection,
middle position

Adapter plate design



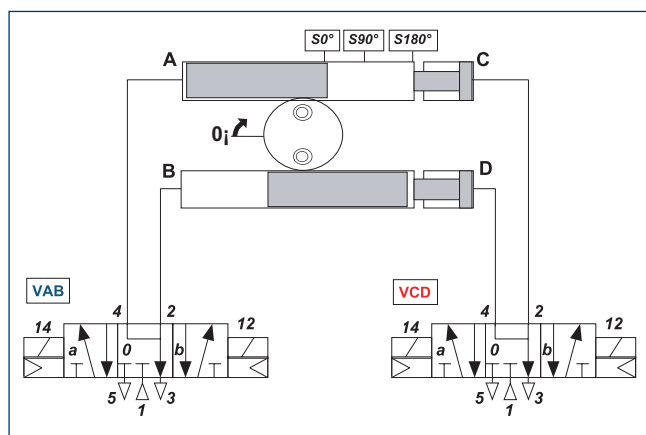
- ②⑤ Fluid feed-through
- ⑦② Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the counter part

 View applicable only for versions without EDF!

SRU-plus 30

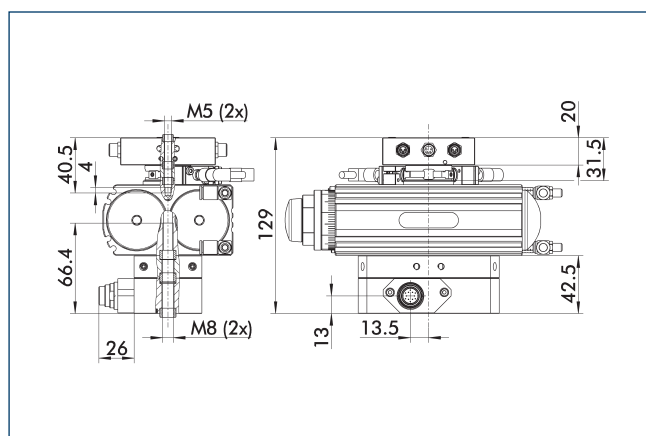
Universal swivel unit

Pneumatic diagram of SRU-plus-VM — vertical axis



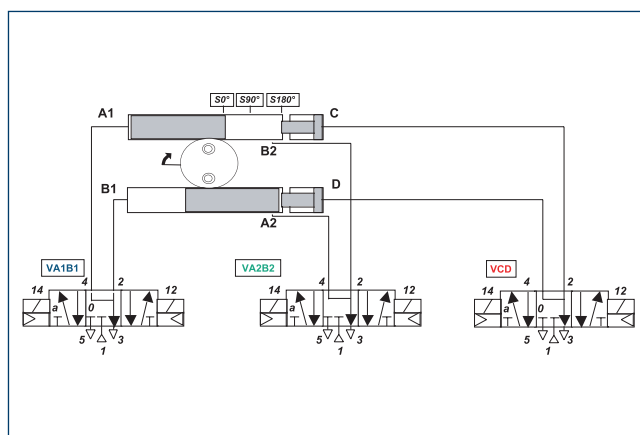
VM rotary actuators with a vertical rotary axis are generally actuated by two 5/3 directional control valves with an exhausted middle position. To prevent damage, it is essential to pay attention to the actuation sequence indicated in the operating manual.

Attachment kit for proximity switch at SRU-plus with EDF



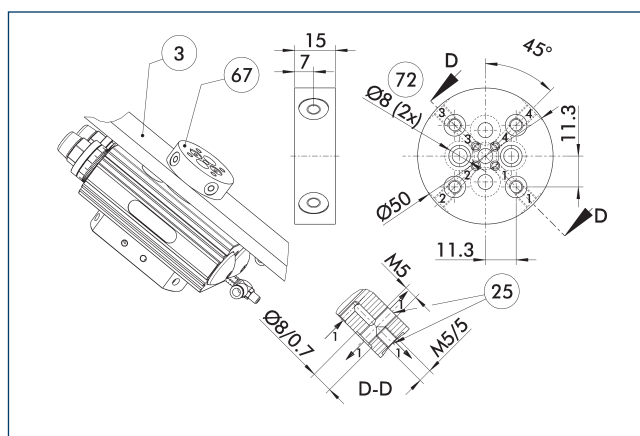
The attachment kit cannot be ordered separately. The SRU-plus with EDF and attachment kit are delivered as a complete unit by SCHUNK. Please pay attention to our options SRU-plus ...-AS.

Pneumatic diagram of SRU-plus-VM — horizontal axis



VM rotary actuators with a horizontal or non-vertical rotary axis must generally be actuated by three 5/3 directional control valves with an exhausted middle position. To prevent damage, it is essential to pay attention to the actuation sequence indicated in the operating manual.

Distributor for SRU-plus



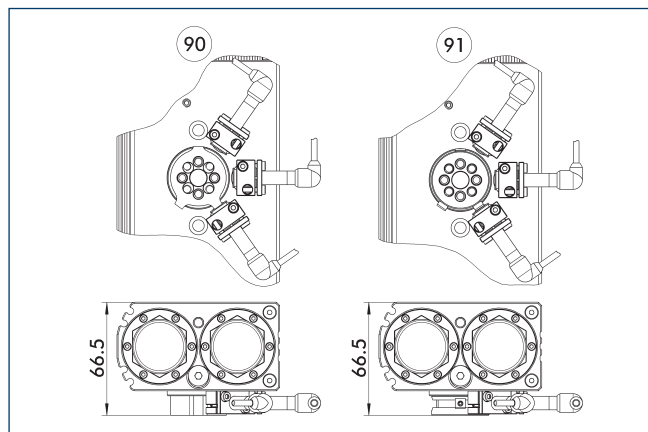
- ③ Adapter
②5 Fluid feed-through
⑥7 Distributor for media feed-through
⑦2 Fit for centering sleeves

The distributor for SRU-plus facilitates the use of the fluid feed-throughs, both at the direct attachment to the distributor, and in the lines conveying the fluid inside the adapter plate. Due to the distributor, only a simple drilling pattern has to be drilled in the adapter plate located between the pinion and the distributor.

Description	ID	
Distributor plate		
V-SRU-plus 20/25/30	0357392	

 View applicable only for versions without EDF!

Attachment kit for proximity switch at SRU-plus without EDF



90 AS-NHS-F-SRU-plus 25/30

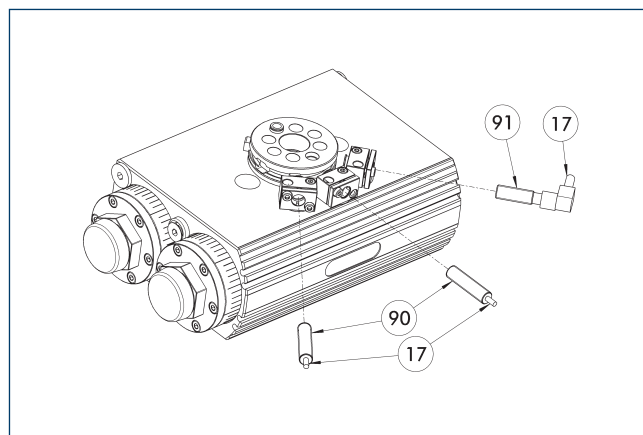
91 AS-NHS-SRU-plus 30

The attachment kit cannot be ordered separately. The SRU-plus with EDF and attachment kit are delivered as a complete unit by SCHUNK. Please pay attention to our options SRU-plus ...-AS.

Description	ID	
Mounting kit for proximity switch with fixed cam		
AS-NHS-F-SRU-plus 25/30	0361695	
AS-NHS-F-SRU-plus 25/30-4	0361496	
Mounting kit for proximity switch with adjustable cam		
AS-NHS-SRU-plus 20/25/30-4	0361491	
AS-NHS-SRU-plus 20/30	0361490	

① Please note the number of necessary feed-throughs for your swivel unit when selecting the proper attachment kit.

Inductive proximity switches IN for SRU-plus without EDF



17 Cable outlet

91 Sensor IN...-SA

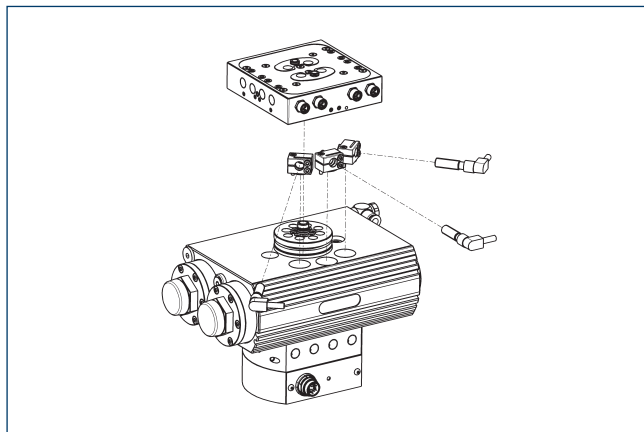
90 Sensor IN ...

End and intermediate position monitoring can be mounted with mounting kit

Description	ID	Often combined
Mounting kit for proximity switch with fixed cam		
AS-NHS-F-SRU-plus 25/30	0361695	
AS-NHS-F-SRU-plus 25/30-4	0361496	
Mounting kit for proximity switch with adjustable cam		
AS-NHS-SRU-plus 20/25/30-4	0361491	
AS-NHS-SRU-plus 20/30	0361490	
Inductive proximity switches		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
IN-C 80-S-M8-PNP	0301475	
INK 80-S	0301550	
INK 80-SL	0301579	
Inductive proximity switch with lateral cable outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	●
INK 80-S-SA	0301566	

① View applicable only for versions without EDF!

Inductive proximity switches IN for SRU-plus with EDF

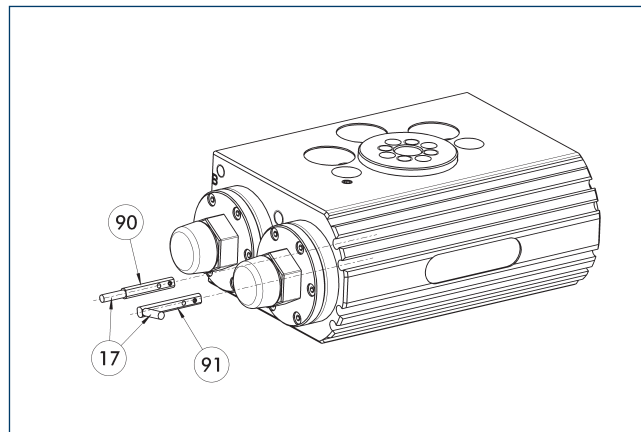


End and intermediate position monitoring mounted directly

Description	ID	Often combined
Inductive proximity switches		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
IN-C 80-S-M8-PNP	0301475	
INK 80-S	0301550	
INK 80-SL	0301579	
Inductive proximity switch with lateral cable outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	●
INK 80-S-SA	0301566	
Cable extension		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	
clip for plug/socket		
CLI-M12	0301464	
CLI-M8	0301463	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Sensor distributor		
V2-M12	0301776	●
V2-M8	0301775	●
V4-M12	0301747	
V4-M8	0301746	
V8-M12	0301752	
V8-M8	0301751	

- ① Two sensors are required per unit for monitoring two positions. On option, extension cables and sensor distributors are available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor system.

Electronic magnetic switch MMS



①7 Cable outlet

①0 Sensor MMS 22..

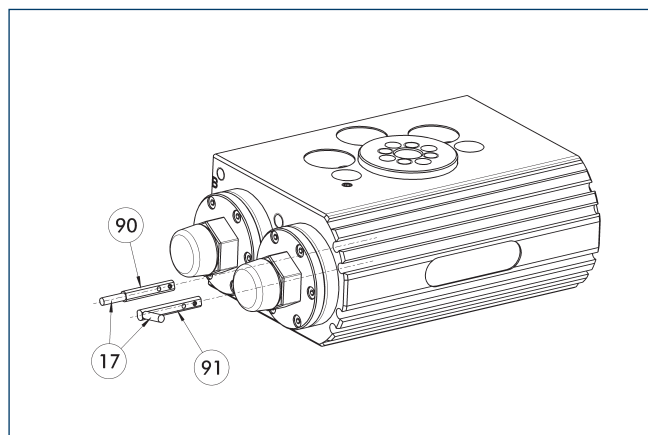
①1 Sensor MMS 22...-SA

End and intermediate position monitoring mounted in C-slot

Description	ID	Often combined
Electronic magnetic switch		
MMS 22-S-M8-PNP	0301032	●
MMSK 22-S-PNP	0301034	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M8-PNP-SA	0301042	●
MMSK 22-S-PNP-SA	0301044	
Cable extension		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
clip for plug/socket		
CLI-M8	0301463	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
Sensor distributor		
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

- ① Two sensors are required per unit for monitoring two positions. On option, extension cables and sensor distributors are available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor system.

Programmable magnetic switch MMS 22-PI1



①⑦ Cable outlet

①⑨ Sensor MMS 22 ..-PI1-...-SA

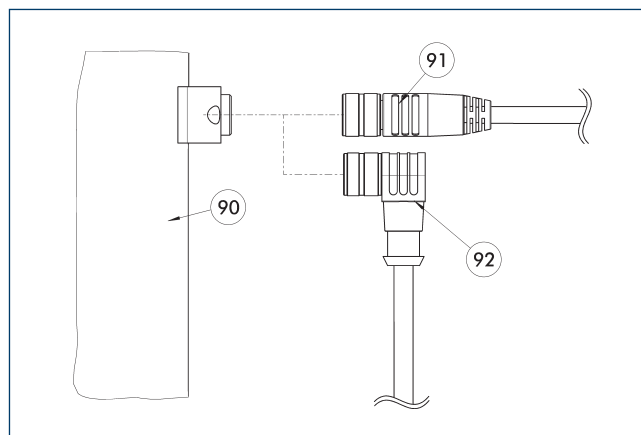
①⑩ Sensor MMS 22 PI1-...

Position monitoring with one programmable position per sensor and integrated electronic system in the sensor. Can be programmed using MT magnetic teaching tool (included in the scope of delivery) or ST plug teaching tool (optional). End position monitoring for mounting in the C-slot. If the ST plug teaching tools are listed in the table provided, teaching is only possible with the ST teaching tools.

Description	ID	Often combined
Programmable magnetic switch		
MMS 22-PI1-S-M8-PNP	0301160	●
MMSK 22-PI1-S-PNP	0301162	
Programmable magnetic switch with lateral cable outlet		
MMS 22-PI1-S-M8-PNP-SA	0301166	●
MMSK 22-PI1-S-PNP-SA	0301168	
Programmable magnetic switch with stainless steel housing		
MMS 22-PI1-S-M8-PNP-HD	0301110	●
MMSK 22-PI1-S-PNP-HD	0301112	

① Two sensors are required per unit for monitoring two positions. On option, extension cables and sensor distributors are available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor system.

Connection cables



①⑩ Electrical connection component

①⑨ Cable with straight connector

①⑫ Cable with angled connector

Description	ID	Length
		[m]
Connection cables		
KA BG16-L 12P-1000	0301801	10
KA BW16-L 12P-0500	0323005	5

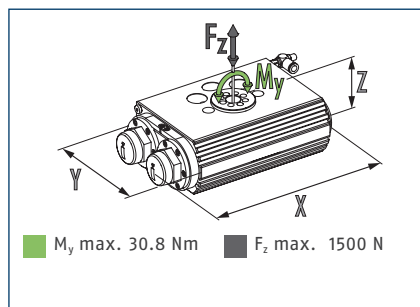
① BG stands for a connection cable with a straight female connector and BW for an angled female connector. SG stands for a connection cable with a straight male connector and SW for an angled male connector.

SRU-plus 35

Universal swivel unit



Dimensions and maximum loads



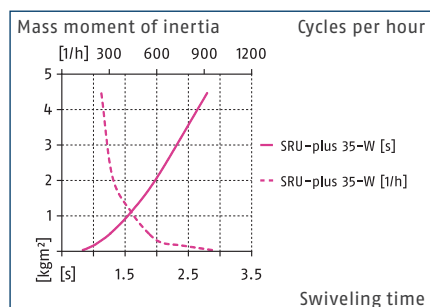
① The indicated moments and forces are static values and may appear simultaneously. Throttling has to be done for ensuring that the rotary movement takes place without impact or bouncing. Otherwise the service life reduces.

Technical data of SRU-plus without middle position

Designation (soft damping)		SRU-plus 35-W-90-3	SRU-plus 35-W-180-3	SRU-plus 35-W-180-90
ID		0362000	0362020	0362050
End position damping		hydr. damper	hydr. damper	hydr. damper
Angle of rotation	[°]	90.0	180.0	180.0
End position adjustability	[°]	3.0	3.0	90.0
Torque	[Nm]	14.0	14.0	14.0
Number of intermediate positions		none	none	none
IP protection class		67	67	67
Weight	[kg]	2.65	2.65	2.75
Fluid consumption (2x nom. angle)	[cm³]	132.0	216.0	216.0
Min./nom./max. operating pressure	[bar]	4/6/8	4/6/8	4/6/8
Diameter of connecting hose		6 x 3.9 x 1.05	6 x 3.9 x 1.05	6 x 3.9 x 1.05
Min./max. ambient temperature	[°C]	5/60	5/60	5/60
Repeat accuracy	[°]	0.05	0.05	0.05
Dimensions X x Y x Z	[mm]	195.6 x 107 x 60	195.6 x 107 x 60	217.5 x 107 x 60
Options with fluid feed-through				
Designation (soft damping)		SRU-plus 35-W-90-3-4	SRU-plus 35-W-180-3-4	SRU-plus 35-W-180-90-4
ID		0362002	0362022	0362052
Torque	[Nm]	13.4	13.4	13.4
Weight	[kg]	2.95	2.95	3.05
No. of fluid feed-throughs		4	4	4
Max. pressure fluid feed-through	[bar]	8	8	8
Dimensions X x Y x Z	[mm]	195.6 x 107 x 81	195.6 x 107 x 81	217.5 x 107 x 81
Options with fluid and electric feed-through				
Designation (soft damping)		SRU-plus 35-W-90-3-4-M8	SRU-plus 35-W-180-3-4-M8	SRU-plus 35-W-180-90-4-M8
ID		0362004	0362024	0362054
Weight	[kg]	3.7	3.7	3.8
Number/size of electrical connections on the output end		6/M8	6/M8	6/M8
Max. voltage	[V]	24	24	24
Max. current per wire/total	[A]	1/1	1/1	1/1
Dimensions X x Y x Z	[mm]	195.6 x 107 x 128.12	195.6 x 107 x 128.12	217.5 x 107 x 128.12
Options with fluid and electric feed-through and mounting kit				
Designation (soft damping)		SRU-plus 35-W-90-3-4-M8-AS	SRU-plus 35-W-180-3-4-M8-AS	SRU-plus 35-W-180-90-4-M8-AS
ID		0362007	0362027	0362057
Dimensions X x Y x Z	[mm]	195.6 x 107 x 139.5	195.6 x 107 x 139.5	217.5 x 107 x 139.5

① All units are also available in an FKM version. Please contact us for details.

Max. permissible inertia J*



* The diagrams are valid for swivel angles of 90° and 180°, units without center position and for applications with a vertical swivel axis as well as for absolutely centric loads with a horizontal rotary axis and with a pneumatic operating pressure of 6 bar. The swiveling times per throttling have to be observed, otherwise the life time could reduce. We will be happy to help you to design other cases of application.

Technical data of SRU-plus with middle position

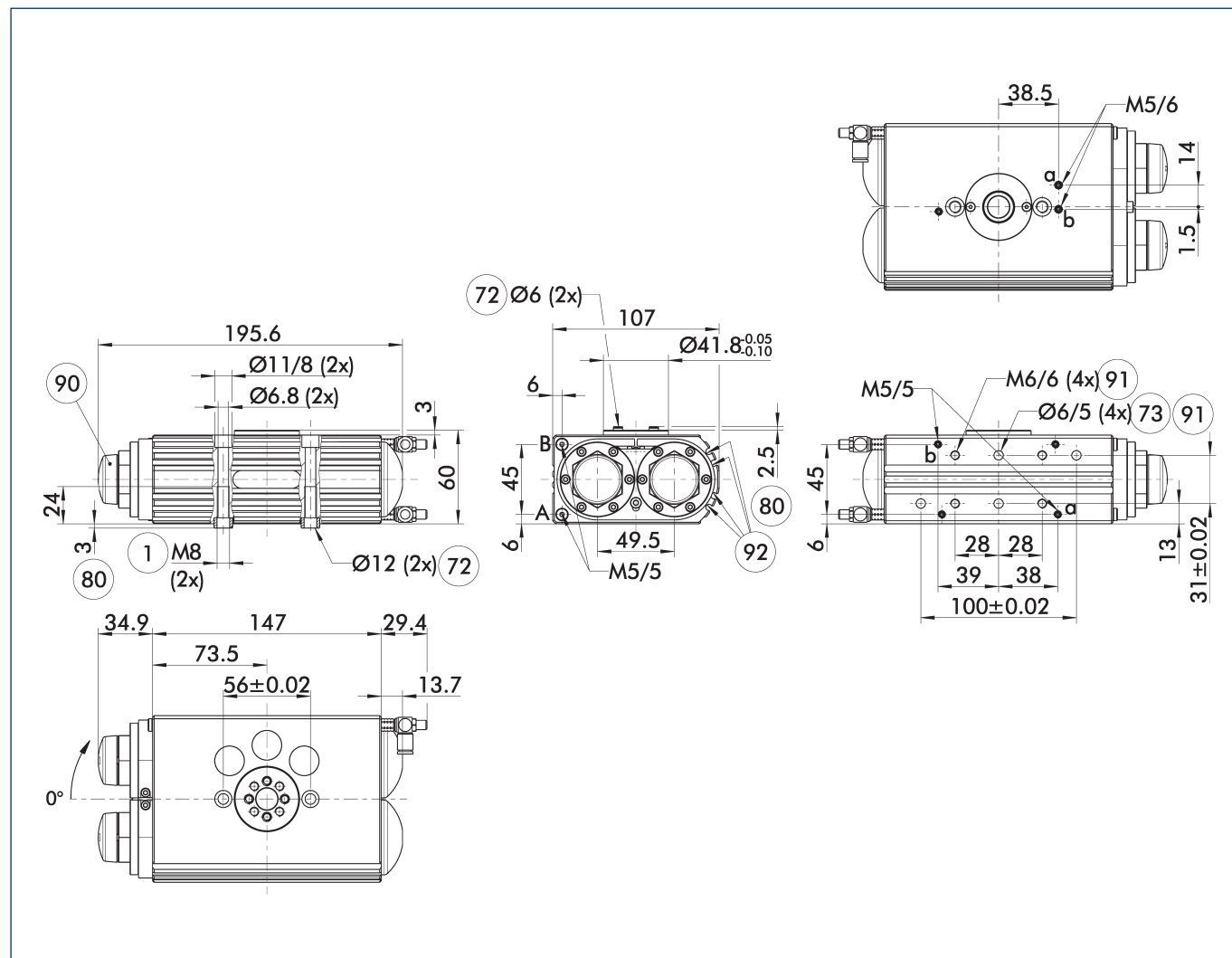
Designation (soft damping)		SRU-plus 35-W-180-3-M	SRU-plus 35-W-180-3-VM	SRU-plus 35-W-180-90-M
ID		0362030	0362040	0362060
End position damping		hydr. damper	hydr. damper	hydr. damper
Angle of rotation	[°]	180.0	180.0	180.0
End position adjustability	[°]	3.0	3.0	90.0
Torque	[Nm]	14.0	14.0	14.0
Number of intermediate positions		1 x M (pneumatic)	1 x VM (locked)	1 x M (pneumatic)
Adjustability of middle position	[°]	3.0	3.0	3.0
IP protection class		67	67	67
Weight	[kg]	3.65	4.15	3.75
Fluid consumption (2x nom. angle)	[cm³]	216.0	216.0	216.0
Min./nom./max. operating pressure	[bar]	4/6/8	4/6/6.5	4/6/8
Diameter of connecting hose		6 x 3.9 x 1.05	6 x 3.9 x 1.05	6 x 3.9 x 1.05
Min./max. ambient temperature	[°C]	5/60	5/60	5/60
Repeat accuracy	[°]	0.05	0.05	0.05
Dimensions X x Y x Z	[mm]	247.6 x 107 x 60	290.4 x 107 x 60	269.5 x 107 x 60
Options with fluid feed-through				
Designation (soft damping)		SRU-plus 35-W-180-3-M-4	SRU-plus 35-W-180-3-VM-4	SRU-plus 35-W-180-90-M-4
ID		0362032	0362042	0362062
Torque	[Nm]	13.4	13.4	13.4
Weight	[kg]	3.95	4.45	4.05
No. of fluid feed-throughs		4	4	4
Max. pressure fluid feed-through	[bar]	8	8	8
Dimensions X x Y x Z	[mm]	247.6 x 107 x 81	290.4 x 107 x 81	269.5 x 107 x 81
Options with fluid and electric feed-through				
Designation (soft damping)		SRU-plus 35-W-180-3-M-4-M8	SRU-plus 35-W-180-3-VM-4-M8	SRU-plus 35-W-180-90-M-4-M8
ID		0362034	0362044	0362064
Weight	[kg]	4.7	5.2	4.8
Number/size of electrical connections on the output end		6/M8	6/M8	6/M8
Max. voltage	[V]	24	24	24
Max. current per wire/total	[A]	1/1	1/1	1/1
Dimensions X x Y x Z	[mm]	247.6 x 107 x 128.12	290.4 x 107 x 128.12	269.5 x 107 x 128.12
Options with fluid and electric feed-through and mounting kit				
Designation (soft damping)		SRU-plus 35-W-180-3-M-4-M8-AS	SRU-plus 35-W-180-3-VM-4-M8-AS	SRU-plus 35-W-180-90-M-4-M8-AS
ID		0362037	0362047	0362067
Dimensions X x Y x Z	[mm]	247.6 x 107 x 139.5	290.4 x 107 x 139.5	269.5 x 107 x 139.5

① All units are also available in an FKM version. Please contact us for details.

SRU-plus 35

Universal swivel unit

Main view for SRU-plus without EDF



The main view shows the SRU-plus in the most basic version, with a swivel angle of 180°/90°, small end position adjustability of 3°, without a middle position, and without fluid feed-through.

① The SDV-P pressure maintenance valve can be used to maintain the position in the case of a loss of pressure (see "Accessories" catalog section).

A, a Main / direct connection, rotary actuator rotates clockwise

B, b Main / direct connection, rotary actuator rotates counterclockwise

① Connection swivel unit

⑦② Fit for centering sleeves

⑦③ Fit for centering pins

⑧① Depth of the centering sleeve hole in the counter part

⑨① Cover caps

⑨① Not intended for mounting the unit, only for attachments

⑨② Sensor MMS 22..

Technical drawing of the 2500 series hydraulic cylinder, showing front, side, and end views with detailed dimensions and part numbers.

Front View (Top Left): Shows the cylinder body with dimensions 19, 9, 39, 47, 10, 10, and 25. Part numbers include 84 M8, M8 83, and M5/8 (4x).

Side View (Middle Left): Shows the cylinder body with dimensions 15, 80, 70.9, 3, 12, 60, 26, and 2.5 80. Part numbers include 72 Ø12 (2x), M8 (2x) 1, and 25.

End View (Bottom Left): Shows the cylinder head with dimensions 10, 31, and 2. Part numbers include 72 Ø6 (2x) and M6 (4x) 2.

Top View (Top Right): Shows the cylinder head with dimensions 18, 1.5, 14, 18, 24, 24, 28, 28, 38.5, and 11.5. Part numbers include M5/5 and 25.

Side View (Middle Right): Shows the cylinder body with dimensions 128.12, 26, 13, 10, 9, 21, and 19. Part numbers include 84 M8, M8 83, and M16 85.

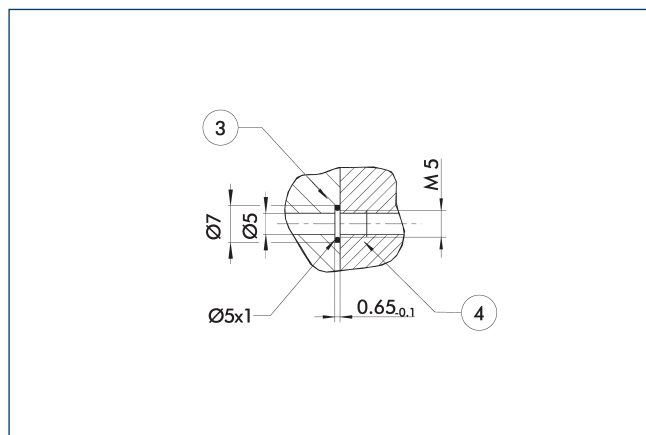
End View (Bottom Right): Shows the cylinder head with dimensions 19, 1, 1, 19, 28, 28, 8.4, 80, 96.8, and 70. Part numbers include A, B, and D.

Detail View (Far Right): Shows a detail of the cylinder head with dimensions 1, 19, 15, and 25. Part numbers include M5/5 and 25.

Detail View (Bottom Right): Shows a detail of the cylinder head with dimensions 1, 19, 15, and 25. Part numbers include M4/6 (4x) and Ø6/0.75 (4x) 25.

(85) Sensor feed-through output

Hose-free direct connection M5

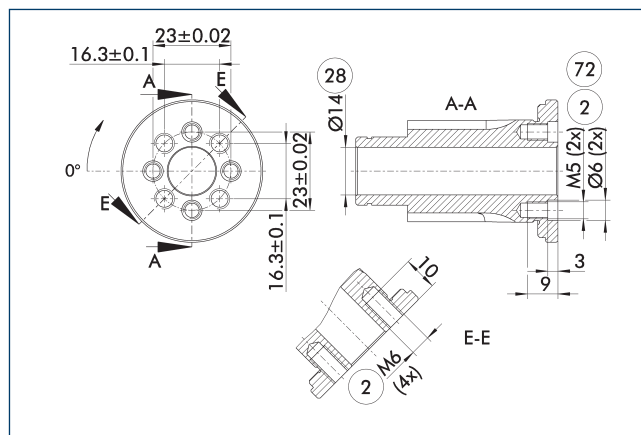


③ Adapter

④ Rotary unit

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Pinion without fluid feed-through



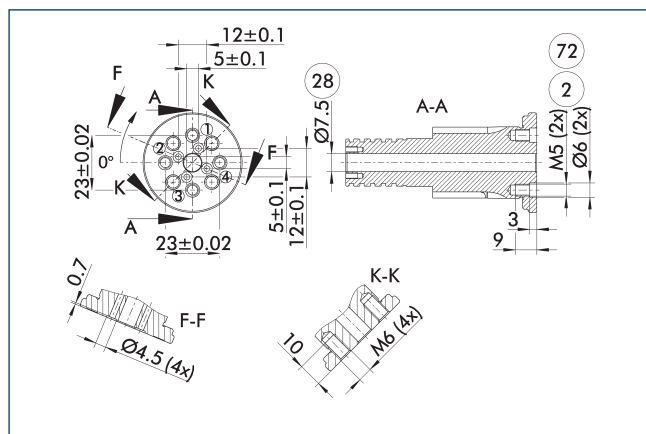
② Attachment connection

⑦② Fit for centering sleeves

②⑧ Through-hole

Mounting pattern for fastening the rotating load to the pinion. The "4x large threads for 4 screws and 2 counter bores for centering sleeves" option is preferable to the "4x small threads for 2 screws and 2 shoulder bots (in the deeper counter bores)" option.

Pinion with fluid feed-through



② Attachment connection

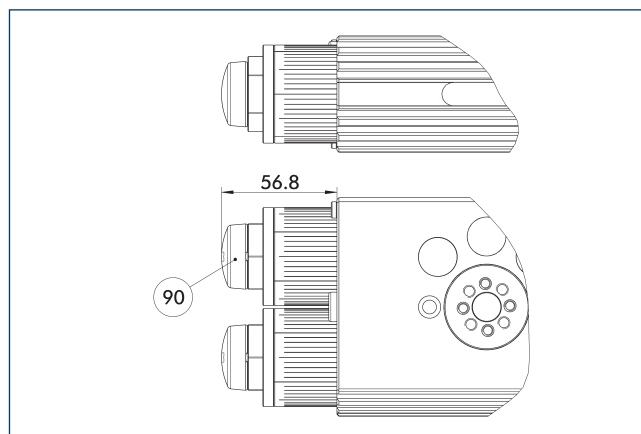
⑦② Fit for centering sleeves

②⑧ Through-hole

Pinion screw connection diagram if the option "fluid feed-through" was chosen. The preferred drilling pattern is two screws and two screws with a centering sleeve.

① View applicable only for versions without EDF!

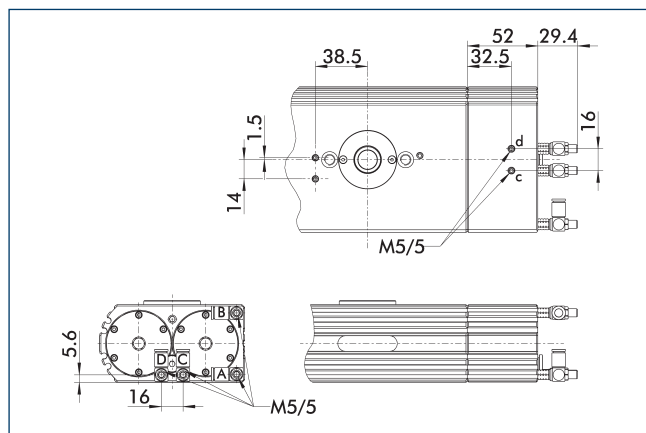
Large end position adjustability 90°



⑨① Cover caps

Dimensional changes for the option with "large end position adjustability (90°)". This permits the end positions to be adjusted by up to 93°. More information can be found in the introduction to the series.

Pneumatic middle position (M)



A, a Main / direct connection, rotary actuator rotates clockwise

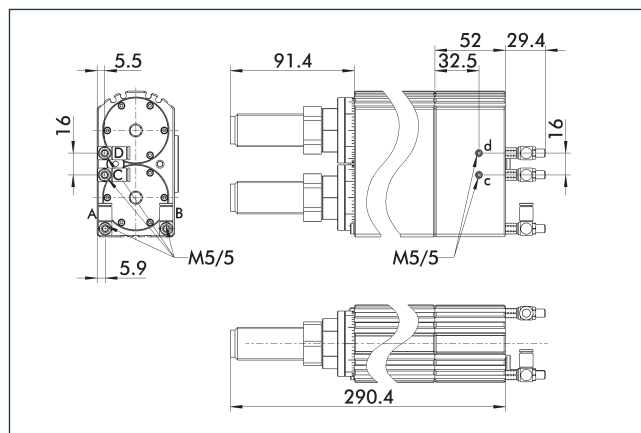
B, b Main / direct connection, rotary actuator rotates counterclockwise

C, c Main / direct connection, middle position

D, d Main / direct connection, middle position

Dimensional changes for the option with the "pneumatic middle position". Heavy attachments may swing before they reach the final position. The locked middle position (VM) can resolve this.

Locked middle position (VM)



A, a Main / direct connection, rotary actuator rotates clockwise

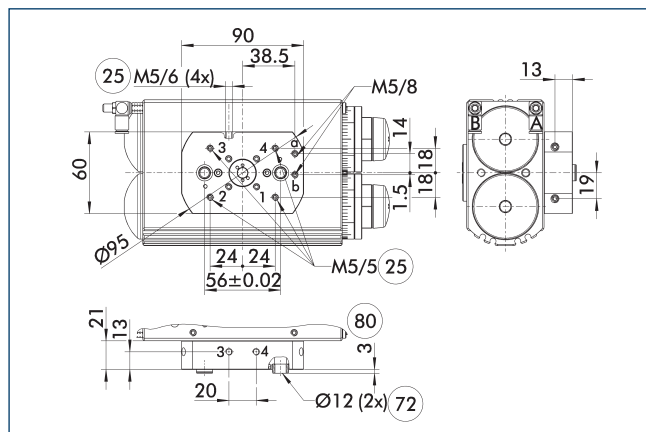
B, b Main / direct connection, rotary actuator rotates counterclockwise

C, c Main / direct connection, middle position

D, d Main / direct connection, middle position

Dimensional changes with the "locked middle position (VM)" option. The middle position is locked and is actuated with the force of the main drive piston. Shock absorbers dampen the travel to the middle position and prevent overshooting.

Connections for fluid feed-through



A, a Main / direct connection, rotary actuator rotates clockwise

B, b Main / direct connection, rotary actuator rotates counterclockwise

25 Fluid feed-through

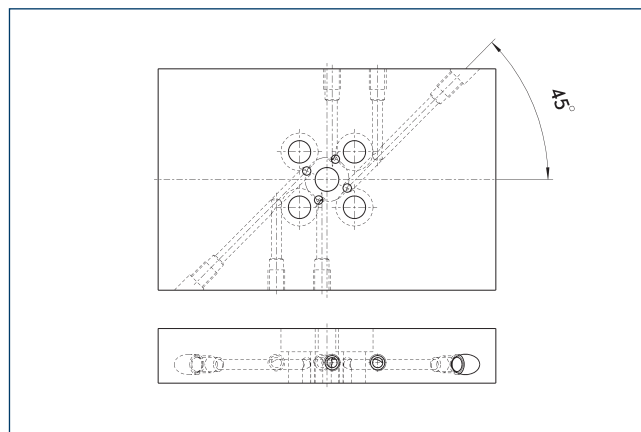
72 Fit for centering sleeves

80 Depth of the centering sleeve hole in the counter part

Lower mounting plate for the fluid feed-through option. Vacuum, gases or fluids can be fed through. The connection may be a screw type or a direct connection.

① View applicable only for versions without EDF!

Adapter plate design



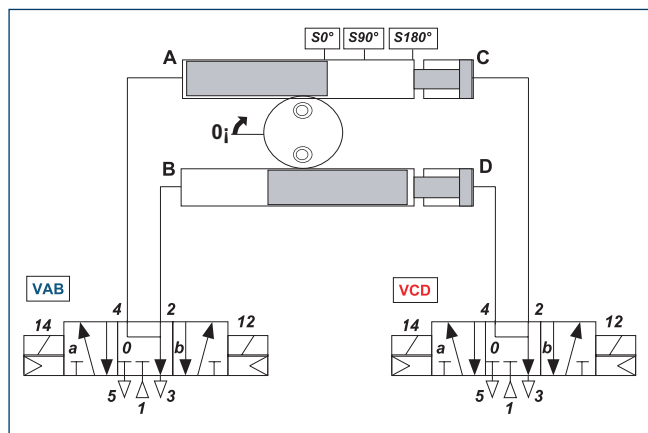
Suggested here is an adapter plate design which allows for all fluid feed-throughs to be accessed as easily as possible.

① View applicable only for versions without EDF!

SRU-plus 35

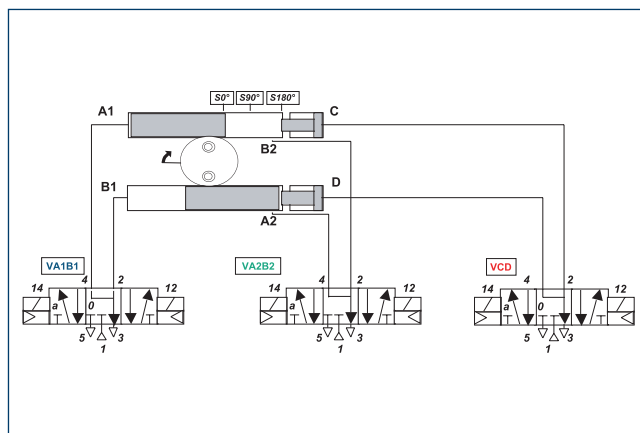
Universal swivel unit

Pneumatic diagram of SRU-plus-VM — vertical axis



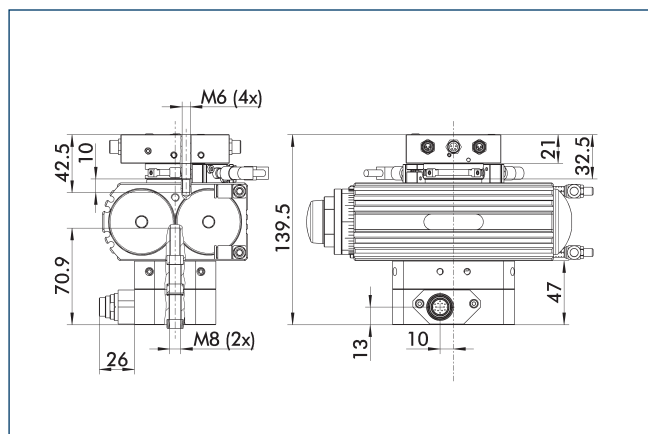
VM rotary actuators with a vertical rotary axis are generally actuated by two 5/3 directional control valves with an exhausted middle position. To prevent damage, it is essential to pay attention to the actuation sequence indicated in the operating manual.

Pneumatic diagram of SRU-plus-VM — horizontal axis



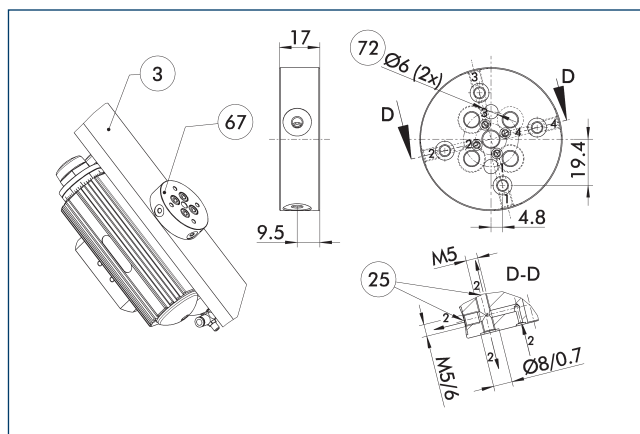
VM rotary actuators with a horizontal or non-vertical rotary axis must generally be actuated by three 5/3 directional control valves with an exhausted middle position. To prevent damage, it is essential to pay attention to the actuation sequence indicated in the operating manual.

Attachment kit for proximity switch at SRU-plus with EDF



The attachment kit cannot be ordered separately. The SRU-plus with EDF and attachment kit are delivered as a complete unit by SCHUNK. Please pay attention to our options SRU-plus ...-AS.

Distributor for SRU-plus



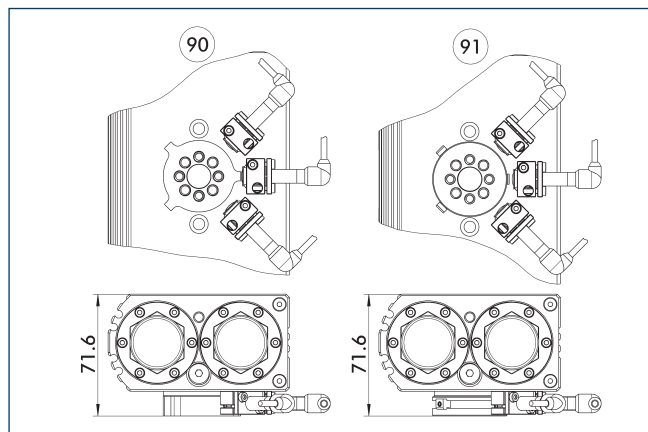
- ③ Adapter
- ②⑤ Fluid feed-through
- ⑥⑦ Distributor for media feed-through
- ⑦② Fit for centering sleeves

The distributor for SRU-plus facilitates the use of the fluid feed-throughs, both at the direct attachment to the distributor, and in the lines conveying the fluid inside the adapter plate. Due to the distributor, only a simple drilling pattern has to be drilled in the adapter plate located between the pinion and the distributor.

Description	ID
Distributor plate	
V-SRU-plus 35	0357792

① View applicable only for versions without EDF!

Attachment kit for proximity switch at SRU-plus without EDF



90 AS-NHS-F-SRU-plus 35

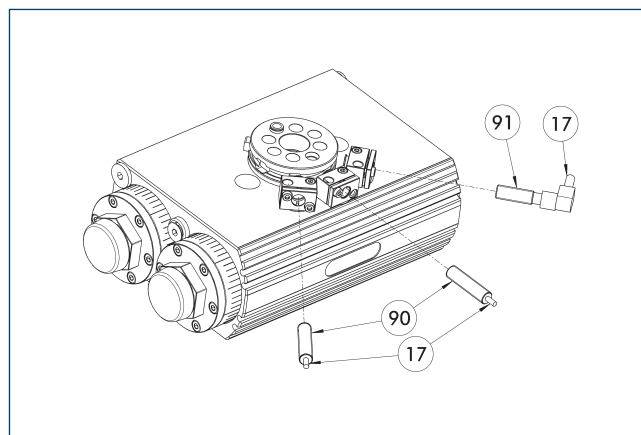
91 AS-NHS-SRU-plus 35

The attachment kit cannot be ordered separately. The SRU-plus with EDF and attachment kit are delivered as a complete unit by SCHUNK. Please pay attention to our options SRU-plus ...-AS.

Description	ID	
Mounting kit for proximity switch with fixed cam		
AS-NHS-F-SRU-plus 35	0362095	
AS-NHS-F-SRU-plus 35-4	0362096	
Mounting kit for proximity switch with adjustable cam		
AS-NHS-SRU-plus 35	0362090	
AS-NHS-SRU-plus 35-4	0362091	

① Please note the number of necessary feed-throughs for your swivel unit when selecting the proper attachment kit.

Inductive proximity switches IN for SRU-plus without EDF



17 Cable outlet

91 Sensor IN...-SA

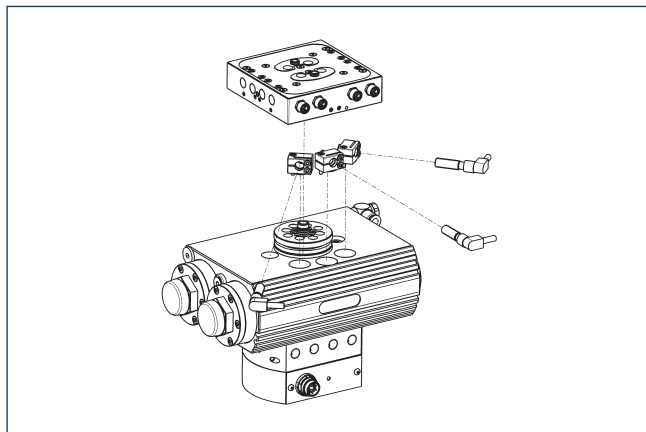
90 Sensor IN ...

End and intermediate position monitoring can be mounted with mounting kit

Description	ID	Often combined
Mounting kit for proximity switch with fixed cam		
AS-NHS-F-SRU-plus 35	0362095	
AS-NHS-F-SRU-plus 35-4	0362096	
Mounting kit for proximity switch with adjustable cam		
AS-NHS-SRU-plus 35	0362090	
AS-NHS-SRU-plus 35-4	0362091	
Inductive proximity switches		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
IN-C 80-S-M8-PNP	0301475	
INK 80-S	0301550	
INK 80-SL	0301579	
Inductive proximity switch with lateral cable outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	●
INK 80-S-SA	0301566	

① View applicable only for versions without EDF!

Inductive proximity switches IN for SRU-plus with EDF

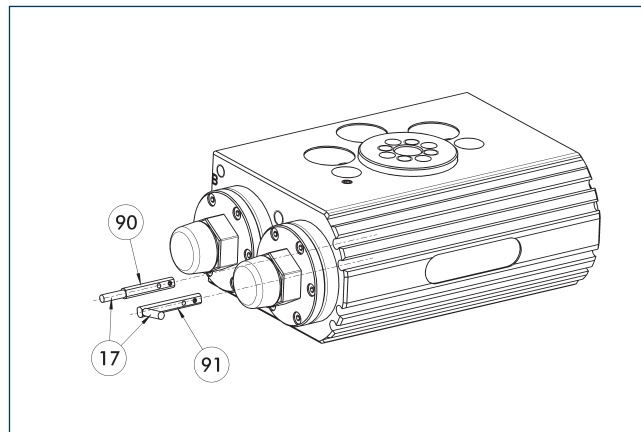


End and intermediate position monitoring mounted directly

Description	ID	Often combined
Inductive proximity switches		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
IN-C 80-S-M8-PNP	0301475	
INK 80-S	0301550	
INK 80-SL	0301579	
Inductive proximity switch with lateral cable outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	●
INK 80-S-SA	0301566	
Cable extension		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	
clip for plug/socket		
CLI-M12	0301464	
CLI-M8	0301463	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Sensor distributor		
V2-M12	0301776	●
V2-M8	0301775	●
V4-M12	0301747	
V4-M8	0301746	
V8-M12	0301752	
V8-M8	0301751	

- ① Two sensors are required per unit for monitoring two positions. On option, extension cables and sensor distributors are available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor system.

Electronic magnetic switch MMS



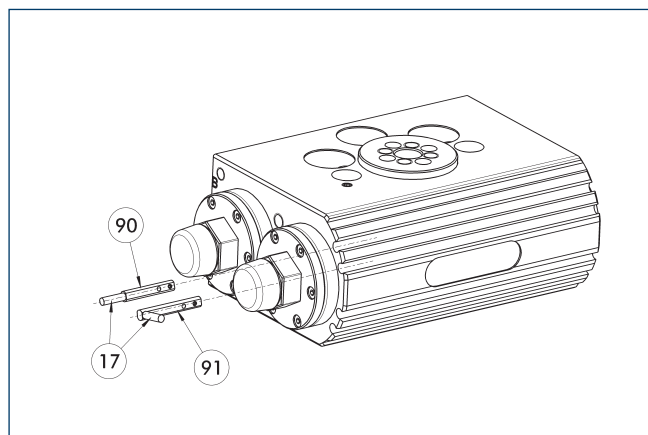
- ①7 Cable outlet
①90 Sensor MMS 22..
①91 Sensor MMS 22...-SA

End and intermediate position monitoring mounted in C-slot

Description	ID	Often combined
Electronic magnetic switch		
MMS 22-S-M8-PNP	0301032	●
MMSK 22-S-PNP	0301034	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M8-PNP-SA	0301042	●
MMSK 22-S-PNP-SA	0301044	
Cable extension		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
clip for plug/socket		
CLI-M8	0301463	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
Sensor distributor		
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

- ① Two sensors are required per unit for monitoring two positions. On option, extension cables and sensor distributors are available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor system.

Programmable magnetic switch MMS 22-PI1



①⑦ Cable outlet

①⑨ Sensor MMS 22 ..-PI1-...-SA

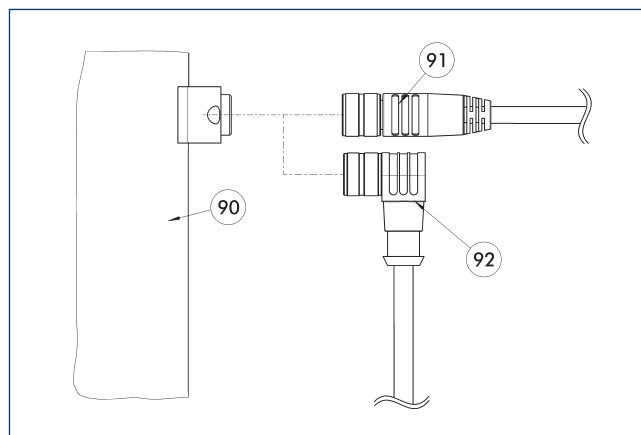
①⑩ Sensor MMS 22 PI1-...

Position monitoring with one programmable position per sensor and integrated electronic system in the sensor. Can be programmed using MT magnetic teaching tool (included in the scope of delivery) or ST plug teaching tool (optional). End position monitoring for mounting in the C-slot. If the ST plug teaching tools are listed in the table provided, teaching is only possible with the ST teaching tools.

Description	ID	Often combined
Programmable magnetic switch		
MMS 22-PI1-S-M8-PNP	0301160	●
MMSK 22-PI1-S-PNP	0301162	
Programmable magnetic switch with lateral cable outlet		
MMS 22-PI1-S-M8-PNP-SA	0301166	●
MMSK 22-PI1-S-PNP-SA	0301168	
Programmable magnetic switch with stainless steel housing		
MMS 22-PI1-S-M8-PNP-HD	0301110	●
MMSK 22-PI1-S-PNP-HD	0301112	

① Two sensors are required per unit for monitoring two positions. On option, extension cables and sensor distributors are available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor system.

Connection cables



①⑩ Electrical connection component

①⑨ Cable with straight connector

①⑫ Cable with angled connector

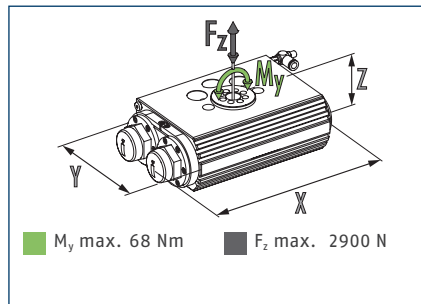
Description	ID	Length [m]
Connection cables		
KA BG16-L 12P-1000	0301801	10
KA BW16-L 12P-0500	0323005	5

① BG stands for a connection cable with a straight female connector and BW for an angled female connector. SG stands for a connection cable with a straight male connector and SW for an angled male connector.

SRU-plus 40

Universal swivel unit

Dimensions and maximum loads



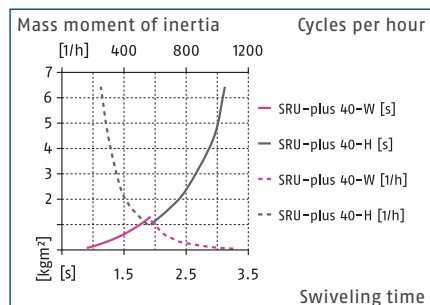
① The indicated moments and forces are static values and may appear simultaneously. Throttling has to be done for ensuring that the rotary movement takes place without impact or bouncing. Otherwise the service life reduces.

Technical data of SRU-plus without middle position

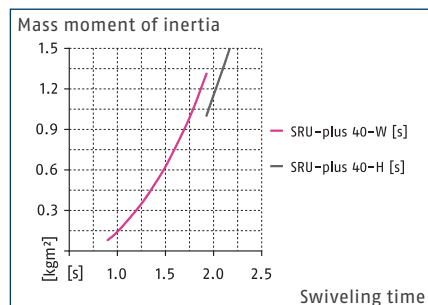
Designation (soft damping)		SRU-plus 40-W-90-3	SRU-plus 40-W-180-3	SRU-plus 40-W-180-90
ID		0362200	0362220	0362250
Designation (hard damping)		SRU-plus 40-H-90-3	SRU-plus 40-H-180-3	SRU-plus 40-H-180-90
ID		0362300	0362320	0362350
End position damping		hydr. damper	hydr. damper	hydr. damper
Angle of rotation	[°]	90.0	180.0	180.0
End position adjustability	[°]	3.0	3.0	90.0
Torque	[Nm]	20.0	20.0	20.0
Number of intermediate positions		none	none	none
IP protection class		67	67	67
Weight	[kg]	4.2	4.2	4.3
Fluid consumption (2x nom. angle)	[cm³]	208.0	336.0	336.0
Min./nom./max. operating pressure	[bar]	4/6/8	4/6/8	4/6/8
Diameter of connecting hose		8 x 6 x 1	8 x 6 x 1	8 x 6 x 1
Min./max. ambient temperature	[°C]	5/60	5/60	5/60
Repeat accuracy	[°]	0.05	0.05	0.05
Dimensions X x Y x Z	[mm]	223.4 x 121 x 69	223.4 x 121 x 69	248.2 x 121 x 69
Options with fluid feed-through				
Designation (soft damping)		SRU-plus 40-W-90-3-8	SRU-plus 40-W-180-3-8	SRU-plus 40-W-180-90-8
ID		0362202	0362222	0362252
Designation (hard damping)		SRU-plus 40-H-90-3-8	SRU-plus 40-H-180-3-8	SRU-plus 40-H-180-90-8
ID		0362302	0362322	0362352
Torque	[Nm]	19.2	19.2	19.2
Weight	[kg]	4.9	4.9	5
No. of fluid feed-throughs		8	8	8
Max. pressure fluid feed-through	[bar]	8	8	8
Dimensions X x Y x Z	[mm]	223.4 x 121 x 101.5	223.4 x 121 x 101.5	248.2 x 121 x 101.5
Options with fluid and electric feed-through				
Designation (soft damping)		SRU-plus 40-W-90-3-8-M8	SRU-plus 40-W-180-3-8-M8	SRU-plus 40-W-180-90-8-M8
ID		0362204	0362224	0362254
Designation (hard damping)		SRU-plus 40-H-90-3-8-M8	SRU-plus 40-H-180-3-8-M8	SRU-plus 40-H-180-90-8-M8
ID		0362304	0362324	0362354
Weight	[kg]	6.45	6.45	6.55
Number/size of electrical connections on the output end		9/M8	9/M8	9/M8
Max. voltage	[V]	24	24	24
Max. current per wire/total	[A]	1/1	1/1	1/1
Dimensions X x Y x Z	[mm]	223.4 x 121 x 156.6	223.4 x 121 x 156.6	248.2 x 121 x 156.6
Options with fluid and electric feed-through and mounting kit				
Designation (soft damping)		SRU-plus 40-W-90-3-8-M8-AS	SRU-plus 40-W-180-3-8-M8-AS	SRU-plus 40-W-180-90-8-M8-AS
ID		0362207	0362227	0362257
Designation (hard damping)		SRU-plus 40-H-90-3-8-M8-AS	SRU-plus 40-H-180-3-8-M8-AS	SRU-plus 40-H-180-90-8-M8-AS
ID		0362307	0362327	0362357
Dimensions X x Y x Z	[mm]	223.4 x 121 x 168	223.4 x 121 x 168	248.2 x 121 x 168

① All units are also available in an FKM version. Please contact us for details.

Max. permissible inertia J*



Max. permissible inertia J*



* The diagrams are valid for swivel angles of 90° and 180°, units without center position and for applications with a vertical swivel axis as well as for absolutely centric loads with a horizontal rotary axis and with a pneumatic operating pressure of 6 bar. The swiveling times per throttling have to be observed, otherwise the life time could reduce. We will be happy to help you to design other cases of application.

Technical data of SRU-plus with middle position

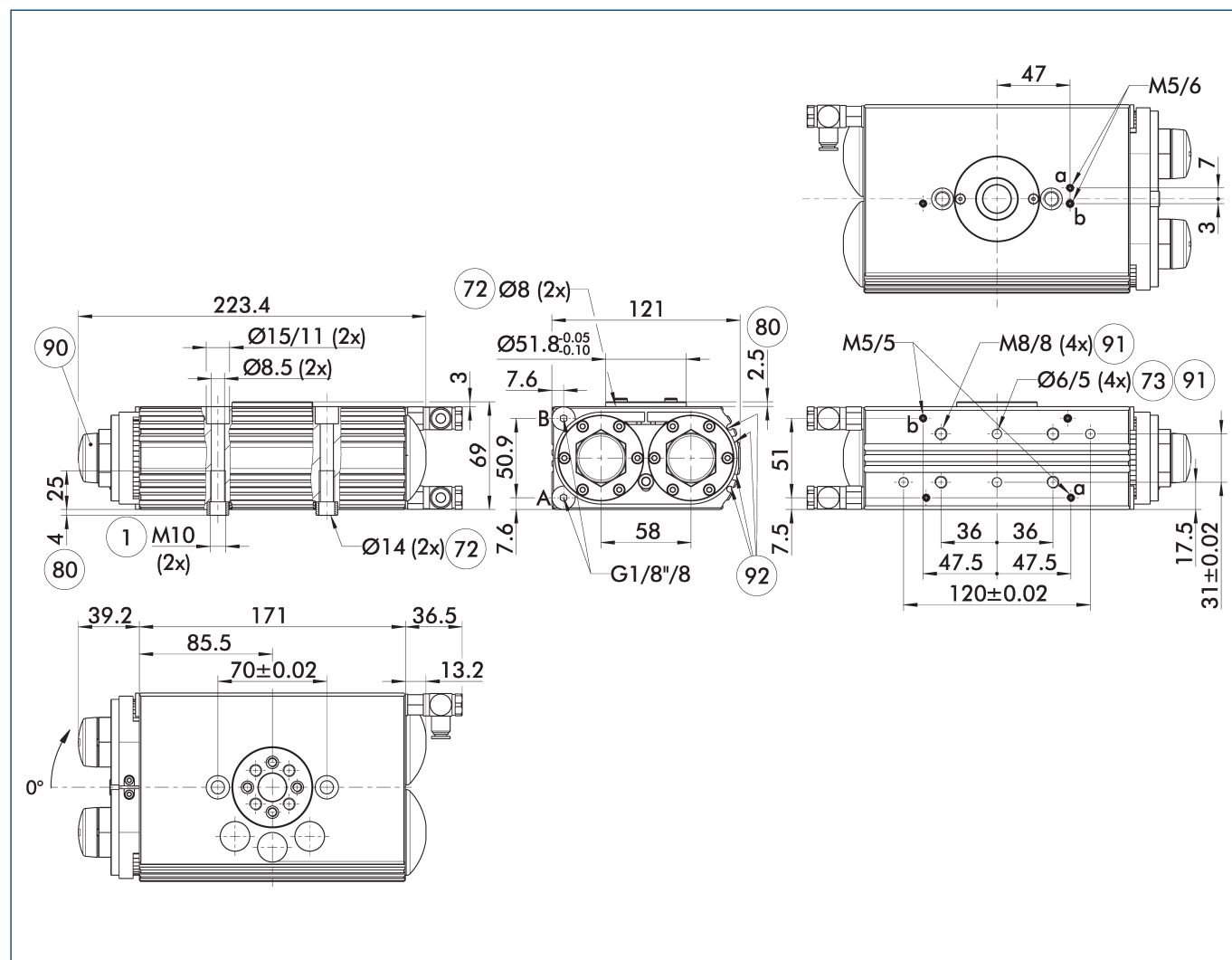
Designation (soft damping)		SRU-plus 40-W-180-3-M	SRU-plus 40-W-180-3-VM	SRU-plus 40-W-180-90-M
ID		0362230	0362240	0362260
End position damping		hydr. damper	hydr. damper	hydr. damper
Angle of rotation	[°]	180.0	180.0	180.0
End position adjustability	[°]	3.0	3.0	90.0
Torque	[Nm]	20.0	20.0	20.0
Number of intermediate positions		1 x M (pneumatic)	1 x VM (locked)	1 x M (pneumatic)
Adjustability of middle position	[°]	3.0	3.0	3.0
IP protection class		67	67	67
Weight	[kg]	5.5	6.5	5.7
Fluid consumption (2x nom. angle)	[cm³]	336.0	336.0	336.0
Min./nom./max. operating pressure	[bar]	4/6/8	4/6/6.5	4/6/8
Diameter of connecting hose		8 x 6 x 1	8 x 6 x 1	8 x 6 x 1
Min./max. ambient temperature	[°C]	5/60	5/60	5/60
Repeat accuracy	[°]	0.05	0.05	0.05
Dimensions X x Y x Z	[mm]	282.4 x 121 x 69	343.5 x 121 x 69	307.2 x 121 x 69
Options with fluid feed-through				
Designation (soft damping)		SRU-plus 40-W-180-3-M-8	SRU-plus 40-W-180-3-VM-8	SRU-plus 40-W-180-90-M-8
ID		0362232	0362242	0362262
Torque	[Nm]	19.2	19.2	19.2
Weight	[kg]	6.2	7.2	6.4
No. of fluid feed-throughs		8	8	8
Max. pressure fluid feed-through	[bar]	8	8	8
Dimensions X x Y x Z	[mm]	282.4 x 121 x 101.5	343.5 x 121 x 101.5	307.2 x 121 x 101.5
Options with fluid and electric feed-through				
Designation (soft damping)		SRU-plus 40-W-180-3-M-8-M8	SRU-plus 40-W-180-3-VM-8-M8	SRU-plus 40-W-180-90-M-8-M8
ID		0362234	0362244	0362264
Weight	[kg]	7.75	8.75	7.95
Number/size of electrical connections on the output end		9/M8	9/M8	9/M8
Max. voltage	[V]	24	24	24
Max. current per wire/total	[A]	1/1	1/1	1/1
Dimensions X x Y x Z	[mm]	282.4 x 121 x 156.6	343.5 x 121 x 156.6	307.2 x 121 x 156.6
Options with fluid and electric feed-through and mounting kit				
Designation (soft damping)		SRU-plus 40-W-180-3-M-8-M8-AS	SRU-plus 40-W-180-3-VM-8-M8-AS	SRU-plus 40-W-180-90-M-8-M8-AS
ID		0362237	0362247	0362267
Dimensions X x Y x Z	[mm]	282.4 x 121 x 168	343.5 x 121 x 168	307.2 x 121 x 168

① All units are also available in an FKM version. Please contact us for details.

SRU-plus 40

Universal swivel unit

Main view for SRU-plus without EDF



The main view shows the SRU-plus in the most basic version, with a swivel angle of 180°/90°, small end position adjustability of 3°, without a middle position, and without fluid feed-through.

① The SDV-P pressure maintenance valve can be used to maintain the position in the case of a loss of pressure (see "Accessories" catalog section).

A, a Main / direct connection, rotary actuator rotates clockwise

B, b Main / direct connection, rotary actuator rotates counterclockwise

① Connection swivel unit

⑦② Fit for centering sleeves

⑦③ Fit for centering pins

⑧① Depth of the centering sleeve hole in the counter part

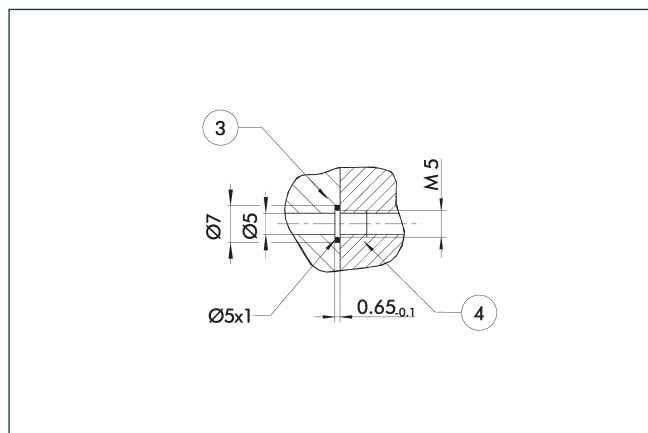
⑨① Cover caps

⑨① Not intended for mounting the unit, only for attachments

⑨② Sensor MMS 22..

(85) Sensor feed-through output

Hose-free direct connection M5

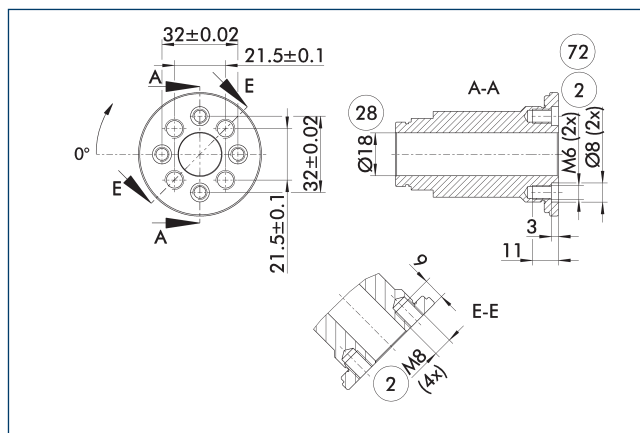


③ Adapter

④ Rotary unit

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Pinion without fluid feed-through



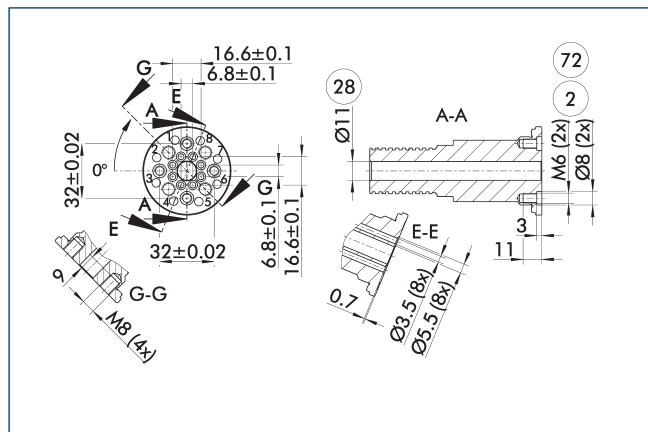
② Attachment connection

⑦② Fit for centering sleeves

②⑧ Through-hole

Mounting pattern for fastening the rotating load to the pinion. The "4x large threads for 4 screws and 2 counter bores for centering sleeves" option is preferable to the "4x small threads for 2 screws and 2 shoulder bolts (in the deeper counter bores)" option.

Pinion with fluid feed-through



② Attachment connection

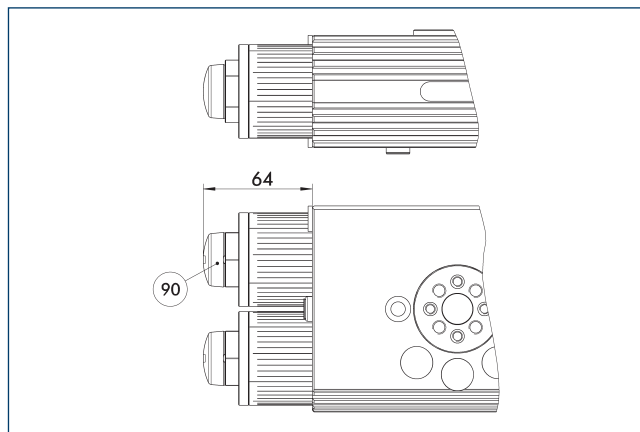
⑦② Fit for centering sleeves

②⑧ Through-hole

Pinion screw connection diagram if the option "fluid feed-through" was chosen. The preferred drilling pattern is two screws and two screws with a centering sleeve.

① View applicable only for versions without EDF!

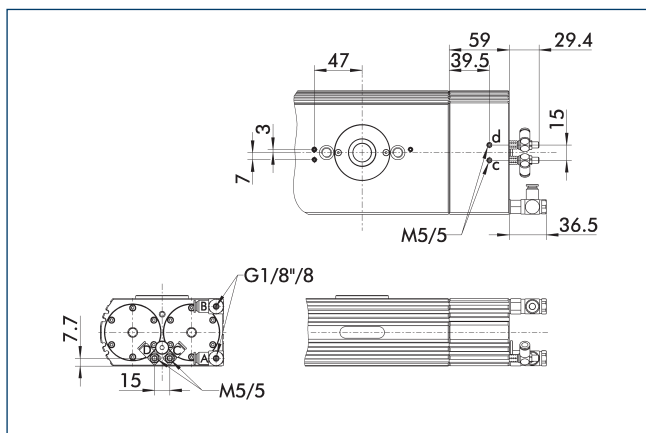
Large end position adjustability 90°



⑨⑩ Cover caps

Dimensional changes for the option with "large end position adjustability (90°)". This permits the end positions to be adjusted by up to 93°. More information can be found in the introduction to the series.

Pneumatic middle position (M)



A, a Main / direct connection, rotary actuator rotates clockwise

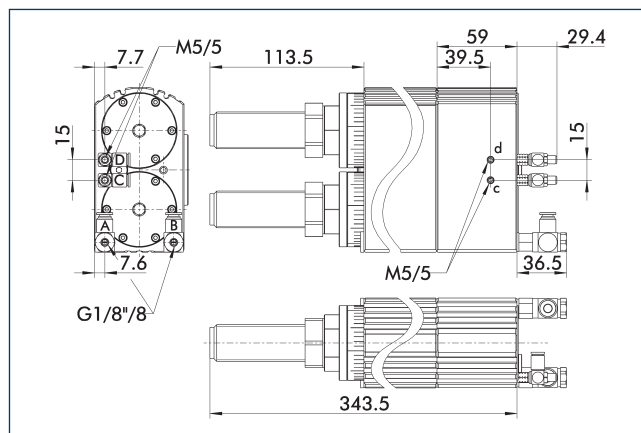
B, b Main / direct connection, rotary actuator rotates counterclockwise

C, c Main / direct connection, middle position

D, d Main / direct connection, middle position

Dimensional changes for the option with the "pneumatic middle position". Heavy attachments may swing before they reach the final position. The locked middle position (VM) can resolve this.

Locked middle position (VM)



A, a Main / direct connection, rotary actuator rotates clockwise

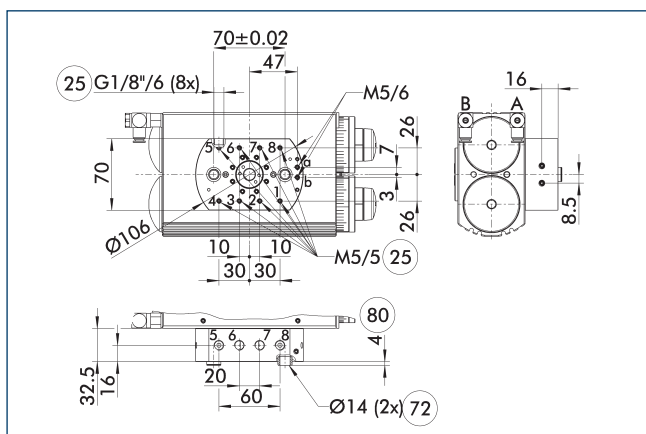
B, b Main / direct connection, rotary actuator rotates counterclockwise

C, c Main / direct connection, middle position

D, d Main / direct connection, middle position

Dimensional changes with the "locked middle position (VM)" option. The middle position is locked and is actuated with the force of the main drive piston. Shock absorbers dampen the travel to the middle position and prevent overshooting.

Connections for fluid feed-through



A, a Main / direct connection, rotary actuator rotates clockwise

B, b Main / direct connection, rotary actuator rotates counterclockwise

25 Fluid feed-through

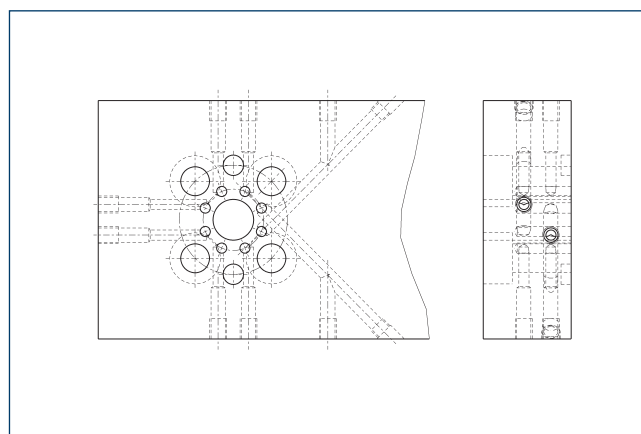
72 Fit for centering sleeves

80 Depth of the centering sleeve hole in the counter part

Lower mounting plate for the fluid feed-through option. Vacuum, gases or fluids can be fed through. The connection may be a screw type or a direct connection.

① View applicable only for versions without EDF!

Adapter plate design



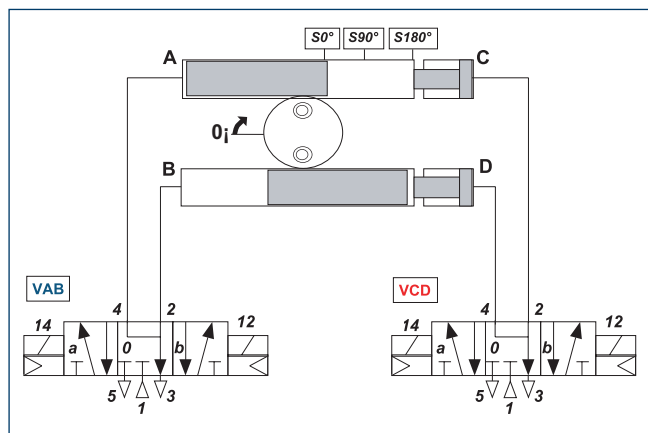
Suggested here is an adapter plate design which allows for all fluid feed-throughs to be accessed as easily as possible.

① View applicable only for versions without EDF!

SRU-plus 40

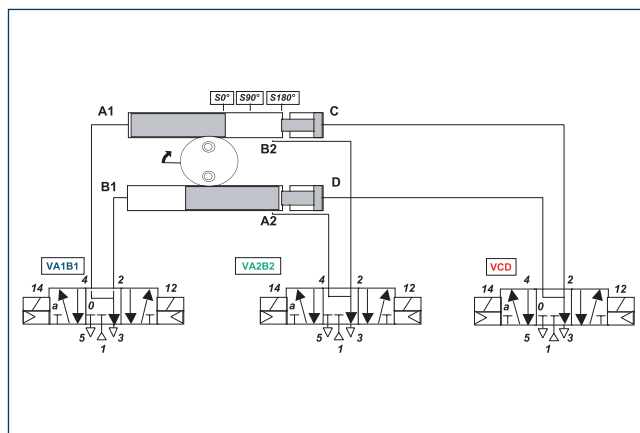
Universal swivel unit

Pneumatic diagram of SRU-plus-VM — vertical axis



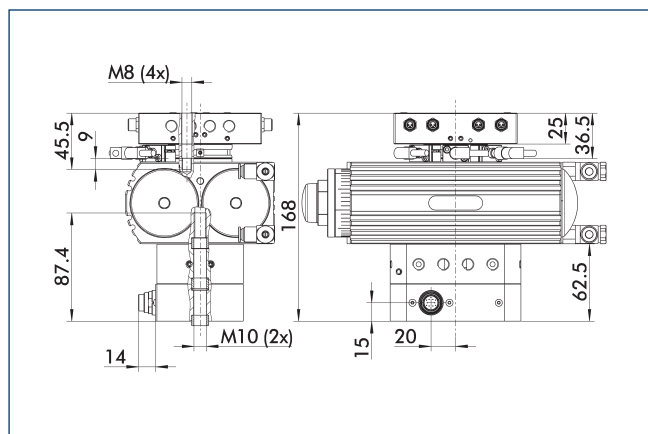
VM rotary actuators with a vertical rotary axis are generally actuated by two 5/3 directional control valves with an exhausted middle position. To prevent damage, it is essential to pay attention to the actuation sequence indicated in the operating manual.

Pneumatic diagram of SRU-plus-VM — horizontal axis



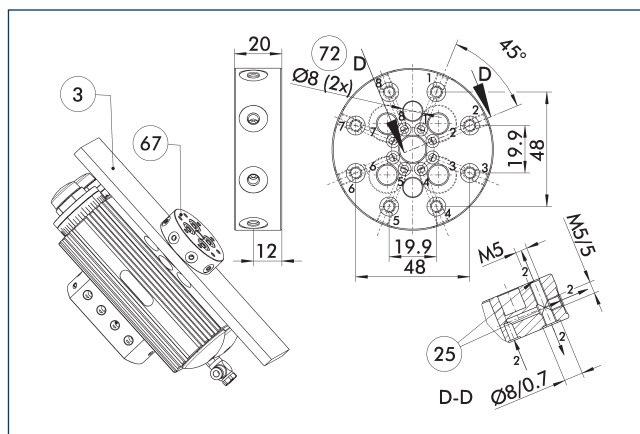
VM rotary actuators with a horizontal or non-vertical rotary axis must generally be actuated by three 5/3 directional control valves with an exhausted middle position. To prevent damage, it is essential to pay attention to the actuation sequence indicated in the operating manual.

Attachment kit for proximity switch at SRU-plus with EDF



The attachment kit cannot be ordered separately. The SRU-plus with EDF and attachment kit are delivered as a complete unit by SCHUNK. Please pay attention to our options SRU-plus ...-AS.

Distributor for SRU-plus



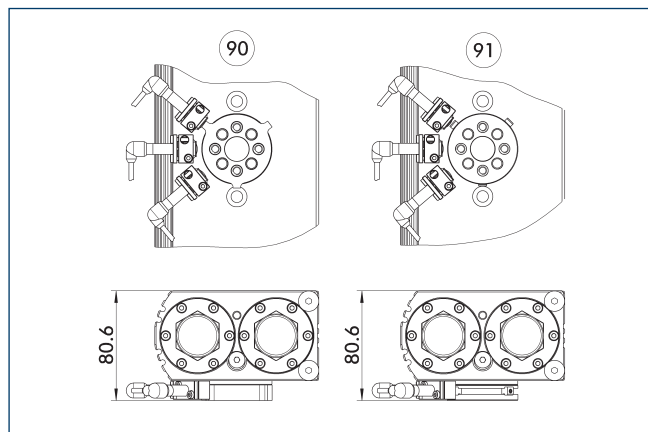
- ③ Adapter
- ②⑤ Fluid feed-through
- ⑥⑦ Distributor for media feed-through
- ⑦② Fit for centering sleeves

The distributor for SRU-plus facilitates the use of the fluid feed-throughs, both at the direct attachment to the distributor, and in the lines conveying the fluid inside the adapter plate. Due to the distributor, only a simple drilling pattern has to be drilled in the adapter plate located between the pinion and the distributor.

Description	ID	
Distributor plate		
V-SRU-plus 40	0357992	

① View applicable only for versions without EDF!

Attachment kit for proximity switch at SRU-plus without EDF



90 AS-NHS-F-SRU-plus 40

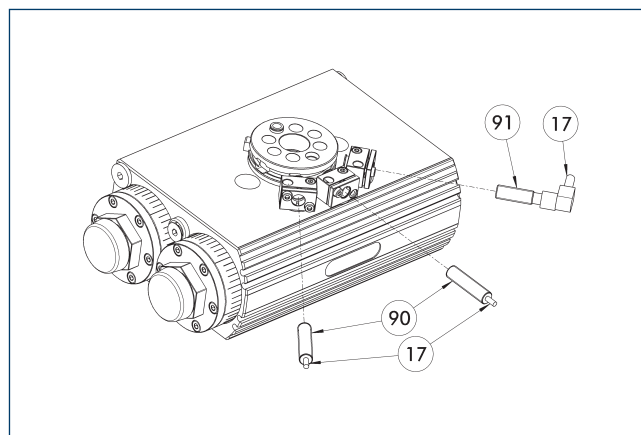
91 AS-NHS-SRU-plus 40

The size-specific attachment kit is required for installing the inductive proximity switches. Up to three proximity switches (2x end position, 1x middle position) can be attached using the attachment kit.

Description	ID	
Mounting kit for proximity switch with fixed cam		
AS-NHS-F-SRU-plus 40	0362295	
AS-NHS-F-SRU-plus 40-8	0362296	
Mounting kit for proximity switch with adjustable cam		
AS-NHS-SRU-plus 40	0362290	
AS-NHS-SRU-plus 40-8	0362291	

① Please note the number of necessary feed-throughs for your swivel unit when selecting the proper attachment kit.

Inductive proximity switches IN for SRU-plus without EDF



17 Cable outlet

91 Sensor IN...-SA

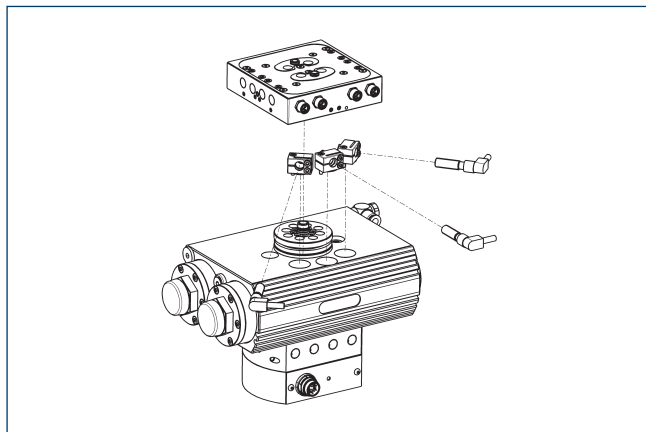
90 Sensor IN ...

End and intermediate position monitoring can be mounted with mounting kit

Description	ID	Often combined
Mounting kit for proximity switch with fixed cam		
AS-NHS-F-SRU-plus 40	0362295	
AS-NHS-F-SRU-plus 40-8	0362296	
Mounting kit for proximity switch with adjustable cam		
AS-NHS-SRU-plus 40	0362290	
AS-NHS-SRU-plus 40-8	0362291	
Inductive proximity switches		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
IN-C 80-S-M8-PNP	0301475	
INK 80-S	0301550	
INK 80-SL	0301579	
Inductive proximity switch with lateral cable outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	●
INK 80-S-SA	0301566	

① View applicable only for versions without EDF!

Inductive proximity switches IN for SRU-plus with EDF

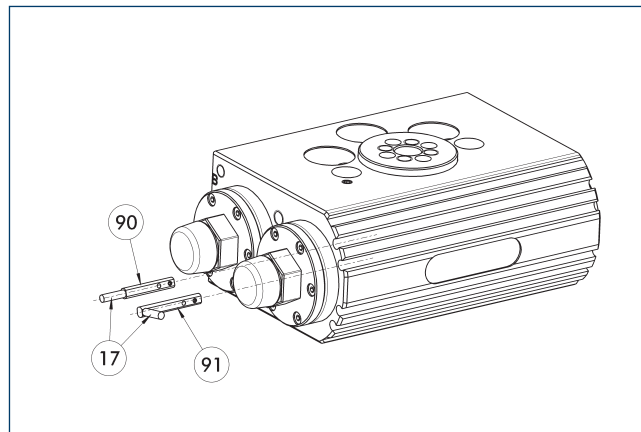


End and intermediate position monitoring mounted directly

Description	ID	Often combined
Inductive proximity switches		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
IN-C 80-S-M8-PNP	0301475	
INK 80-S	0301550	
INK 80-SL	0301579	
Inductive proximity switch with lateral cable outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	●
INK 80-S-SA	0301566	
Cable extension		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	
clip for plug/socket		
CLI-M12	0301464	
CLI-M8	0301463	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Sensor distributor		
V2-M12	0301776	●
V2-M8	0301775	●
V4-M12	0301747	
V4-M8	0301746	
V8-M12	0301752	
V8-M8	0301751	

- ① Two sensors are required per unit for monitoring two positions. On option, extension cables and sensor distributors are available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor system.

Electronic magnetic switch MMS



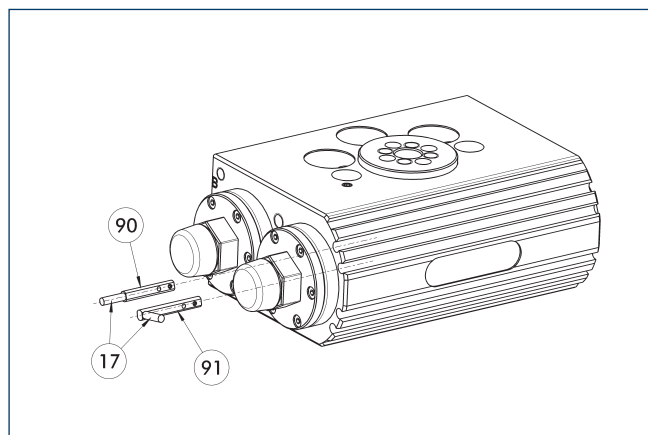
- ①7 Cable outlet
①90 Sensor MMS 22..
①91 Sensor MMS 22...-SA

End and intermediate position monitoring mounted in C-slot

Description	ID	Often combined
Electronic magnetic switch		
MMS 22-S-M8-PNP	0301032	●
MMSK 22-S-PNP	0301034	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M8-PNP-SA	0301042	●
MMSK 22-S-PNP-SA	0301044	
Cable extension		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
clip for plug/socket		
CLI-M8	0301463	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
Sensor distributor		
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

- ① Two sensors are required per unit for monitoring two positions. On option, extension cables and sensor distributors are available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor system.

Programmable magnetic switch MMS 22-PI1



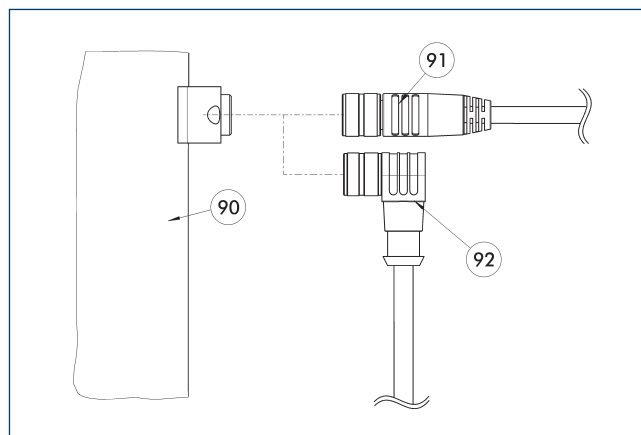
- ①⑦ Cable outlet
①⑨ Sensor MMS 22-PI1-...-SA

Position monitoring with one programmable position per sensor and integrated electronic system in the sensor. Can be programmed using MT magnetic teaching tool (included in the scope of delivery) or ST plug teaching tool (optional). End position monitoring for mounting in the C-slot. If the ST plug teaching tools are listed in the table provided, teaching is only possible with the ST teaching tools.

Description	ID	Often combined
Programmable magnetic switch		
MMS 22-PI1-S-M8-PNP	0301160	●
MMSK 22-PI1-S-PNP	0301162	
Programmable magnetic switch with lateral cable outlet		
MMS 22-PI1-S-M8-PNP-SA	0301166	●
MMSK 22-PI1-S-PNP-SA	0301168	
Programmable magnetic switch with stainless steel housing		
MMS 22-PI1-S-M8-PNP-HD	0301110	●
MMSK 22-PI1-S-PNP-HD	0301112	

- ① Two sensors are required per unit for monitoring two positions. On option, extension cables and sensor distributors are available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor system.

Connection cables



- ①⑨ Electrical connection component
①⑦ Cable with straight connector
①⑧ Cable with angled connector

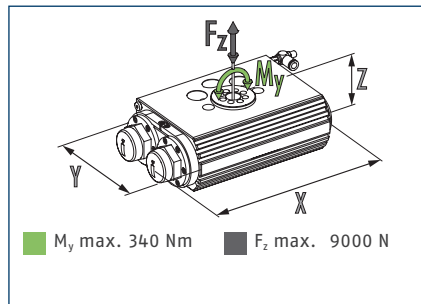
Description	ID	Length
		[m]
Connection cables		
KA BG16-L 12P-1000	0301801	10
KA BW16-L 12P-0500	0323005	5

- ① BG stands for a connection cable with a straight female connector and BW for an angled female connector. SG stands for a connection cable with a straight male connector and SW for an angled male connector.

SRU-plus 50

Universal swivel unit

Dimensions and maximum loads



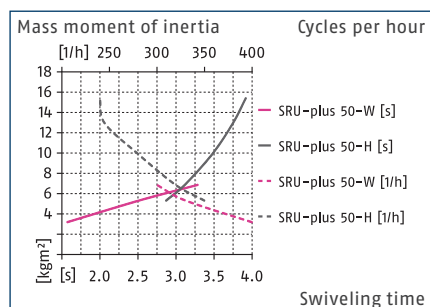
① The indicated moments and forces are static values and may appear simultaneously. Throttling has to be done for ensuring that the rotary movement takes place without impact or bouncing. Otherwise the service life reduces.

Technical data of SRU-plus without middle position

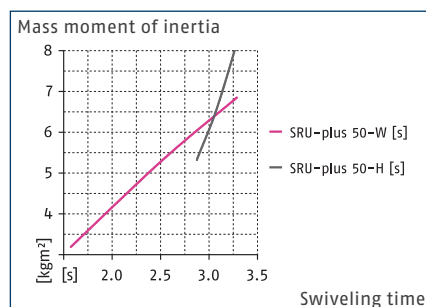
Designation (soft damping)		SRU-plus 50-W-90-3	SRU-plus 50-W-180-3	SRU-plus 50-W-180-90
ID		0362600	0362620	0362650
Designation (hard damping)		SRU-plus 50-H-90-3	SRU-plus 50-H-180-3	SRU-plus 50-H-180-90
ID		0362700	0362720	0362750
End position damping		hydr. damper	hydr. damper	hydr. damper
Angle of rotation	[°]	90.0	180.0	180.0
End position adjustability	[°]	3.0	3.0	90.0
Torque	[Nm]	52.0	52.0	52.0
Number of intermediate positions		none	none	none
IP protection class		67	67	67
Weight	[kg]	9.4	9.4	9.8
Fluid consumption (2x nom. angle)	[cm³]	448.0	776.0	776.0
Min./nom./max. operating pressure	[bar]	4/6/8	4/6/8	4/6/8
Diameter of connecting hose		8 x 6 x 1	8 x 6 x 1	8 x 6 x 1
Min./max. ambient temperature	[°C]	5/60	5/60	5/60
Repeat accuracy	[°]	0.05	0.05	0.05
Dimensions X x Y x Z	[mm]	317 x 150 x 92.5	317 x 150 x 92.5	357.9 x 150 x 92.5
Options with fluid feed-through				
Designation (soft damping)		SRU-plus 50-W-90-3-8	SRU-plus 50-W-180-3-8	SRU-plus 50-W-180-90-8
ID		0362602	0362622	0362652
Designation (hard damping)		SRU-plus 50-H-90-3-8	SRU-plus 50-H-180-3-8	SRU-plus 50-H-180-90-8
ID		0362702	0362722	0362752
Torque	[Nm]	50.3	50.3	50.3
Weight	[kg]	9.6	9.6	10
No. of fluid feed-throughs		8	8	8
Max. pressure fluid feed-through	[bar]	8	8	8
Dimensions X x Y x Z	[mm]	317 x 150 x 103.5	317 x 150 x 103.5	357.9 x 150 x 103.5
Options with fluid and electric feed-through				
Designation (soft damping)		SRU-plus 50-W-90-3-8-M8	SRU-plus 50-W-180-3-8-M8	SRU-plus 50-W-180-90-8-M8
ID		0362604	0362624	0362654
Designation (hard damping)		SRU-plus 50-H-90-3-8-M8	SRU-plus 50-H-180-3-8-M8	SRU-plus 50-H-180-90-8-M8
ID		0362704	0362724	0362754
Weight	[kg]	11.55	11.55	11.95
Number/size of electrical connections on the output end		9/M8	9/M8	9/M8
Max. voltage	[V]	24	24	24
Max. current per wire/total	[A]	1/1	1/1	1/1
Dimensions X x Y x Z	[mm]	317 x 150 x 158.4	317 x 150 x 158.4	357.9 x 150 x 158.4
Options with fluid and electric feed-through and mounting kit				
Designation (soft damping)		SRU-plus 50-W-90-3-8-M8-AS	SRU-plus 50-W-180-3-8-M8-AS	SRU-plus 50-W-180-90-8-M8-AS
ID		0362607	0362627	0362657
Designation (hard damping)		SRU-plus 50-H-90-3-8-M8-AS	SRU-plus 50-H-180-3-8-M8-AS	SRU-plus 50-H-180-90-8-M8-AS
ID		0362707	0362727	0362757
Dimensions X x Y x Z	[mm]	317 x 150 x 173	317 x 150 x 173	357.9 x 150 x 173

① All units are also available in an FKM version. Please contact us for details.

Max. permissible inertia J*



Max. permissible inertia J*



* The diagrams are valid for swivel angles of 90° and 180°, units without center position and for applications with a vertical swivel axis as well as for absolutely centric loads with a horizontal rotary axis and with a pneumatic operating pressure of 6 bar. The swiveling times per throttling have to be observed, otherwise the life time could reduce. We will be happy to help you to design other cases of application.

Technical data of SRU-plus with middle position

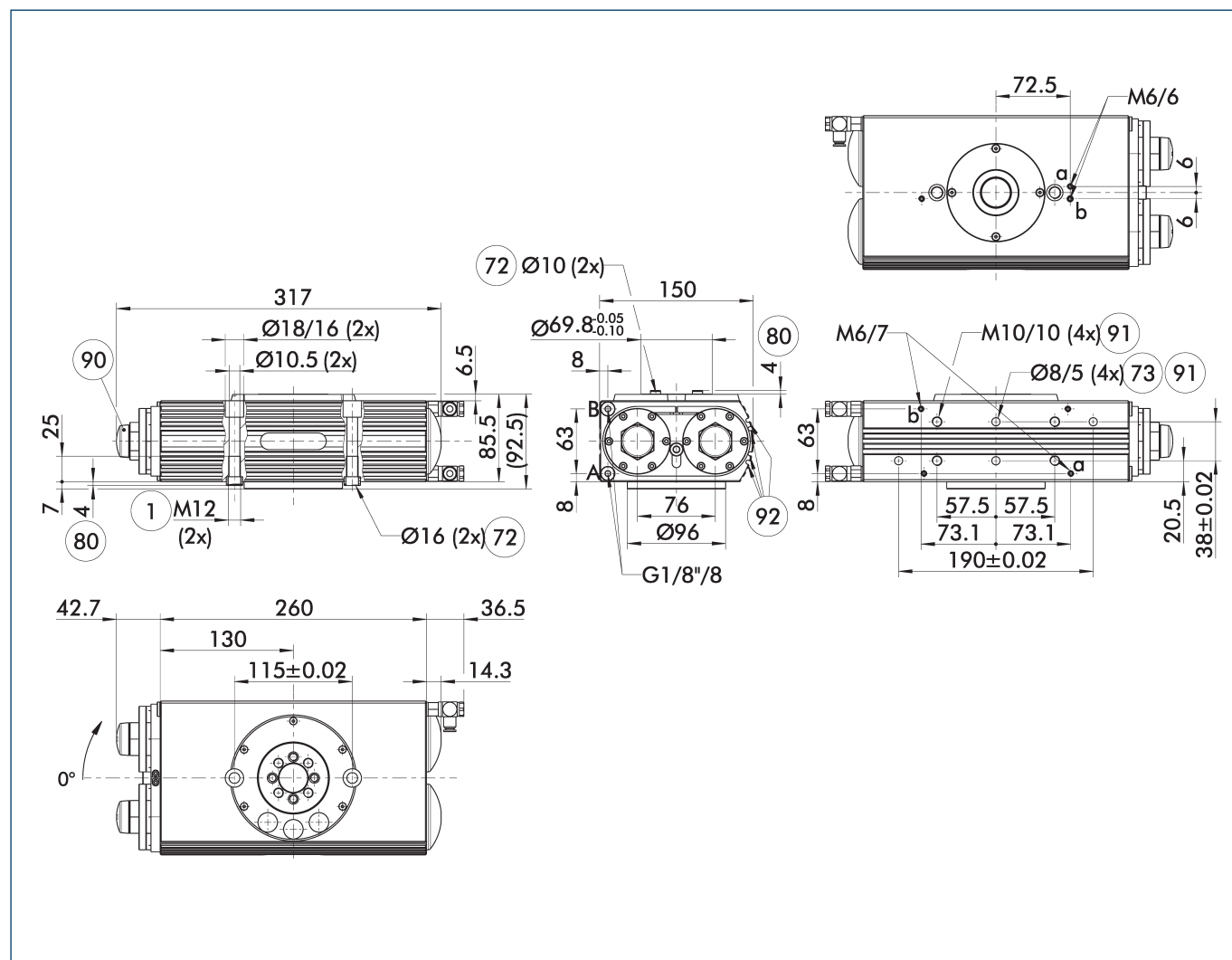
Designation (soft damping)		SRU-plus 50-W-180-3-M	SRU-plus 50-W-180-3-VM	SRU-plus 50-W-180-90-M
ID		0362630	0362640	0362660
End position damping		hydr. damper	hydr. damper	hydr. damper
Angle of rotation	[°]	180.0	180.0	180.0
End position adjustability	[°]	3.0	3.0	90.0
Torque	[Nm]	52.0	52.0	52.0
Number of intermediate positions		1 x M (pneumatic)	1 x VM (locked)	1 x M (pneumatic)
Adjustability of middle position	[°]	3.0	3.0	3.0
IP protection class		67	67	67
Weight	[kg]	12.2	12.8	12.6
Fluid consumption (2x nom. angle)	[cm³]	776.0	776.0	776.0
Min./nom./max. operating pressure	[bar]	4/6/8	4/6/6.5	4/6/8
Diameter of connecting hose		8 x 6 x 1	8 x 6 x 1	8 x 6 x 1
Min./max. ambient temperature	[°C]	5/60	5/60	5/60
Repeat accuracy	[°]	0.05	0.05	0.05
Dimensions X x Y x Z	[mm]	406.5 x 150 x 92.5	459.5 x 150 x 92.5	447.4 x 150 x 92.5
Options with fluid feed-through				
Designation (soft damping)		SRU-plus 50-W-180-3-M-8	SRU-plus 50-W-180-3-VM-8	SRU-plus 50-W-180-90-M-8
ID		0362632	0362642	0362662
Torque	[Nm]	50.3	50.3	50.3
Weight	[kg]	12.4	13	12.8
No. of fluid feed-throughs		8	8	8
Max. pressure fluid feed-through	[bar]	8	8	8
Dimensions X x Y x Z	[mm]	406.5 x 150 x 103.5	459.5 x 150 x 103.5	447.4 x 150 x 103.5
Options with fluid and electric feed-through				
Designation (soft damping)		SRU-plus 50-W-180-3-M-8-M8	SRU-plus 50-W-180-3-VM-8-M8	SRU-plus 50-W-180-90-M-8-M8
ID		0362634	0362644	0362664
Weight	[kg]	14.35	14.95	14.75
Number/size of electrical connections on the output end		9/M8	9/M8	9/M8
Max. voltage	[V]	24	24	24
Max. current per wire/total	[A]	1/1	1/1	1/1
Dimensions X x Y x Z	[mm]	406.5 x 150 x 158.4	459.5 x 150 x 158.4	447.4 x 150 x 158.4
Options with fluid and electric feed-through and mounting kit				
Designation (soft damping)		SRU-plus 50-W-180-3-M-8-M8-AS	SRU-plus 50-W-180-3-VM-8-M8-AS	SRU-plus 50-W-180-90-M-8-M8-AS
ID		0362637	0362647	0362667
Dimensions X x Y x Z	[mm]	406.5 x 150 x 173	459.5 x 150 x 173	447.4 x 150 x 173

① All units are also available in an FKM version. Please contact us for details.

SRU-plus 50

Universal swivel unit

Main view for SRU-plus without EDF



The main view shows the SRU-plus in the most basic version, with a swivel angle of 180°/90°, small end position adjustability of 3°, without a middle position, and without fluid feed-through.

① The SDV-P pressure maintenance valve can be used to maintain the position in the case of a loss of pressure (see "Accessories" catalog section).

A, a Main / direct connection, rotary actuator rotates clockwise

B, b Main / direct connection, rotary actuator rotates counterclockwise

① Connection swivel unit

② Attachment connection

73 Fit for centering pins

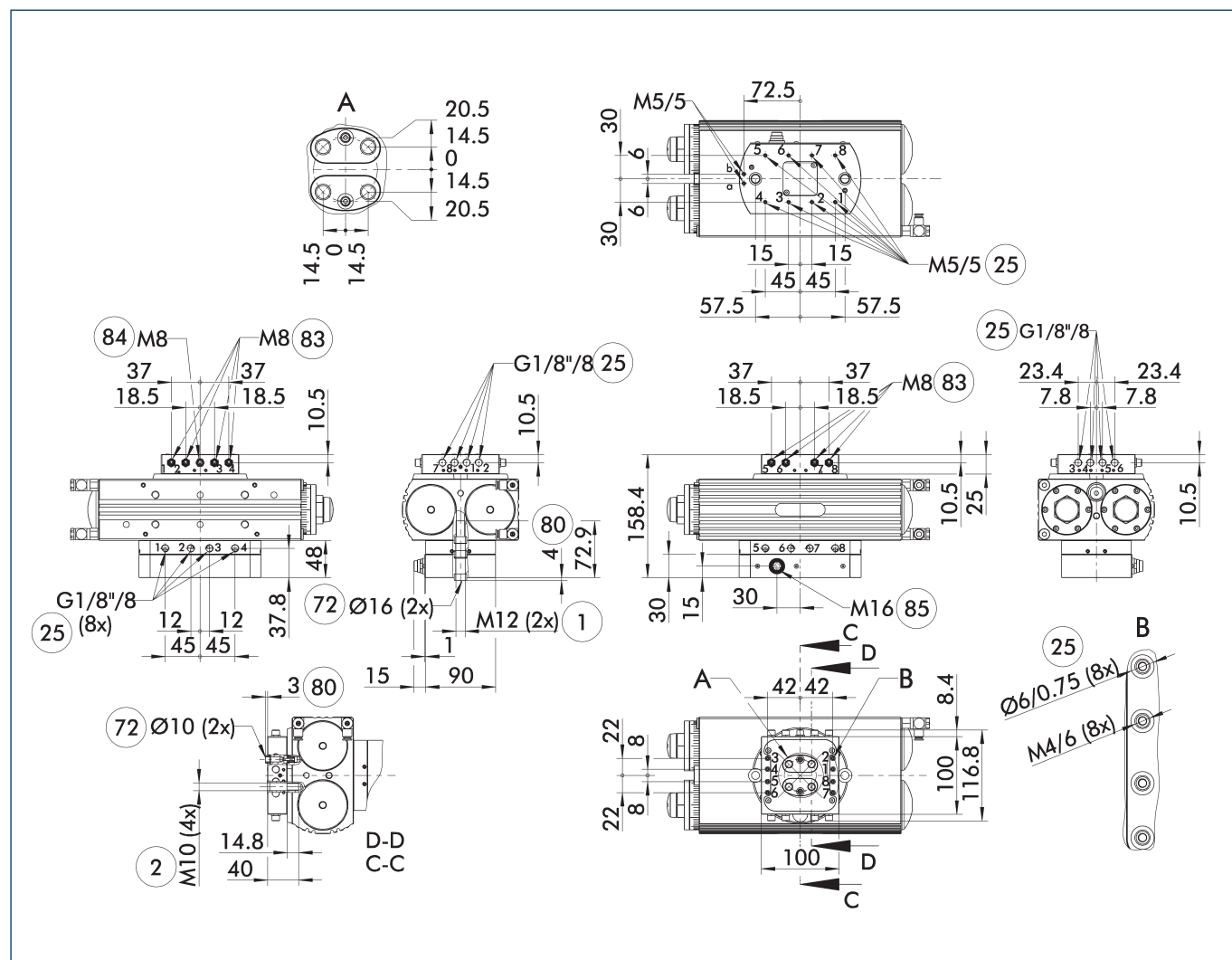
80 Depth of the centering sleeve hole in the counter part

90 Cover caps

91 Not intended for mounting the unit, only for attachments

92 Sensor MMS 22..

Main view for SRU-plus with EDF



The main view shows the SRU-plus with the EDF and fluid feed-through in the most basic version, with a swivel angle of 180°/90°, small end position adjustability of 3°, and without a middle position.

① The SRU-plus swivel unit with the EDF option can only be mounted from the bottom.

A, a Main / direct connection, rotary actuator rotates clockwise

B, b Main / direct connection, rotary actuator rotates counterclockwise

① Connection swivel unit

② Attachment connection

25 Fluid feed-through

72 Fit for centering sleeves

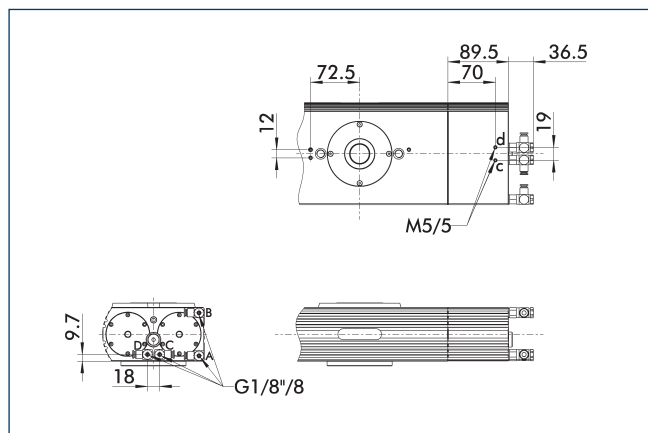
80 Depth of the centering sleeve hole in the counter part

83 Input for 3 pole sensor feed-through

84 Input for 4 pole sensor feed-through

85 Sensor feed-through output

Pneumatic middle position (M)



A, a Main / direct connection, rotary actuator rotates clockwise

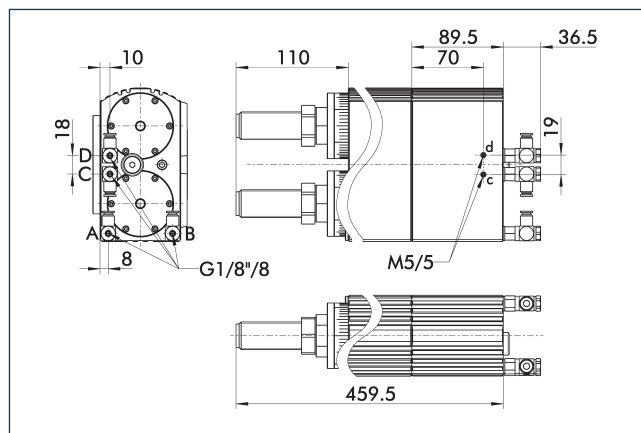
B, b Main / direct connection, rotary actuator rotates counterclockwise

C, c Main / direct connection, middle position

D, d Main / direct connection, middle position

Dimensional changes for the option with the "pneumatic middle position". Heavy attachments may swing before they reach the final position. The locked middle position (VM) can resolve this.

Locked middle position (VM)



A, a Main / direct connection, rotary actuator rotates clockwise

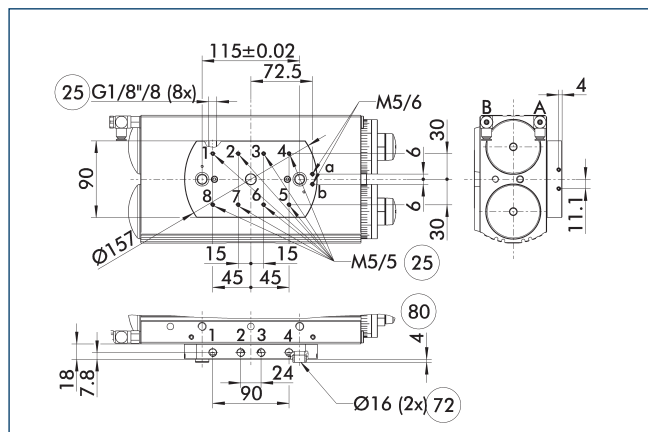
B, b Main / direct connection, rotary actuator rotates counterclockwise

C, c Main / direct connection, middle position

D, d Main / direct connection, middle position

Dimensional changes with the "locked middle position (VM)" option. The middle position is locked and is actuated with the force of the main drive piston. Shock absorbers dampen the travel to the middle position and prevent overshooting.

Connections for fluid feed-through



A, a Main / direct connection, rotary actuator rotates clockwise

B, b Main / direct connection, rotary actuator rotates counterclockwise

25 Fluid feed-through

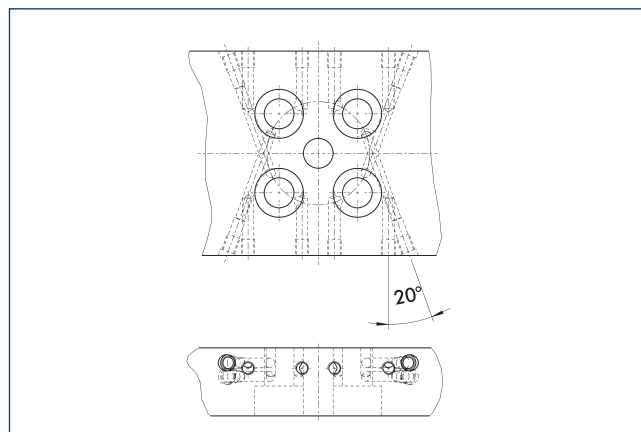
72 Fit for centering sleeves

80 Depth of the centering sleeve hole in the counter part

Lower mounting plate for the fluid feed-through option. Vacuum, gases or fluids can be fed through. The connection may be a screw type or a direct connection.

① View applicable only for versions without EDF!

Adapter plate design



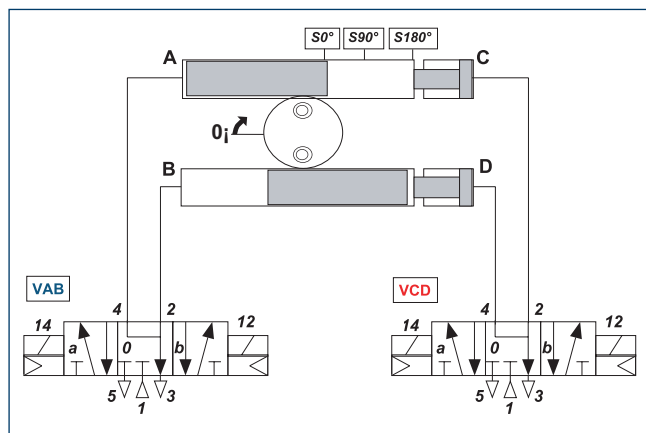
Suggested here is an adapter plate design which allows for all fluid feed-throughs to be accessed as easily as possible.

① View applicable only for versions without EDF!

SRU-plus 50

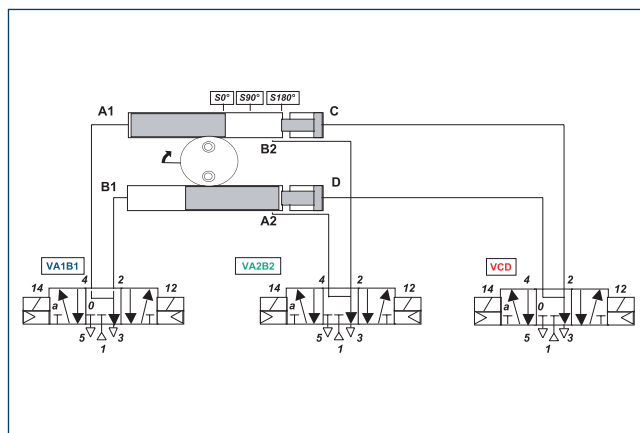
Universal swivel unit

Pneumatic diagram of SRU-plus-VM — vertical axis



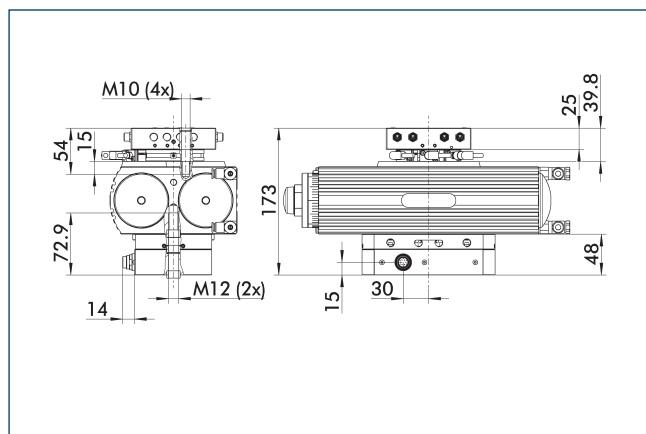
VM rotary actuators with a vertical rotary axis are generally actuated by two 5/3 directional control valves with an exhausted middle position. To prevent damage, it is essential to pay attention to the actuation sequence indicated in the operating manual.

Pneumatic diagram of SRU-plus-VM — horizontal axis



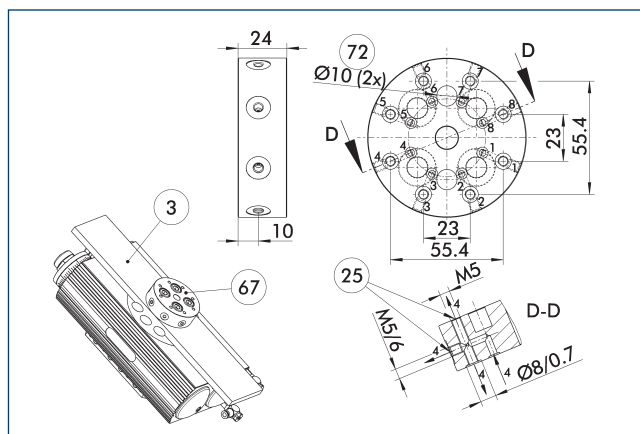
VM rotary actuators with a horizontal or non-vertical rotary axis must generally be actuated by three 5/3 directional control valves with an exhausted middle position. To prevent damage, it is essential to pay attention to the actuation sequence indicated in the operating manual.

Attachment kit for proximity switch at SRU-plus with EDF



The attachment kit cannot be ordered separately. The SRU-plus with EDF and attachment kit are delivered as a complete unit by SCHUNK. Please pay attention to our options SRU-plus ...-AS.

Distributor for SRU-plus



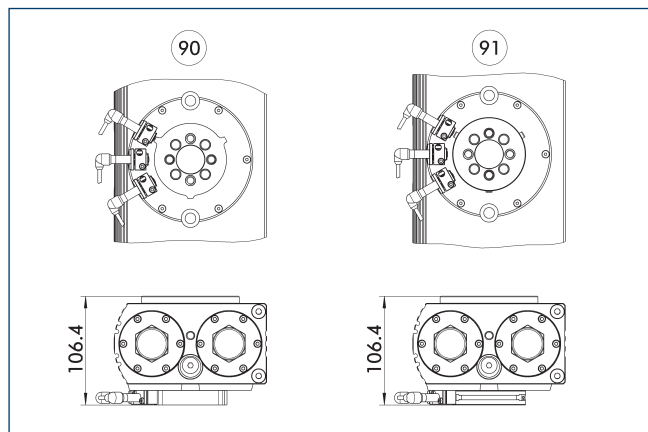
- ③ Adapter
- ②⑤ Fluid feed-through
- ⑥⑦ Distributor for media feed-through
- ⑦② Fit for centering sleeves

The distributor for SRU-plus facilitates the use of the fluid feed-throughs, both at the direct attachment to the distributor, and in the lines conveying the fluid inside the adapter plate. Due to the distributor, only a simple drilling pattern has to be drilled in the adapter plate located between the pinion and the distributor.

Description	ID
Distributor plate	
V-SRU-plus 50/60	0358192

① View applicable only for versions without EDF!

Attachment kit for proximity switch at SRU-plus without EDF



90 AS-NHS-F-SRU-plus 50

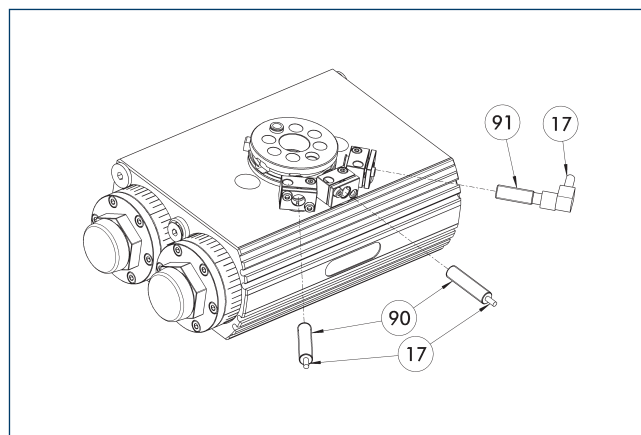
91 AS-NHS-SRU-plus 50

The size-specific attachment kit is required for installing the inductive proximity switches. Up to three proximity switches (2x end position, 1x middle position) can be attached using the attachment kit.

Description	ID	
Mounting kit for proximity switch with fixed cam		
AS-NHS-F-SRU-plus 50/60	0362695	
AS-NHS-F-SRU-plus 50/60-8	0362696	
Mounting kit for proximity switch with adjustable cam		
AS-NHS-SRU-plus 50/60	0362690	
AS-NHS-SRU-plus 50/60-8	0362691	

① Please note the number of necessary feed-throughs for your swivel unit when selecting the proper attachment kit.

Inductive proximity switches IN for SRU-plus without EDF



17 Cable outlet

91 Sensor IN...-SA

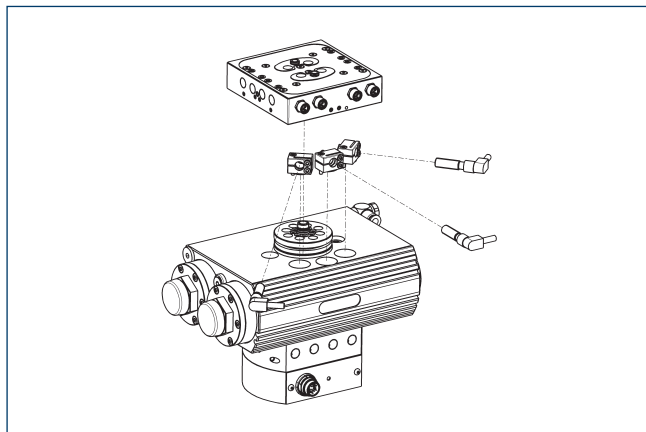
90 Sensor IN ...

End and intermediate position monitoring can be mounted with mounting kit

Description	ID	Often combined
Mounting kit for proximity switch with fixed cam		
AS-NHS-F-SRU-plus 50/60	0362695	
AS-NHS-F-SRU-plus 50/60-8	0362696	
Mounting kit for proximity switch with adjustable cam		
AS-NHS-SRU-plus 50/60	0362690	
AS-NHS-SRU-plus 50/60-8	0362691	
Inductive proximity switches		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
IN-C 80-S-M8-PNP	0301475	
INK 80-S	0301550	
INK 80-SL	0301579	
Inductive proximity switch with lateral cable outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	●
INK 80-S-SA	0301566	

① View applicable only for versions without EDF!

Inductive proximity switches IN for SRU-plus with EDF

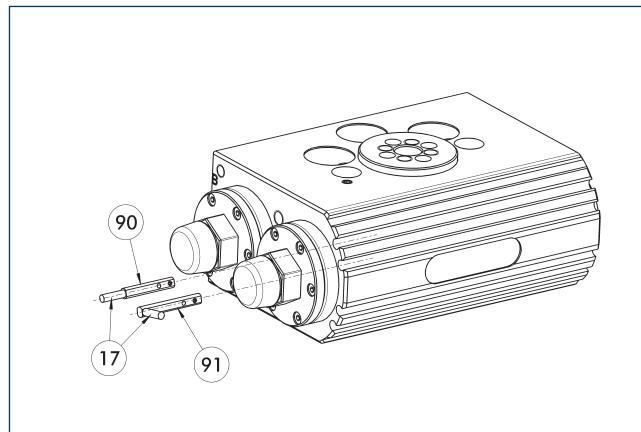


End and intermediate position monitoring mounted directly

Description	ID	Often combined
Inductive proximity switches		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
IN-C 80-S-M8-PNP	0301475	
INK 80-S	0301550	
INK 80-SL	0301579	
Inductive proximity switch with lateral cable outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	●
INK 80-S-SA	0301566	
Cable extension		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	
clip for plug/socket		
CLI-M12	0301464	
CLI-M8	0301463	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Sensor distributor		
V2-M12	0301776	●
V2-M8	0301775	●
V4-M12	0301747	
V4-M8	0301746	
V8-M12	0301752	
V8-M8	0301751	

- ① Two sensors are required per unit for monitoring two positions. On option, extension cables and sensor distributors are available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor system.

Electronic magnetic switch MMS



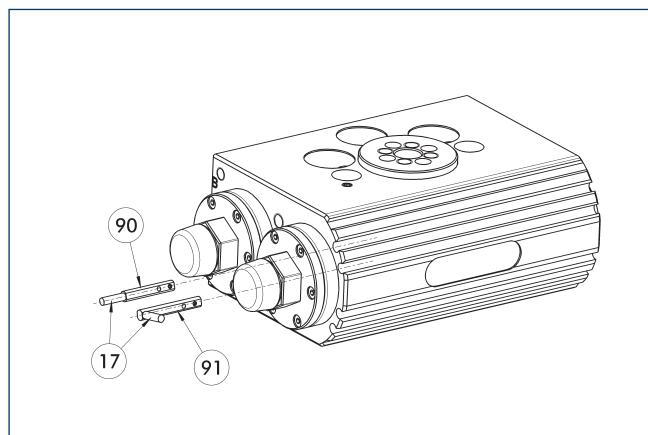
- ①7 Cable outlet
①90 Sensor MMS 22..
①91 Sensor MMS 22...-SA

End and intermediate position monitoring mounted in C-slot

Description	ID	Often combined
Electronic magnetic switch		
MMS 22-S-M8-PNP	0301032	●
MMSK 22-S-PNP	0301034	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M8-PNP-SA	0301042	●
MMSK 22-S-PNP-SA	0301044	
Cable extension		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
clip for plug/socket		
CLI-M8	0301463	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
Sensor distributor		
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

- ① Two sensors are required per unit for monitoring two positions. On option, extension cables and sensor distributors are available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor system.

Programmable magnetic switch MMS 22-PI1



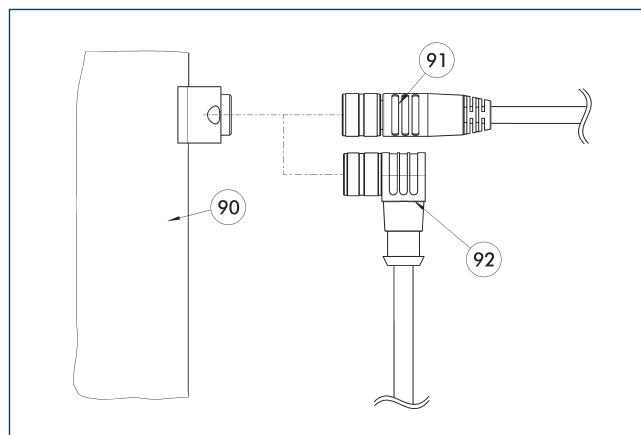
- ①⑦ Cable outlet ①⑨ Sensor MMS 22 ..-PI1-...-SA
 ①⑩ Sensor MMS 22 PI1-...

Position monitoring with one programmable position per sensor and integrated electronic system in the sensor. Can be programmed using MT magnetic teaching tool (included in the scope of delivery) or ST plug teaching tool (optional). End position monitoring for mounting in the C-slot. If the ST plug teaching tools are listed in the table provided, teaching is only possible with the ST teaching tools.

Description	ID	Often combined
Programmable magnetic switch		
MMS 22-PI1-S-M8-PNP	0301160	●
MMSK 22-PI1-S-PNP	0301162	
Programmable magnetic switch with lateral cable outlet		
MMS 22-PI1-S-M8-PNP-SA	0301166	●
MMSK 22-PI1-S-PNP-SA	0301168	
Programmable magnetic switch with stainless steel housing		
MMS 22-PI1-S-M8-PNP-HD	0301110	●
MMSK 22-PI1-S-PNP-HD	0301112	

- ① Two sensors are required per unit for monitoring two positions. On option, extension cables and sensor distributors are available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor system.

Connection cables



- ①⑩ Electrical connection component ①⑨ Cable with straight connector
 ①⑪ Cable with angled connector

Description	ID	Length [m]
Connection cables		
KA BG16-L 12P-1000	0301801	10
KA BW16-L 12P-0500	0323005	5

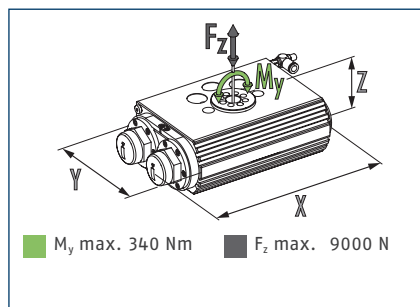
- ① BG stands for a connection cable with a straight female connector and BW for an angled female connector. SG stands for a connection cable with a straight male connector and SW for an angled male connector.

SRU-plus 60

Universal swivel unit



Dimensions and maximum loads



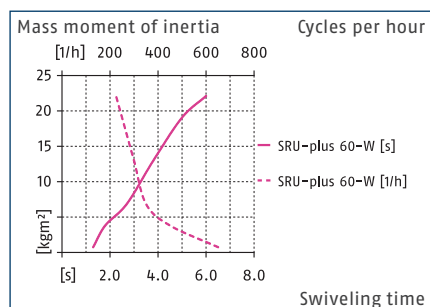
① The indicated moments and forces are static values and may appear simultaneously. Throttling has to be done for ensuring that the rotary movement takes place without impact or bouncing. Otherwise the service life reduces.

Technical data of SRU-plus without middle position

Designation (soft damping)		SRU-plus 60-W-90-3	SRU-plus 60-W-180-3	SRU-plus 60-W-180-90
ID		0362800	0362820	0362850
End position damping		hydr. damper	hydr. damper	hydr. damper
Angle of rotation	[°]	90.0	180.0	180.0
End position adjustability	[°]	3.0	3.0	90.0
Torque	[Nm]	72.0	72.0	72.0
Number of intermediate positions		none	none	none
IP protection class		67	67	67
Weight	[kg]	12.8	12.8	13.5
Fluid consumption (2x nom. angle)	[cm³]	656.0	1120.0	1120.0
Min./nom./max. operating pressure	[bar]	4/6/8	4/6/8	4/6/8
Diameter of connecting hose		8 x 6 x 1	8 x 6 x 1	8 x 6 x 1
Min./max. ambient temperature	[°C]	5/60	5/60	5/60
Repeat accuracy	[°]	0.05	0.05	0.05
Dimensions X x Y x Z	[mm]	320.9 x 174 x 107.2	320.9 x 174 x 107.2	361.8 x 174 x 107.2
Options with fluid feed-through				
Designation (soft damping)		SRU-plus 60-W-90-3-8	SRU-plus 60-W-180-3-8	SRU-plus 60-W-180-90-8
ID		0362802	0362822	0362852
Torque	[Nm]	70.0	70.0	70.0
Weight	[kg]	13	13	13.7
No. of fluid feed-throughs		8	8	8
Max. pressure fluid feed-through	[bar]	8	8	8
Dimensions X x Y x Z	[mm]	320.9 x 174 x 118.2	320.9 x 174 x 118.2	361.8 x 174 x 118.2
Options with fluid and electric feed-through				
Designation (soft damping)		SRU-plus 60-W-90-3-8-M8	SRU-plus 60-W-180-3-8-M8	SRU-plus 60-W-180-90-8-M8
ID		0362804	0362824	0362854
Weight	[kg]	14.95	14.95	15.65
Number/size of electrical connections on the output end		9/M8	9/M8	9/M8
Max. voltage	[V]	24	24	24
Max. current per wire/total	[A]	1/1	1/1	1/1
Dimensions X x Y x Z	[mm]	320.9 x 174 x 174.1	320.9 x 174 x 174.1	361.8 x 174 x 174.1
Options with fluid and electric feed-through and mounting kit				
Designation (soft damping)		SRU-plus 60-W-90-3-8-M8-AS	SRU-plus 60-W-180-3-8-M8-AS	SRU-plus 60-W-180-90-8-M8-AS
ID		0362807	0362827	0362857
Dimensions X x Y x Z	[mm]	320.9 x 174 x 188.1	320.9 x 174 x 188.1	361.8 x 174 x 188.1

① All units are also available in an FKM version. Please contact us for details.

Max. permissible inertia J*



* The diagrams are valid for swivel angles of 90° and 180°, units without center position and for applications with a vertical swivel axis as well as for absolutely centric loads with a horizontal rotary axis and with a pneumatic operating pressure of 6 bar. The swiveling times per throttling have to be observed, otherwise the life time could reduce. We will be happy to help you to design other cases of application.

Technical data of SRU-plus with middle position

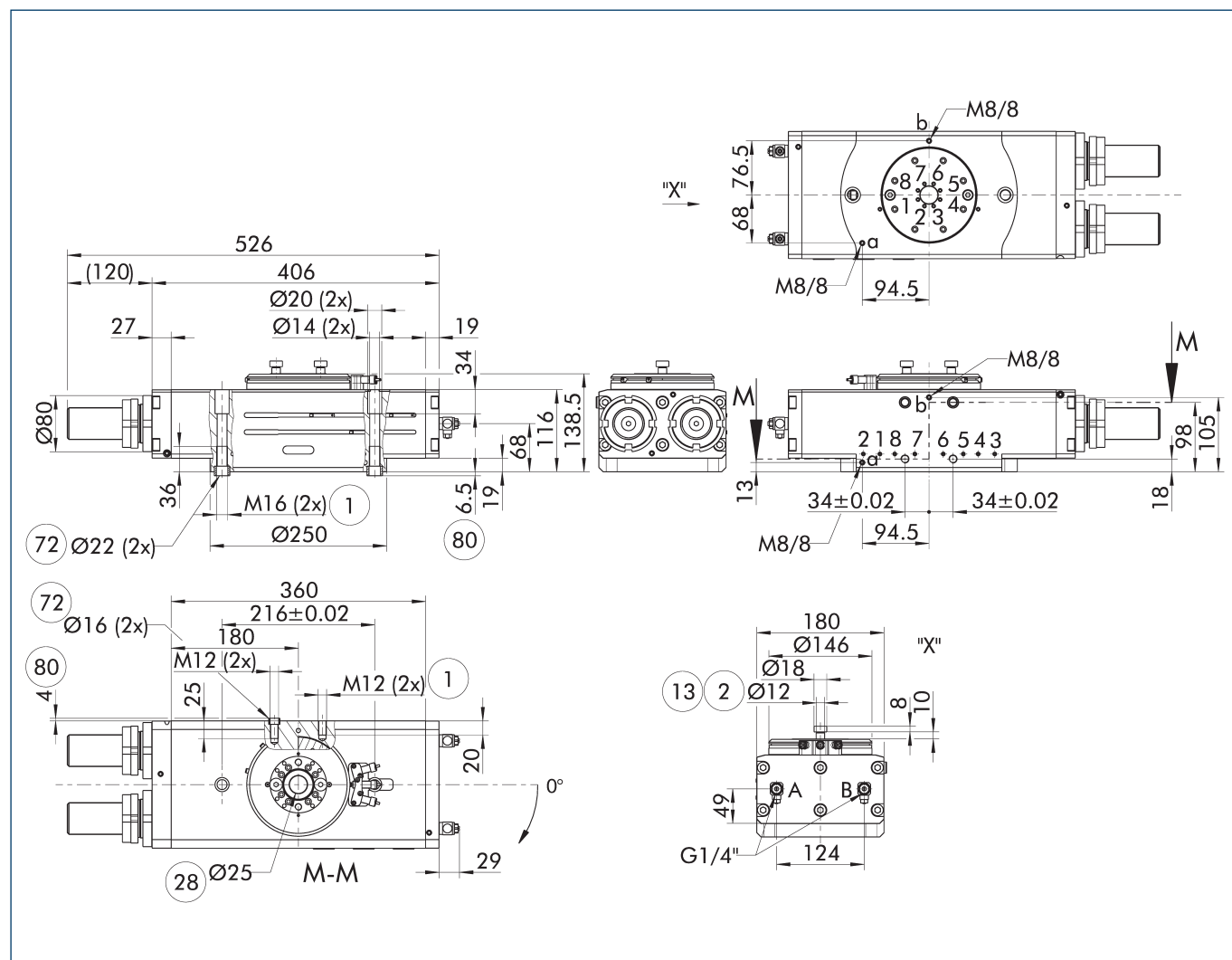
Designation (soft damping)		SRU-plus 60-W-180-3-M	SRU-plus 60-W-180-3-VM	SRU-plus 60-W-180-90-M
ID		0362830	0362840	0362860
End position damping		hydr. damper	hydr. damper	hydr. damper
Angle of rotation	[°]	180.0	180.0	180.0
End position adjustability	[°]	3.0	3.0	90.0
Torque	[Nm]	72.0	72.0	72.0
Number of intermediate positions		1 x M (pneumatic)	1 x VM (locked)	1 x M (pneumatic)
Adjustability of middle position	[°]	3.0	3.0	3.0
IP protection class		67	67	67
Weight	[kg]	16.8	17.8	17.5
Fluid consumption (2x nom. angle)	[cm³]	1120.0	1120.0	1120.0
Min./nom./max. operating pressure	[bar]	4/6/8	4/6/6.5	4/6/8
Diameter of connecting hose		8 x 6 x 1	8 x 6 x 1	8 x 6 x 1
Min./max. ambient temperature	[°C]	5/60	5/60	5/60
Repeat accuracy	[°]	0.05	0.05	0.05
Dimensions X x Y x Z	[mm]	410.1 x 174 x 107.2	459.1 x 174 x 107.2	451 x 174 x 107.2
Options with fluid feed-through				
Designation (soft damping)		SRU-plus 60-W-180-3-M-8	SRU-plus 60-W-180-3-VM-8	SRU-plus 60-W-180-90-M-8
ID		0362832	0362842	0362862
Torque	[Nm]	70.0	70.0	70.0
Weight	[kg]	17	18	17.7
No. of fluid feed-throughs		8	8	8
Max. pressure fluid feed-through	[bar]	8	8	8
Dimensions X x Y x Z	[mm]	410.1 x 174 x 118.2	459.1 x 174 x 118.2	451 x 174 x 118.2
Options with fluid and electric feed-through				
Designation (soft damping)		SRU-plus 60-W-180-3-M-8-M8	SRU-plus 60-W-180-3-VM-8-M8	SRU-plus 60-W-180-90-M-8-M8
ID		0362834	0362844	0362864
Weight	[kg]	18.95	19.95	19.65
Number/size of electrical connections on the output end		9/M8	9/M8	9/M8
Max. voltage	[V]	24	24	24
Max. current per wire/total	[A]	1/1	1/1	1/1
Dimensions X x Y x Z	[mm]	410.1 x 174 x 174.1	459.1 x 174 x 174.1	451 x 174 x 174.1
Options with fluid and electric feed-through and mounting kit				
Designation (soft damping)		SRU-plus 60-W-180-3-M-8-M8-AS	SRU-plus 60-W-180-3-VM-8-M8-AS	SRU-plus 60-W-180-90-M-8-M8-AS
ID		0362837	0362847	0362867
Dimensions X x Y x Z	[mm]	410.1 x 174 x 188.1	459.1 x 174 x 188.1	451 x 174 x 188.1

① All units are also available in an FKM version. Please contact us for details.

SRU-plus 60

Universal swivel unit

Main view for SRU-plus without EDF



The main view shows the SRU-plus in the most basic version, with a swivel angle of 180°/90°, small end position adjustability of 3°, without a middle position, and without fluid feed-through.

① The SDV-P pressure maintenance valve can be used to maintain the position in the case of a loss of pressure (see "Accessories" catalog section).

A, a Main / direct connection, rotary actuator rotates clockwise

B, b Main / direct connection, rotary actuator rotates counterclockwise

① Connection swivel unit

② Attachment connection

⑦② Fit for centering sleeves

⑦③ Fit for centering pins

⑧① Depth of the centering sleeve hole in the counter part

⑨① Cover caps

⑨① Not intended for mounting the unit, only for attachments

⑨② Sensor MMS 22..

Technical drawing of the 3000 series hydraulic cylinder, showing front, side, and end views with detailed dimensions and part numbers.

Front View (Top Left): Shows the cylinder head with dimensions 20.5, 14.5, 0, 14.5, 20.5, 14.5, 0, 14.5. Part number 84 M8 is indicated.

Side View (Middle Left): Shows the cylinder body with dimensions 37, 18.5, 10.5, 37.8, 48, 72, Ø16 (2x), 15, 90, 1, 80, 72.9, 174.1, 30, 15, 30, 15, 10.5, 25, 7.8, 23.4, 10.5. Part numbers 84 M8, 83 M8, 25 G1/8"/8, 25, 85 M16, 25, 80, 1, 2, 80, 72 Ø10 (2x), 15, 40, M10 (4x), 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100 are indicated.

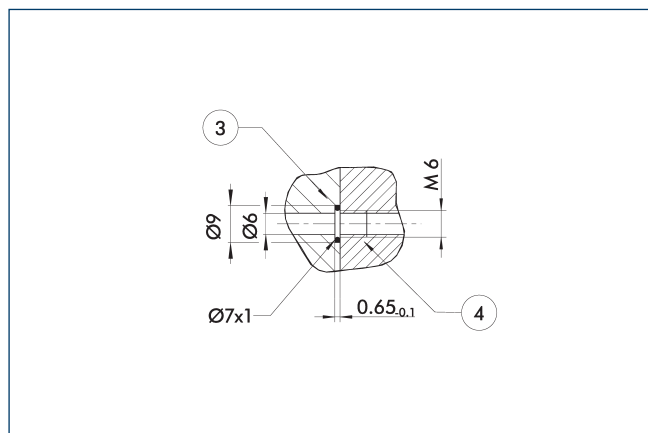
End View (Bottom Left): Shows the cylinder head with dimensions 37, 18.5, 10.5, 37.8, 48, 72, Ø16 (2x), 15, 90, 1, 80, 72.9, 174.1, 30, 15, 30, 15, 10.5, 25, 7.8, 23.4, 10.5. Part numbers 84 M8, 83 M8, 25 G1/8"/8, 25, 85 M16, 25, 80, 1, 2, 80, 72 Ø10 (2x), 15, 40, M10 (4x), 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100 are indicated.

Top View (Top Right): Shows the cylinder head with dimensions 72.5, 30, 6, 30, 6, 15, 45, 15, 57.5, 57.5, 10.5, 25, 7.8, 23.4, 10.5. Part numbers 25, 85 M16, 25, 80, 1, 2, 80, 72 Ø10 (2x), 15, 40, M10 (4x), 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100 are indicated.

Bottom View (Bottom Right): Shows the cylinder head with dimensions 100, 42, 42, 8.4, 100, 108.4, 22, 8, 22, 8, 10.5, 25, 7.8, 23.4, 10.5. Part numbers 25, 85 M16, 25, 80, 1, 2, 80, 72 Ø10 (2x), 15, 40, M10 (4x), 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100 are indicated.

(85) Sensor feed-through output

Hose-free direct connection M6

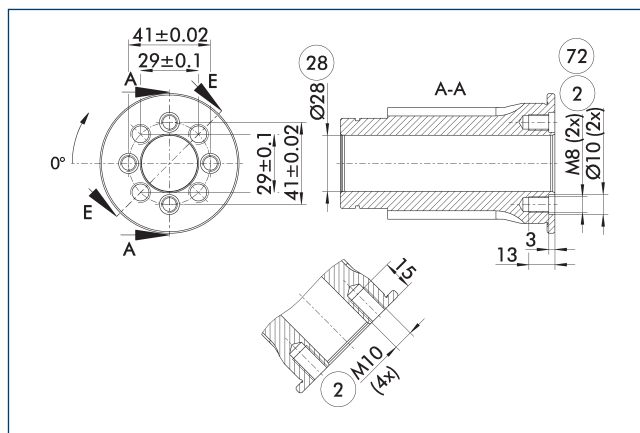


③ Adapter

④ Rotary unit

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Pinion without fluid feed-through



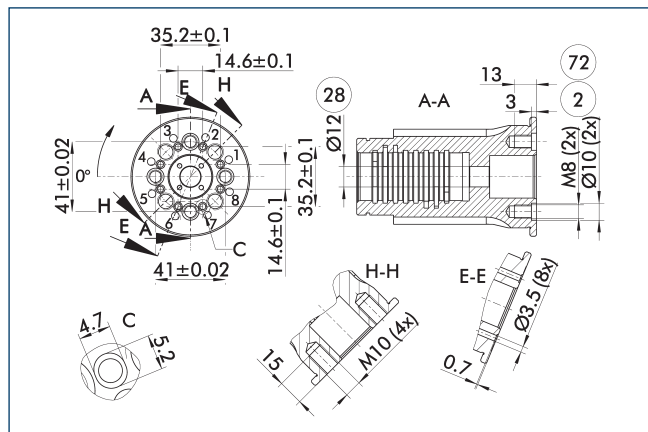
② Attachment connection

⑦② Fit for centering sleeves

②⑧ Through-hole

Mounting pattern for fastening the rotating load to the pinion. The "4x large threads for 4 screws and 2 counter bores for centering sleeves" option is preferable to the "4x small threads for 2 screws and 2 shoulder bots (in the deeper counter bores)" option.

Pinion with fluid feed-through



② Attachment connection

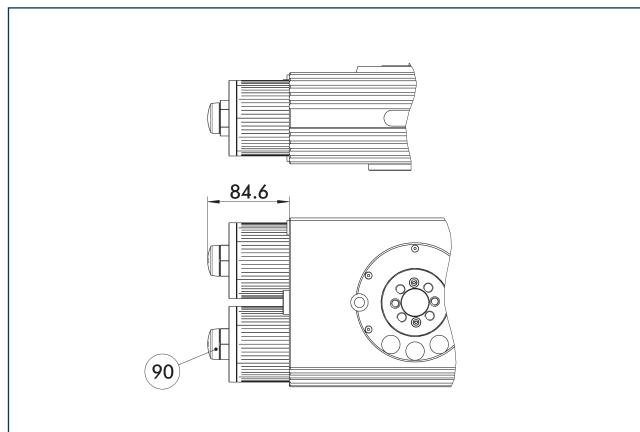
⑦② Fit for centering sleeves

②⑧ Through-hole

Pinion screw connection diagram if the option "fluid feed-through" was chosen. The preferred drilling pattern is two screws and two screws with a centering sleeve.

① View applicable only for versions without EDF!

Large end position adjustability 90°



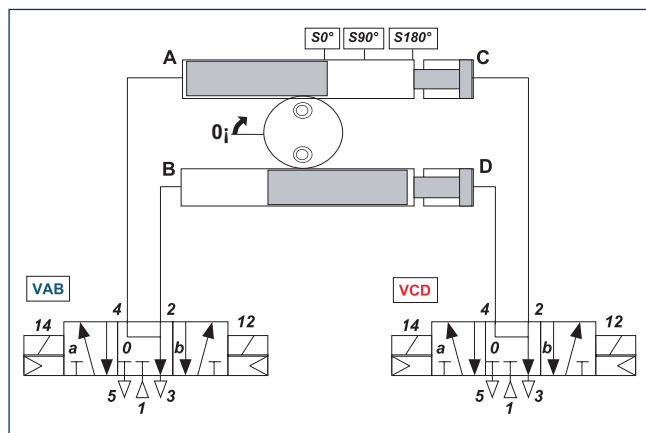
⑨⑩ Cover caps

Dimensional changes for the option with "large end position adjustability (90°)". This permits the end positions to be adjusted by up to 93°. More information can be found in the introduction to the series.

SRU-plus 60

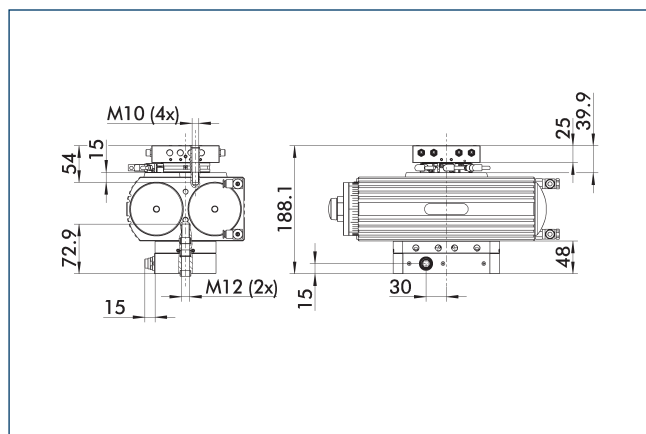
Universal swivel unit

Pneumatic diagram of SRU-plus-VM — vertical axis



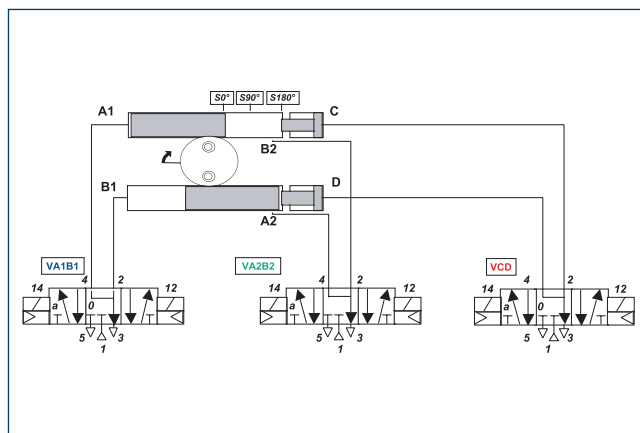
VM rotary actuators with a vertical rotary axis are generally actuated by two 5/3 directional control valves with an exhausted middle position. To prevent damage, it is essential to pay attention to the actuation sequence indicated in the operating manual.

Attachment kit for proximity switch at SRU-plus with EDF



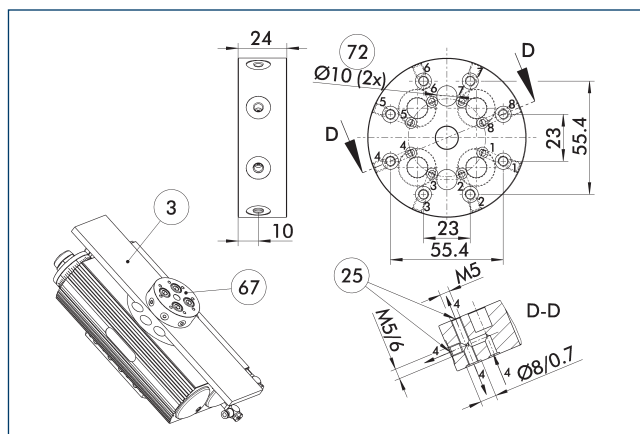
The attachment kit cannot be ordered separately. The SRU-plus with EDF and attachment kit are delivered as a complete unit by SCHUNK. Please pay attention to our options SRU-plus ...-AS.

Pneumatic diagram of SRU-plus-VM — horizontal axis



VM rotary actuators with a horizontal or non-vertical rotary axis must generally be actuated by three 5/3 directional control valves with an exhausted middle position. To prevent damage, it is essential to pay attention to the actuation sequence indicated in the operating manual.


Distributor for SRU-plus



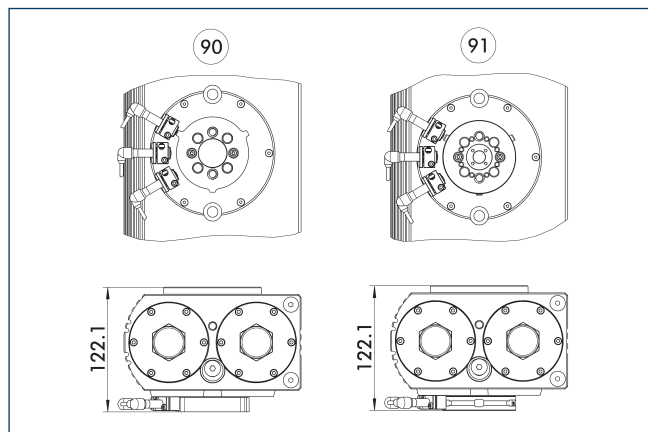
- ③ Adapter
- ②5 Fluid feed-through
- ⑥7 Distributor for media feed-through
- ⑦2 Fit for centering sleeves

The distributor for SRU-plus facilitates the use of the fluid feed-throughs, both at the direct attachment to the distributor, and in the lines conveying the fluid inside the adapter plate. Due to the distributor, only a simple drilling pattern has to be drilled in the adapter plate located between the pinion and the distributor.

Description	ID	
Distributor plate		
V-SRU-plus 50/60	0358192	

 View applicable only for versions without EDF!

Attachment kit for proximity switch at SRU-plus without EDF



90 AS-NHS-F-SRU-plus 60

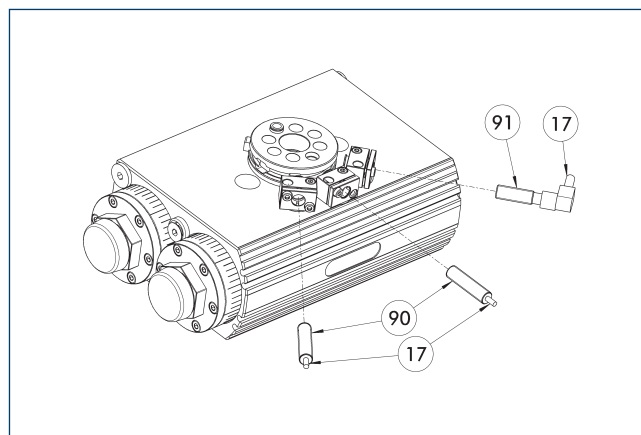
91 AS-NHS-SRU-plus 60

The size-specific attachment kit is required for installing the inductive proximity switches. Up to three proximity switches (2x end position, 1x middle position) can be attached using the attachment kit.

Description	ID	
Mounting kit for proximity switch with fixed cam		
AS-NHS-F-SRU-plus 50/60	0362695	
AS-NHS-F-SRU-plus 50/60-8	0362696	
Mounting kit for proximity switch with adjustable cam		
AS-NHS-SRU-plus 50/60	0362690	
AS-NHS-SRU-plus 50/60-8	0362691	

① Please note the number of necessary feed-throughs for your swivel unit when selecting the proper attachment kit.

Inductive proximity switches IN for SRU-plus without EDF



17 Cable outlet

91 Sensor IN...-SA

90 Sensor IN ...

End and intermediate position monitoring can be mounted with mounting kit

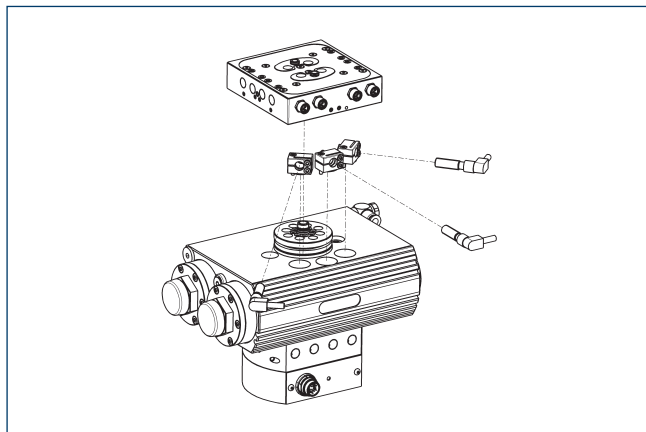
Description	ID	Often combined
Mounting kit for proximity switch with fixed cam		
AS-NHS-F-SRU-plus 50/60	0362695	
AS-NHS-F-SRU-plus 50/60-8	0362696	
Mounting kit for proximity switch with adjustable cam		
AS-NHS-SRU-plus 50/60	0362690	
AS-NHS-SRU-plus 50/60-8	0362691	
Inductive proximity switches		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
IN-C 80-S-M8-PNP	0301475	
INK 80-S	0301550	
INK 80-SL	0301579	
Inductive proximity switch with lateral cable outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	●
INK 80-S-SA	0301566	

① View applicable only for versions without EDF!

SRU-plus 60

Universal swivel unit

Inductive proximity switches IN for SRU-plus with EDF

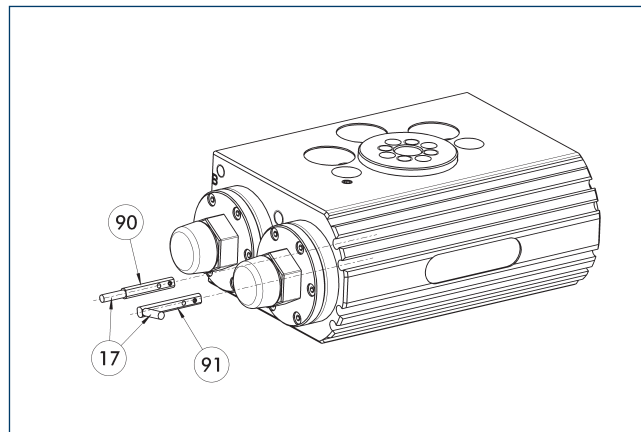


End and intermediate position monitoring mounted directly

Description	ID	Often combined
Inductive proximity switches		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
IN-C 80-S-M8-PNP	0301475	
INK 80-S	0301550	
INK 80-SL	0301579	
Inductive proximity switch with lateral cable outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	●
INK 80-S-SA	0301566	
Cable extension		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	
clip for plug/socket		
CLI-M12	0301464	
CLI-M8	0301463	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Sensor distributor		
V2-M12	0301776	●
V2-M8	0301775	●
V4-M12	0301747	
V4-M8	0301746	
V8-M12	0301752	
V8-M8	0301751	

- ① Two sensors are required per unit for monitoring two positions. On option, extension cables and sensor distributors are available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor system.

Electronic magnetic switch MMS



①7 Cable outlet

①0 Sensor MMS 22..

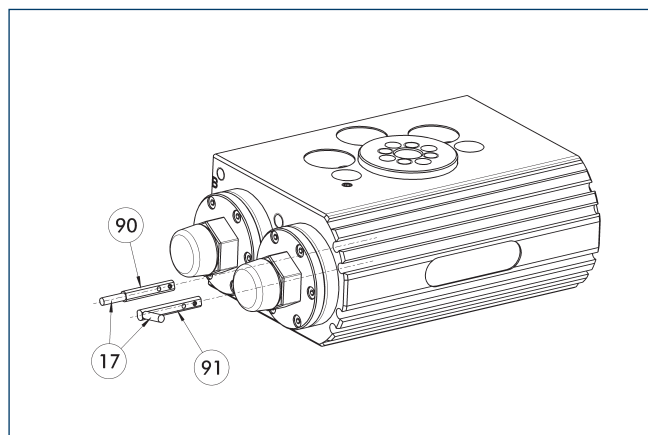
①1 Sensor MMS 22...-SA

End and intermediate position monitoring mounted in C-slot

Description	ID	Often combined
Electronic magnetic switch		
MMS 22-S-M8-PNP	0301032	●
MMSK 22-S-PNP	0301034	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M8-PNP-SA	0301042	●
MMSK 22-S-PNP-SA	0301044	
Cable extension		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
clip for plug/socket		
CLI-M8	0301463	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
Sensor distributor		
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

- ① Two sensors are required per unit for monitoring two positions. On option, extension cables and sensor distributors are available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor system.

Programmable magnetic switch MMS 22-PI1



①⑦ Cable outlet

①⑨ Sensor MMS 22 ..-PI1-...-SA

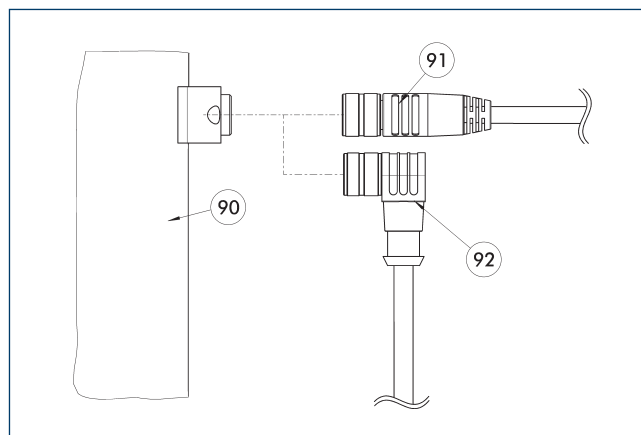
①⑩ Sensor MMS 22 PI1-...

Position monitoring with one programmable position per sensor and integrated electronic system in the sensor. Can be programmed using MT magnetic teaching tool (included in the scope of delivery) or ST plug teaching tool (optional). End position monitoring for mounting in the C-slot. If the ST plug teaching tools are listed in the table provided, teaching is only possible with the ST teaching tools.

Description	ID	Often combined
Programmable magnetic switch		
MMS 22-PI1-S-M8-PNP	0301160	●
MMSK 22-PI1-S-PNP	0301162	
Programmable magnetic switch with lateral cable outlet		
MMS 22-PI1-S-M8-PNP-SA	0301166	●
MMSK 22-PI1-S-PNP-SA	0301168	
Programmable magnetic switch with stainless steel housing		
MMS 22-PI1-S-M8-PNP-HD	0301110	●
MMSK 22-PI1-S-PNP-HD	0301112	

① Two sensors are required per unit for monitoring two positions. On option, extension cables and sensor distributors are available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor system.

Connection cables



①⑩ Electrical connection component

①⑨ Cable with straight connector

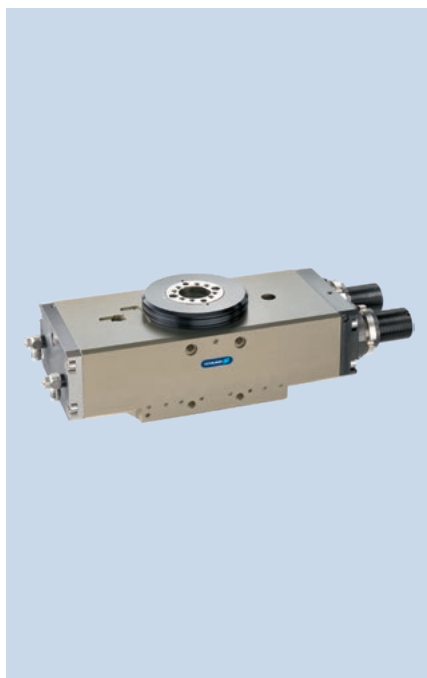
①⑫ Cable with angled connector

Description	ID	Length [m]
Connection cables		
KA BG16-L 12P-1000	0301801	10
KA BW16-L 12P-0500	0323005	5

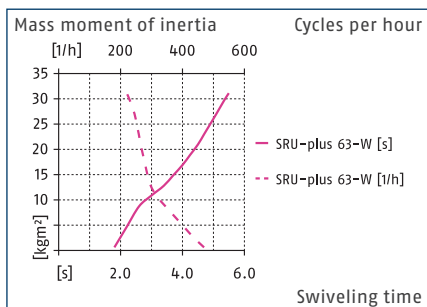
① BG stands for a connection cable with a straight female connector and BW for an angled female connector. SG stands for a connection cable with a straight male connector and SW for an angled male connector.

SRU-plus 63

Universal swivel unit

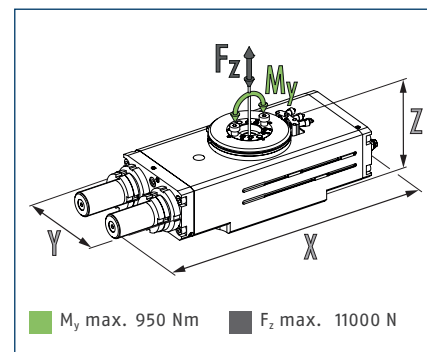


Max. permissible inertia J*



* The diagrams are valid for swivel angles of 90° and 180°, units without center position and for applications with a vertical swivel axis as well as for absolutely centric loads with a horizontal rotary axis and with a pneumatic operating pressure of 6 bar. The swiveling times per throttling have to be observed, otherwise the life time could reduce. We will be happy to help you to design other cases of application.

Dimensions and maximum loads



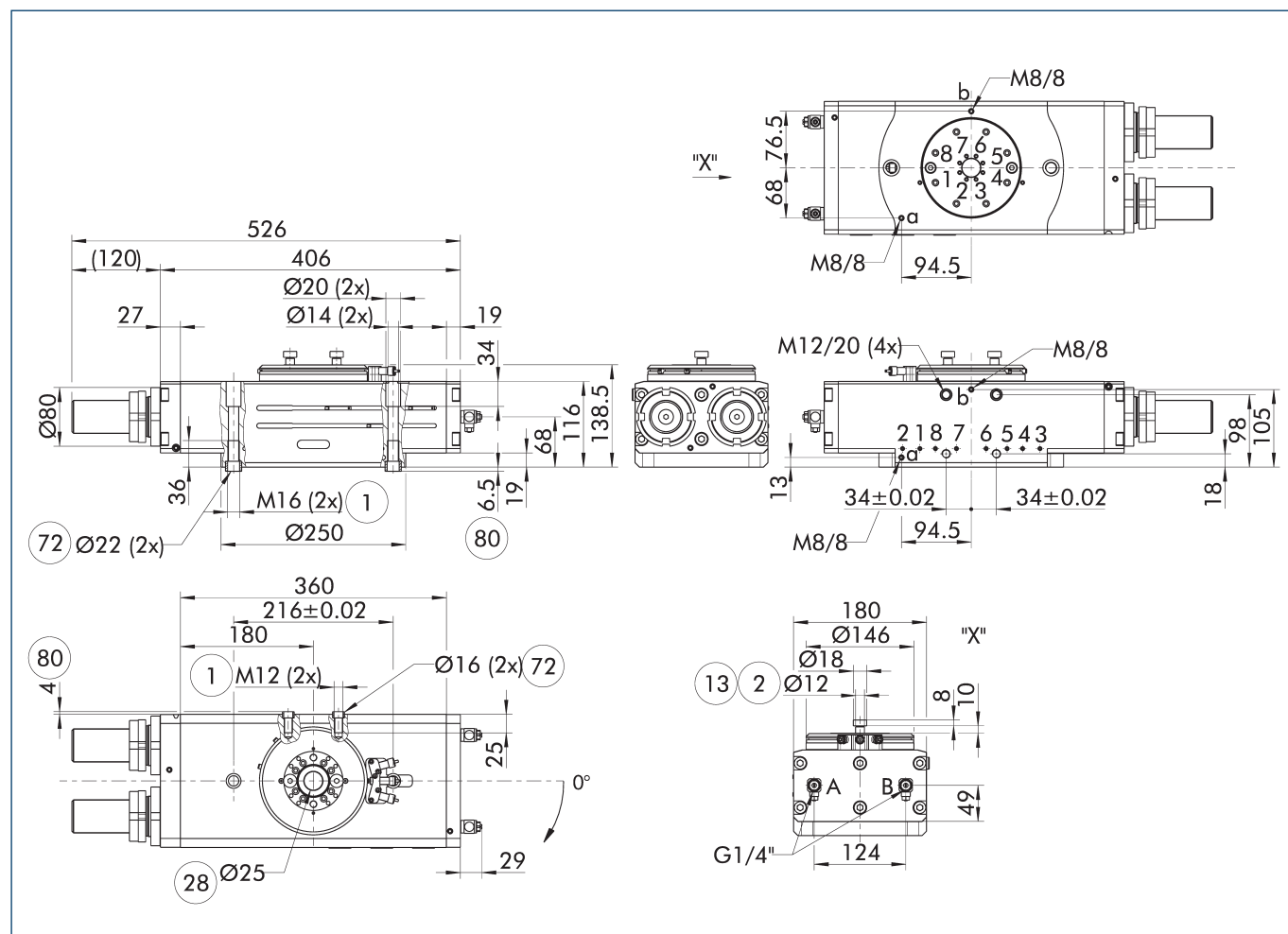
① The indicated moments and forces are statical values and may appear simultaneously. Throttling has to be done for ensuring that the rotary movement takes place without impact or bouncing. Otherwise the service life reduces.

Technical data of SRU-plus without middle position

Designation (soft damping)		SRU-plus 63-W-90-3-8-L	SRU-plus 63-W-90-3-8-R	SRU-plus 63-W-180-3-8
ID		0354841	0354851	0354801
Angle of rotation	[°]	90.0	90.0	180.0
End position adjustability	[°]	2.0	2.0	2.0
Torque	[Nm]	115.0	115.0	115.0
Middle position		none	none	none
IP protection class		67	67	67
Weight	[kg]	26.50	26.50	26.50
Fluid consumption (2x nom. angle)	[cm³]	656.0	656.0	1120.0
Min./nom./max. operating pressure	[bar]	4.5/6/8	4.5/6/8	4.5/6/8
Diameter of connecting hose		8 x 6 x 1	8 x 6 x 1	8 x 6 x 1
No. of fluid feed-throughs		8	8	8
Min./max. ambient temperature	[°C]	5/60	5/60	5/60
Repeat accuracy	[°]	0.05	0.05	0.05
Dimensions X x Y x Z	[mm]	526 x 180 x 138.5	526 x 180 x 138.5	526 x 180 x 138.5

① All units are also available in an FKM version. Please contact us for details.

Main view for SRU-plus



The main view shows the simplest version of the SRU-plus, i.e. with swiveling angles of 180°/90° and with low end position adjustability of 3°.

① The SDV-P pressure maintenance valve can be used to maintain the position in the case of a loss of pressure (see "Accessories" catalog section).

A, a Main / direct connection, rotary actuator rotates clockwise

B, b Main / direct connection, rotary actuator rotates counterclockwise

① Connection swivel unit

② Attachment connection

⑬ Fitting screw

⑳ Through-hole

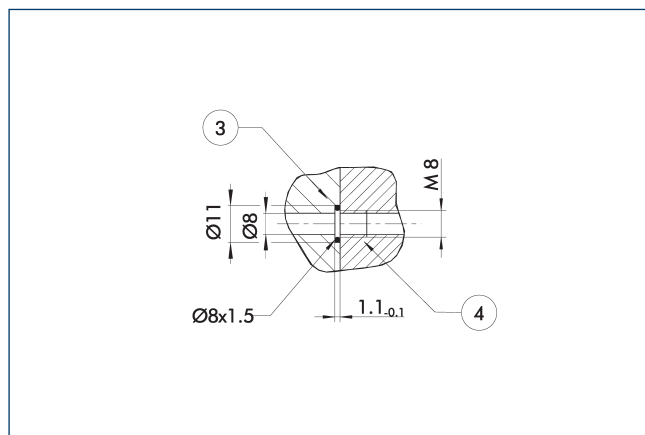
⑦② Fit for centering sleeves

⑧① Depth of the centering sleeve hole in the counter part

SRU-plus 63

Universal swivel unit

Hose-free direct connection M8

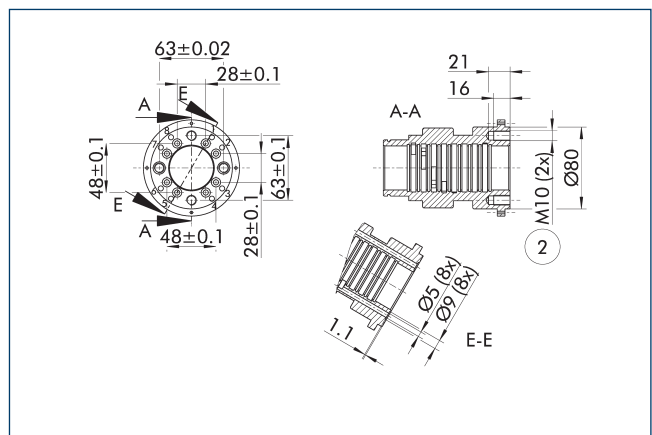


③ Adapter

④ Grippers

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

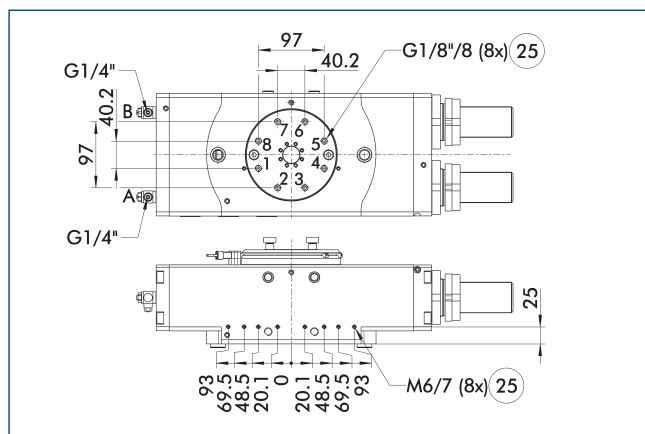
Pinion with fluid feed-through



② Attachment connection

Mounting pattern for assembling the rotating load to the pinion.

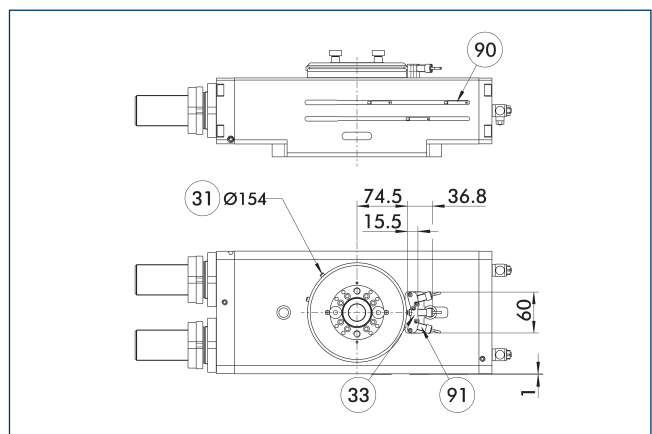
Connections for fluid feed-through



②5 Fluid feed-through

Lower mounting plate for the fluid feed-through option. Vacuum, gases or fluids can be fed through. The connection may be a screw type or a direct connection.

Attachment kit for proximity switch IN 80



③1 Interfering contour of control cam

⑨0 MMS 30

③3 Attachment kit

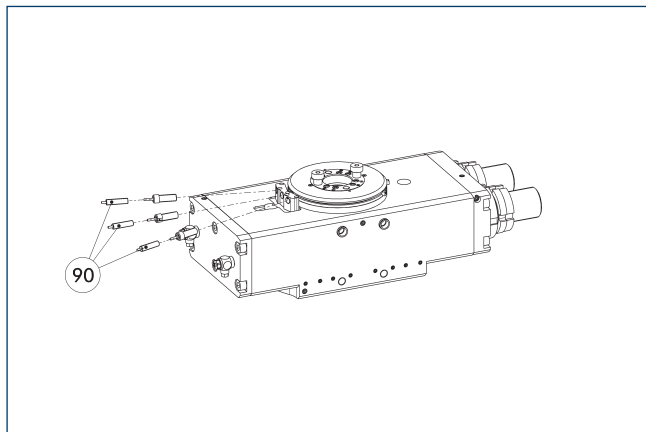
⑨1 Sensor IN ...

End position monitoring can be mounted with an attachment kit.

Description	ID
Mounting kit for proximity switch with adjustable cam	
AS-NHS-SRU-plus 63	0300762

① This attachment kit needs to be ordered optionally as an accessory.

IN 80 inductive proximity switches



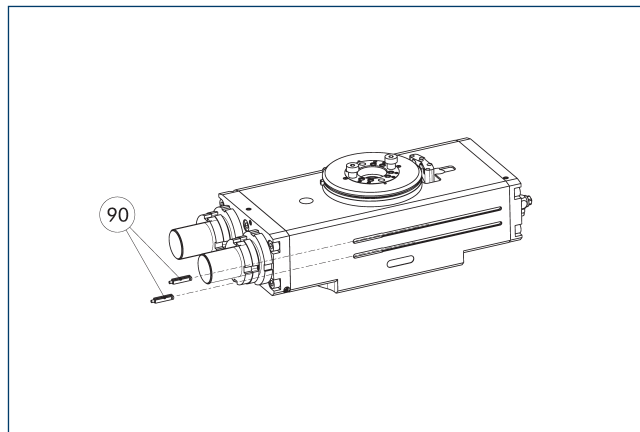
90 Sensor IN ...

End position monitoring can be mounted with an attachment kit.

Description	ID	Often combined
Mounting kit for proximity switch with adjustable cam		
AS-NHS-SRU-plus 63	0300762	
Inductive proximity switches		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
IN-C 80-S-M8-PNP	0301475	
INK 80-S	0301550	
INK 80-SL	0301579	
Inductive proximity switch with lateral cable outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	●
INK 80-S-SA	0301566	

- ① Two sensors (closer/S) are required for each unit and extension cables are available as an option. This attachment kit needs to be ordered optionally as an accessory. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

Electronic magnetic switch MMS



90 MMS 30

End position monitoring for mounting in the C-slot.

Description	ID	Often combined
Electronic magnetic switch		
MMS 30-S-M12-PNP	0301571	
MMS 30-S-M8-PNP	0301471	●
MMSK 30-S-PNP	0301563	
Cable extension		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	
clip for plug/socket		
CLI-M12	0301464	
CLI-M8	0301463	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
Sensor distributor		
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

- ① Two sensors are required per unit for monitoring two positions. On option, extension cables and sensor distributors are available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor system.



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