Superior Clamping and Gripping

SCHUNK®

Product Information

Universal swivel units SRU-plus

Robust. Fast. High Performance.

SRU-plus universal rotary actuator

Universal unit for pneumatic swivel and turning movements.

Field of application

Can be used in either clean or contaminated areas,
anywhere where 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 swivel angle; special angles available 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

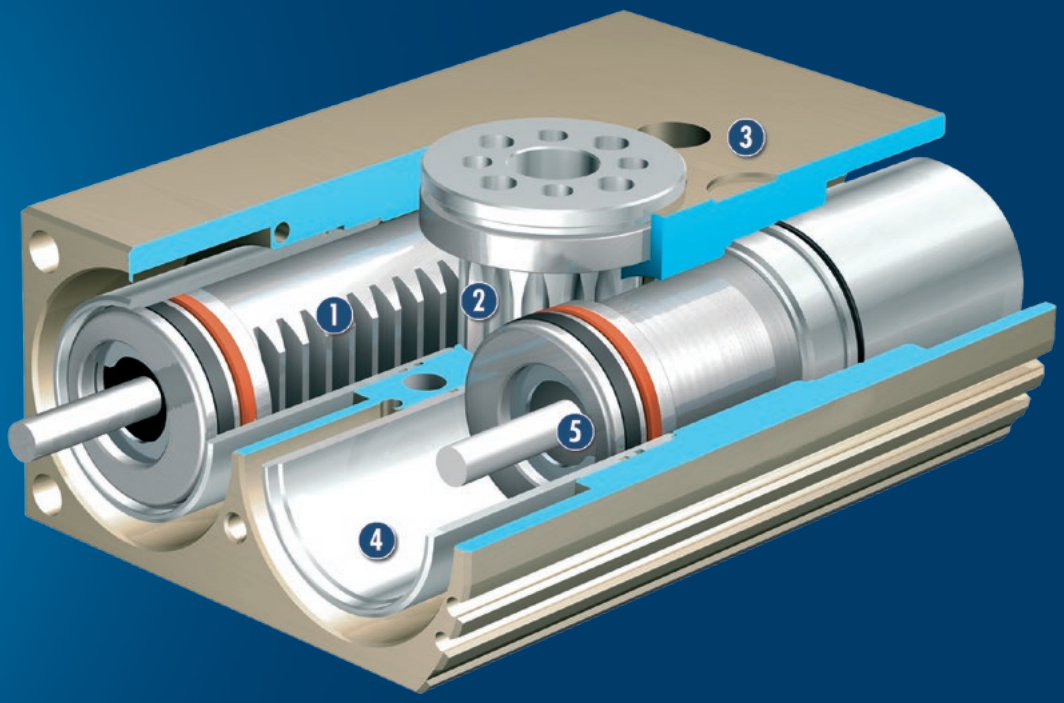
Exchangeable screw-in guide sleeves (bushing) allow for easy maintenance and rapid exchange t after several million cycles.

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

Sizes	Weight	Torque	Repeat accuracy	Angle of rotation
Quantity: 10	1.2 .. 26.5 kg	3 .. 115 Nm	0.05°	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

CAD data, operating manuals and other current product documents can be found online.

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.

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.

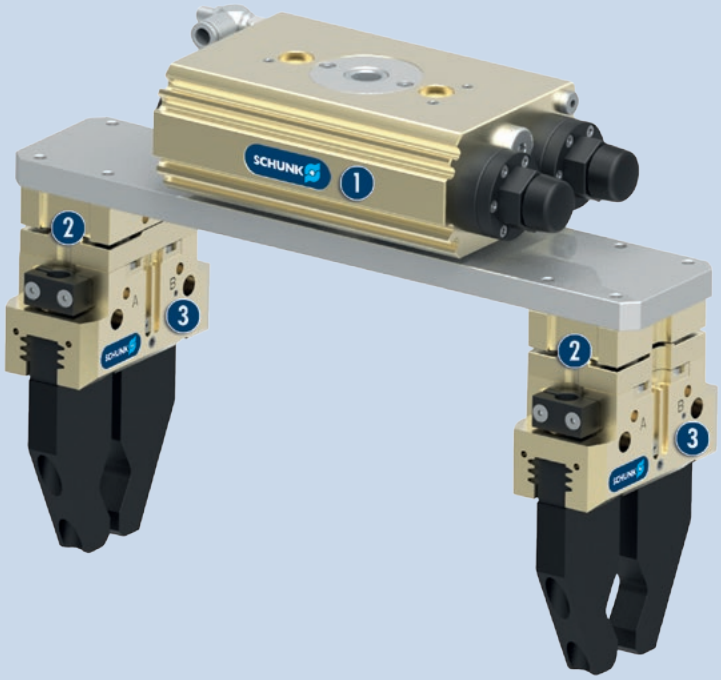
Pinion screw connection diagram: Please note that when the rotating angle is to be set for less than 90°, the left stop will generally be completely turned in. The left end position therefore has a screw connection diagram which has been rotated by 90° in clockwise direction in relation to the drawing, which is shown at a 180° angle of rotation.

Special swivel angle: 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 a part of this and are to be considered when cycle times are calculated.



Application example

Unit for rotary exchange of roughly positioned small components Unit for turning and joining of small components

1. Rotary Actuator SRU-plus
2. TCU tolerance compensation unit
3. PGN-plus 2-finger parallel gripper

SCHUNK offers more ...

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

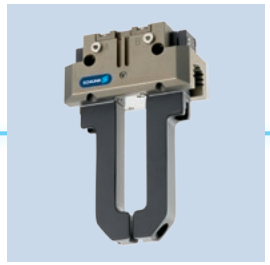

Centering sleeves


Fittings


MMS magnetic switch


Inductive Proximity Switches


Sensor distributor


PGN-plus universal gripper

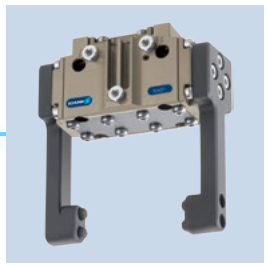

Sensor cables


Pressure maintenance valve


PZN-plus universal gripper


Universal angular gripper PWG-plus


DPZ-plus 3-finger centric gripper


DPG-plus sealed universal gripper

ⓘ Additional information regarding the products can be found on the following product pages or at www.schunk.com. Please contact us for further information: SCHUNK technical hotline +49-7133-103-2696

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.
We are also happy to provide our electrical feed-throughs with M5 or M12 connections on request. On request the electrical 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 units

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	
Angle of rotation	0° – 90°		0° – 180°			0° – 90° – 180°		
End position adjustment range	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 (see catalog section “Accessories”)	• MMS 22 magnetic proximity switches • IN 80 inductive proximity switches and mounting kits							

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

Sample Order

SRU-plus 20 - S - 180 - 3 - M - 4 - M8 - AS

Designation
SRU-plus

Size
20 / 25 / 30 / 35 / 40 / 50 / 60 / 63

Damping method
S = Speed (for size 20)
W = Soft
H = Hard (for high payload)

Angle of rotation
90° / 180°

End position adjustment range
3° / 90°

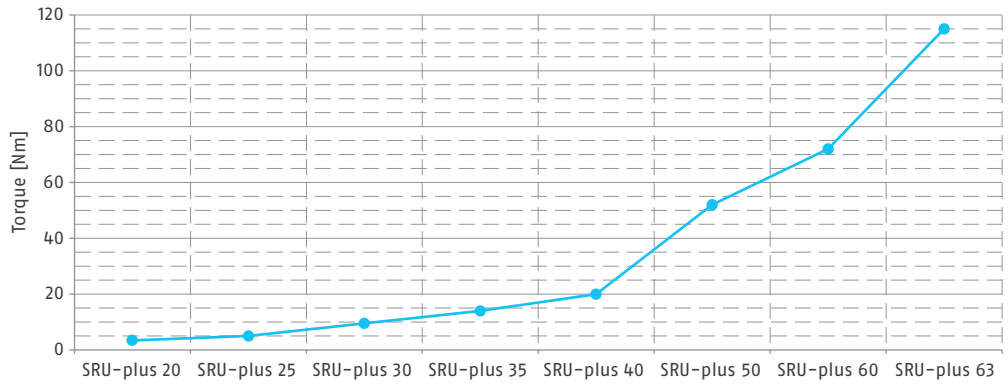
Center position
- = none
M = Center position pneumatic
VM = Center position locked

Number of fluid feed-throughs
- = no fluid feed-through
4 = for sizes 20 – 35
8 = for sizes 40 – 63

Plug size for electric feed-through
- = no electric feed-through
M5 = M5 plug on the rotating side
M8 = M8 plug on the rotating side
M12 = M12 plug on the rotating side

Mounting kit for inductive proximity switches
- = no mounting kit
AS = with mounting kit

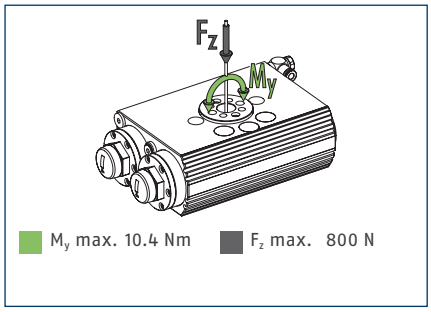
Torque Graduation



SRU-plus 20

Universal swivel units

Pinion load

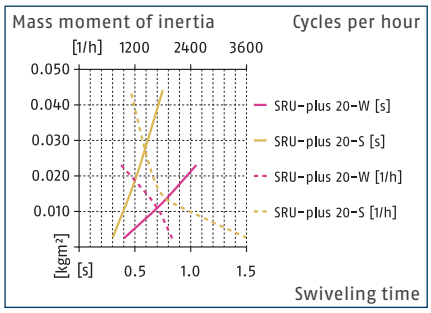


ⓘ The indicated moments and forces are statical values and should not appear simultaneously Throttling has to be done for ensuring that the rotary motion takes place without impact or bouncing. otherwise the service life reduces.

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
Middle position		none	none	none
Protection class IP		67	67	67
Weight	[kg]	1.20	1.20	1.24
Fluid consumption (2 x nominal angle)	[cm³]	36.0	60.0	60.0
Nominal operating pressure	[bar]	6.0	6.0	6.0
min./max. operating pressure	[bar]	4/8	4/8	4/8
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
Cleanroom class ISO 14644-1		5	5	5
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 in the air feed-through	[bar]	8	8	8
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 E-fittings on the output side		6/M8	6/M8	6/M8
Number of wires		10	10	10
max. voltage	[V]	24	24	24
Max. current per wire / total	[A]	1/1	1/1	1/1
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

Max. admissible inertia J



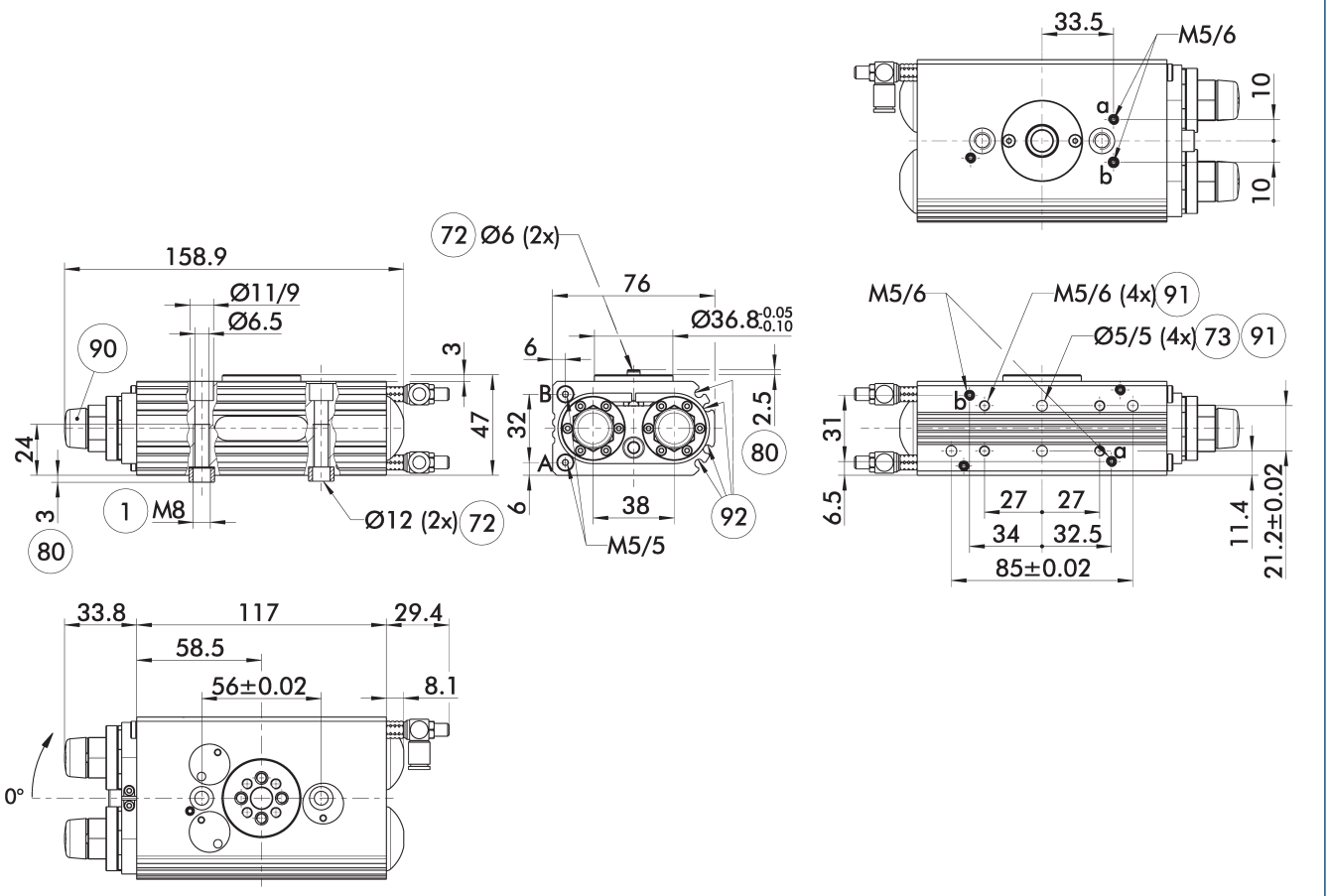
ⓘ The diagrams are valid for swivel angles of 90° and 180°, units without center position and for applications with a vertical swivel axis as well as for absolutely centric loads with a horizontal rotary axis and with a pneumatic operating pressure of 6 bar. The swiveling times per throttling have to 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
Middle position		1 x M (pneumatic)	1 x VM (locked)	1 x M (pneumatic)
Adjustability of middle position	[°]	3.0	3.0	3.0
Protection class IP		67	67	67
Weight	[kg]	1.55	1.76	1.60
Fluid consumption (2 x nominal angle)	[cm³]	60.0	60.0	60.0
Nominal operating pressure	[bar]	6.0	6.0	6.0
min./max. operating pressure	[bar]	4/8	4/6.5	4/8
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
Cleanroom class ISO 14644-1		5	5	5
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 in the air feed-through	[bar]	8	8	8
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 E-fittings on the output side		6/M8	6/M8	6/M8
Number of wires		10	10	10
max. voltage	[V]	24	24	24
Max. current per wire / total	[A]	1/1	1/1	1/1
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

ⓘ All modules are also available in a Viton version. Please contact us for details.

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.

ⓘ 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, swivel unit clockwise turning

B, b Main / direct connection, swivel unit counterclockwise turning

(1) Connection swivel unit

(72) Fit for centering sleeves

(73) Fit for centering pins

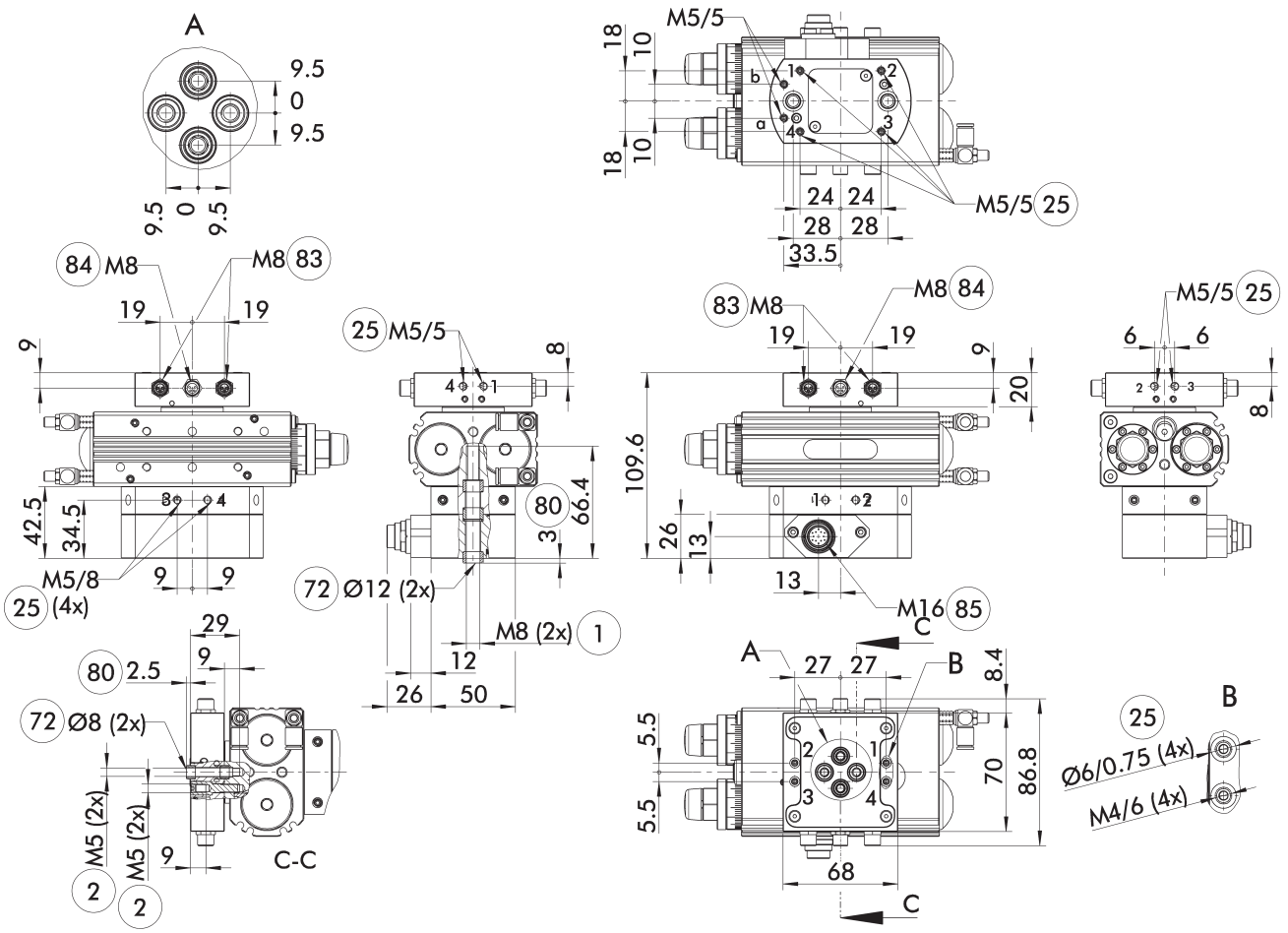
(80) Depth of the centering sleeve hole in the counter part

(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.

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

A, a Main / direct connection, swivel unit clockwise turning

B, b Main / direct connection, swivel unit counterclockwise turning

(1) Connection swivel unit

(2) Attachment connection

(25) Fluid feed-through

(72) Fit for centering sleeves

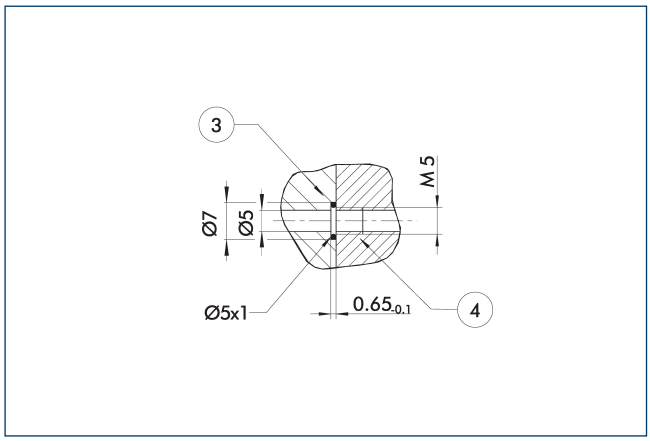
(80) Depth of the centering sleeve hole in the counter part

(83) Input for 3 pole sensor feed-through

(84) Input for 4 pole sensor feed-through

(85) Sensor feed-through output

Hose-free direct connection M5

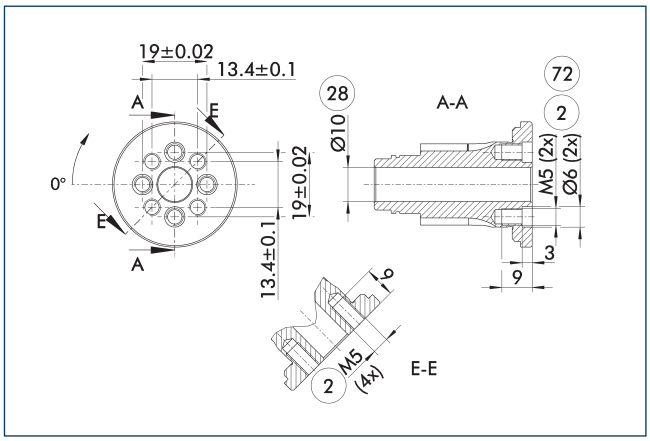


(3) Adapter

(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

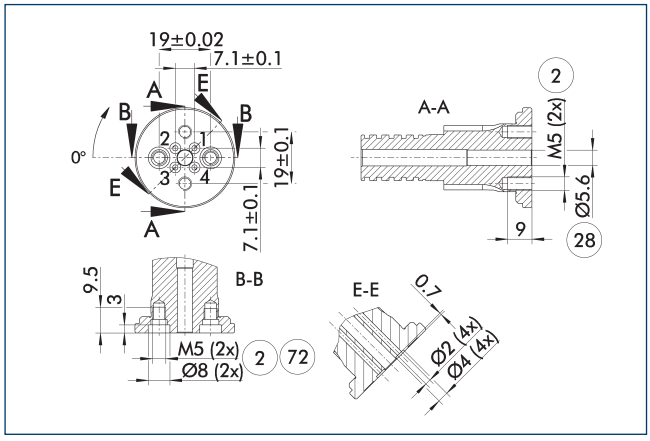
(72) Fit for centering sleeves

(28) Through-hole

(77) Clearance for fitting screw

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

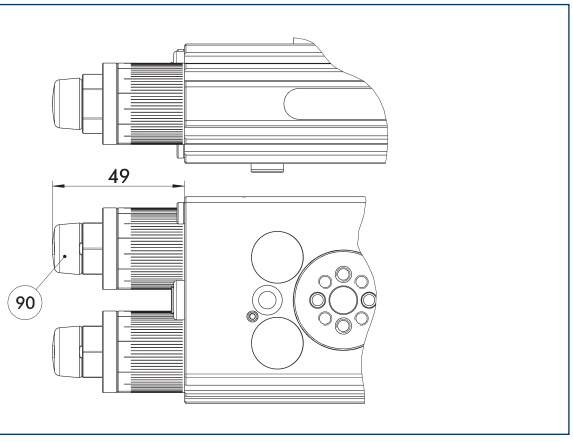
(72) Fit for centering sleeves

(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).

ⓘ View applicable only for versions without EDF!

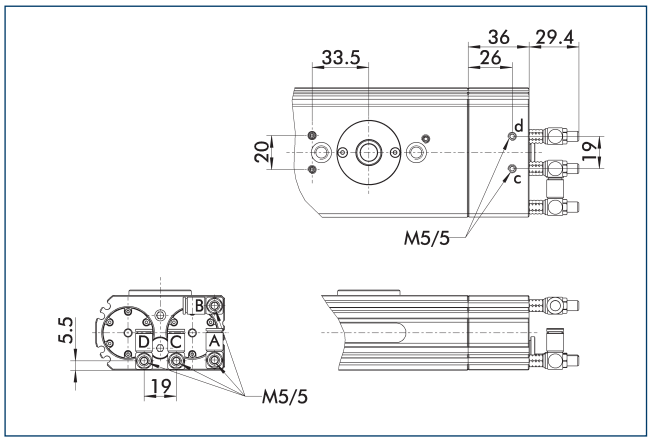
Large end position adjustability 90°



(90) 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, swivel unit clockwise turning

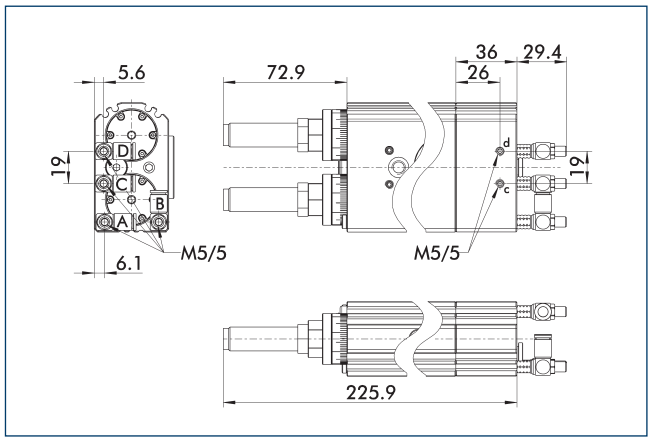
B, b Main / direct connection, swivel unit counterclockwise turning

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, swivel unit clockwise turning

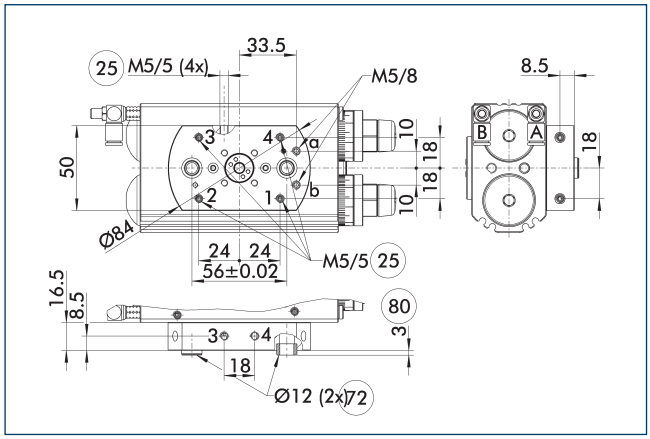
B, b Main / direct connection, swivel unit counterclockwise turning

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, swivel unit clockwise turning

B, b Main / direct connection, swivel unit counterclockwise turning

(25) Fluid feed-through

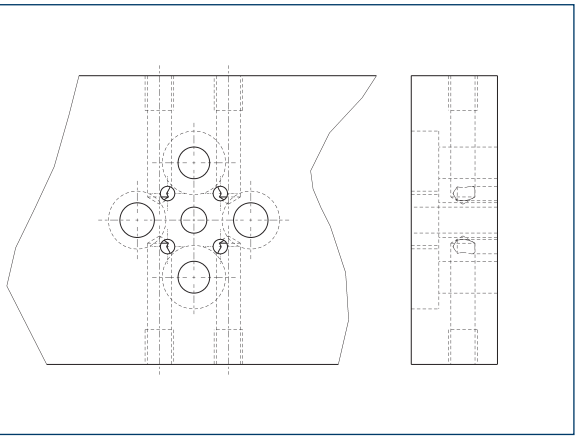
(72) Fit for centering sleeves

(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.

ⓘ View applicable only for versions without EDF!

Adapter plate design



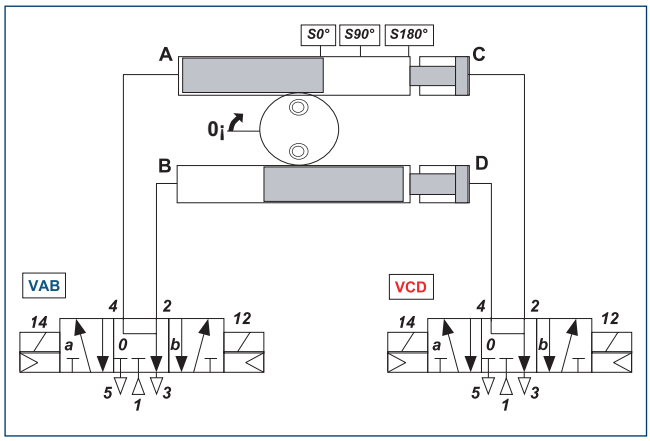
Suggested here is an adapter plate design which allows for all fluid feed-throughs to be accessed as easily as possible.

ⓘ View applicable only for versions without EDF!

SRU-plus 20

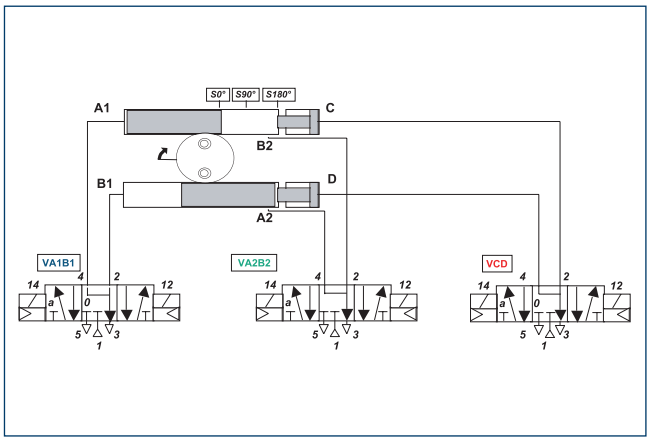
Universal swivel units

Pneumatic diagram of SRU-plus-VM — vertical axis



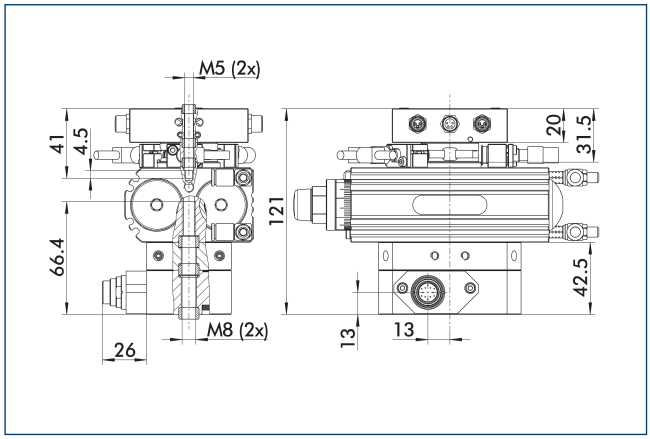
VM rotary actuators with a vertical rotary axis are generally actuated by two 5/3 directional control valves with an exhausted middle position. To prevent damage, it is essential to pay attention to the actuation sequence indicated in the operating manual.

Pneumatic diagram of SRU-plus-VM — horizontal axis



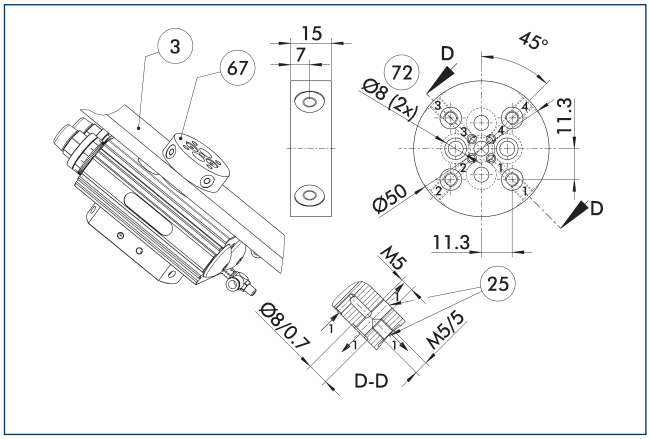
VM rotary actuators with a horizontal or non-vertical rotary axis must generally be actuated by three 5/3 directional control valves with an exhausted middle position. To prevent damage, it is essential to pay attention to the actuation sequence indicated in the operating manual.

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



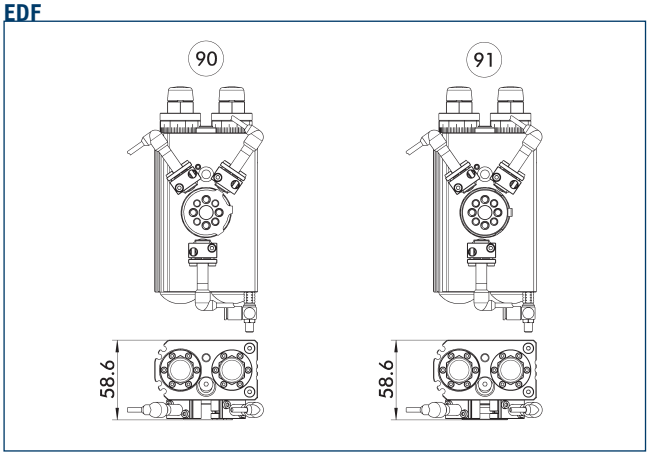
(3) Adapter
(25) Fluid feed-through
(67) Distributor for media feed-through
(72) Fit for centering sleeves

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 for SRU-plus		
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 20

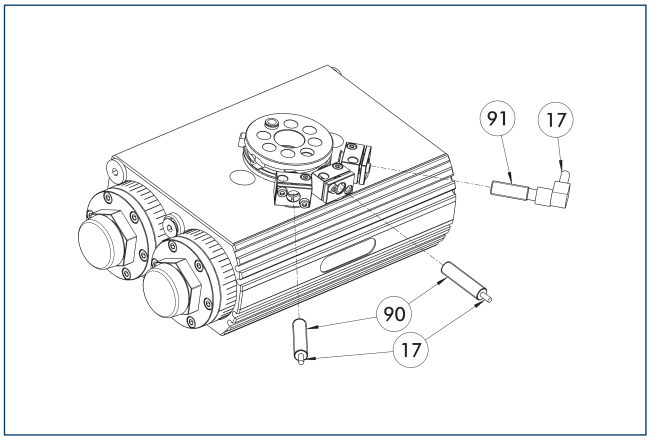
(91) AS-NHS-SRU-plus 20

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

ⓘ 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

(90) Sensor IN ...

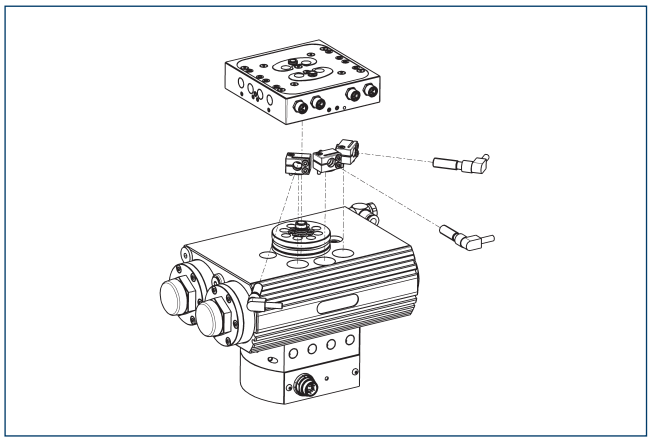
(91) Sensor IN..-SA

End and intermediate position monitoring can be mounted with mounting kit

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

ⓘ View applicable only for versions without EDF!

Inductive proximity switches IN for SRU-plus with EDF

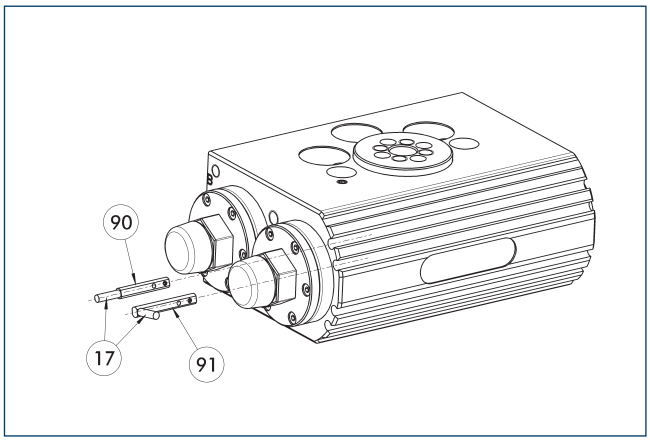


End and intermediate position monitoring mounted directly

Description	ID	Often combined
Inductive Proximity Switches		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
IN-C 80-S-M8	0301475	
INK 80-S	0301550	
INK 80-SL	0301579	
Inductive proximity switch with lateral 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	

ⓘ Two sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

Electronic magnetic switches MMS



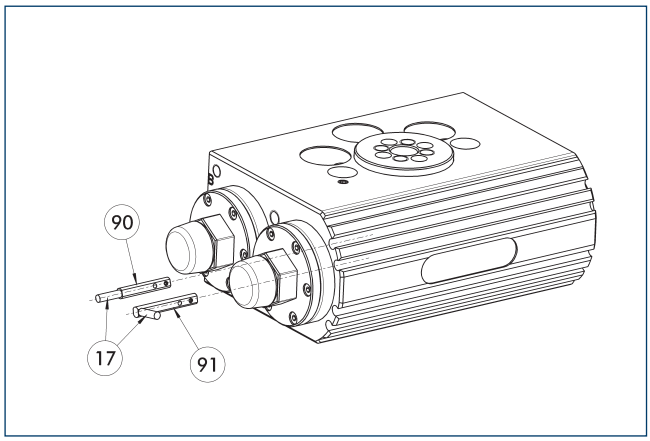
(17) Cable outlet
(90) Sensor MMS 22..
(91) Sensor MMS 22...-SA

End and intermediate position monitoring mounted in C-slot

Description	ID	Often combined
Electronic magnetic switches MMS		
MMS 22-S-M8-PNP	0301032	●
MMSK 22-S-PNP	0301034	
MMS electronic magnetic switches with lateral 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	

ⓘ Two sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

Programmable magnetic switches MMS PI1



17 Cable outlet
91 Sensor MMS 22 ..-PI1-...-SA
90 Sensor MMS 22 PI1-...

Position monitoring with one programmable position per sensor and electronics integrated in the sensor. Can be programmed using MT magnetic teaching tool (included in scope of delivery) or ST plug teaching tool (optional). End position monitoring is mounted 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.

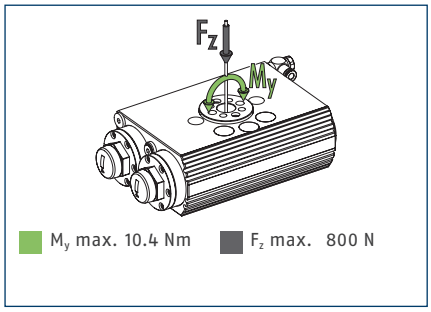
Description	ID	Often combined
Programmable magnetic switches MMS PI1		
MMS 22-PI1-S-M8-PNP	0301160	●
MMSK 22-PI1-S-PNP	0301162	
Programmable magnetic switches MMS PI1 with lateral cable outlet		
MMS 22-PI1-S-M8-PNP-SA	0301166	●
MMSK 22-PI1-S-PNP-SA	0301168	
Programmable magnetic switches MMS PI1 with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

ⓘ Two sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

SRU-plus 25

Universal swivel units

Pinion load

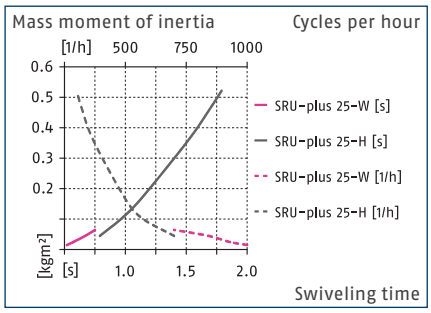


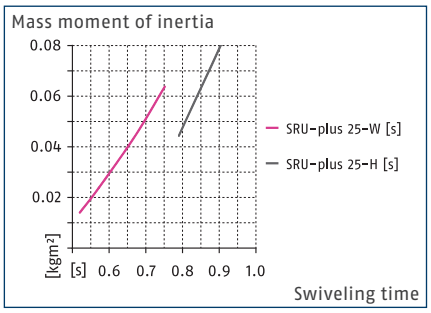
ⓘ The indicated moments and forces are statical values and should not appear simultaneously Throttling has to be done for ensuring that the rotary motion takes place without impact or bouncing. otherwise the service life reduces.

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
Description (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
Middle position		none	none	none
Protection class IP		67	67	67
Weight	[kg]	1.60	1.60	1.65
Fluid consumption (2 x nominal angle)	[cm³]	60.0	88.0	88.0
Nominal operating pressure	[bar]	6.0	6.0	6.0
min./max. operating pressure	[bar]	4/8	4/8	4/8
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
Cleanroom class ISO 14644-1		5	5	5
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
Description (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 in the air feed-through	[bar]	8	8	8
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
Description (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 E-fittings on the output side		6/M8	6/M8	6/M8
Number of wires		10	10	10
max. voltage	[V]	24	24	24
Max. current per wire / total	[A]	1/1	1/1	1/1
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
Description (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

Max. admissible inertia J





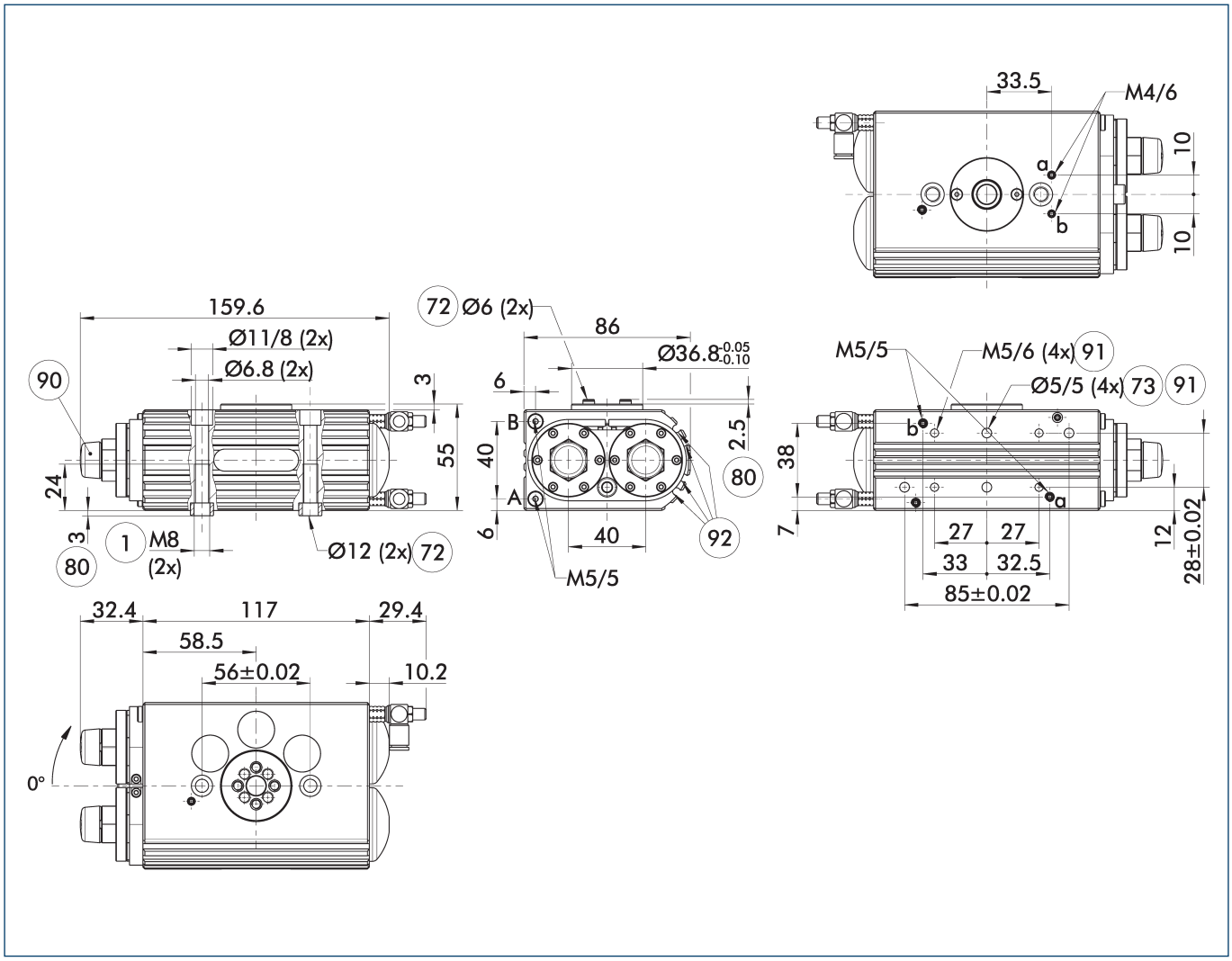
ⓘ The diagrams are valid for swivel angles of 90° and 180°, units without center position and for applications with a vertical swivel axis as well as for absolutely centric loads with a horizontal rotary axis and with a pneumatic operating pressure of 6 bar. The swiveling times per throttling have to 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
Middle position		1 x M (pneumatic)	1 x VM (locked)	1 x M (pneumatic)
Adjustability of middle position	[°]	3.0	3.0	3.0
Protection class IP		67	67	67
Weight	[kg]	2.20	2.60	2.25
Fluid consumption (2 x nominal angle)	[cm³]	88.0	88.0	88.0
Nominal operating pressure	[bar]	6.0	6.0	6.0
min./max. operating pressure	[bar]	4/8	4/6.5	4/8
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
Cleanroom class ISO 14644-1		5	5	5
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 in the air feed-through	[bar]	8	8	8
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 E-fittings on the output side		6/M8	6/M8	6/M8
Number of wires		10	10	10
max. voltage	[V]	24	24	24
Max. current per wire / total	[A]	1/1	1/1	1/1
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

ⓘ All modules are also available in a Viton version. Please contact us for details.

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.

ⓘ 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, swivel unit clockwise turning

B, b Main / direct connection, swivel unit counterclockwise turning

(1) Connection swivel unit

(72) Fit for centering sleeves

(73) Fit for centering pins

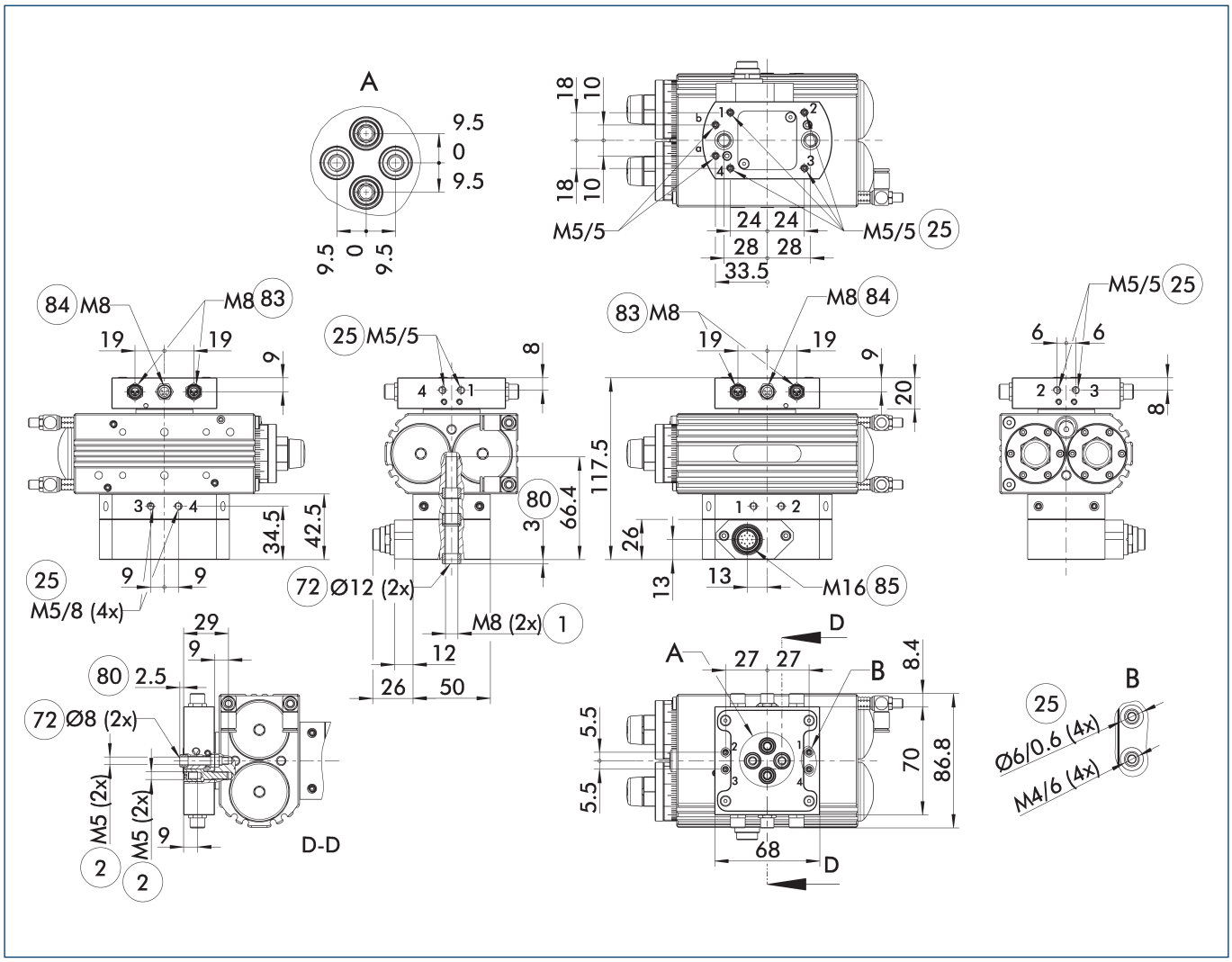
(80) Depth of the centering sleeve hole in the counter part

(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.

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

A, a Main / direct connection, swivel unit clockwise turning

B, b Main / direct connection, swivel unit counterclockwise turning

(1) Connection swivel unit

(2) Attachment connection

(25) Fluid feed-through

(72) Fit for centering sleeves

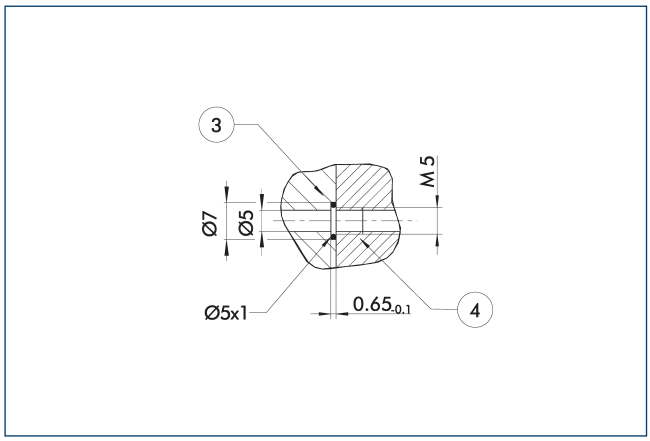
(80) Depth of the centering sleeve hole in the counter part

(83) Input for 3 pole sensor feed-through

(84) Input for 4 pole sensor feed-through

(85) Sensor feed-through output

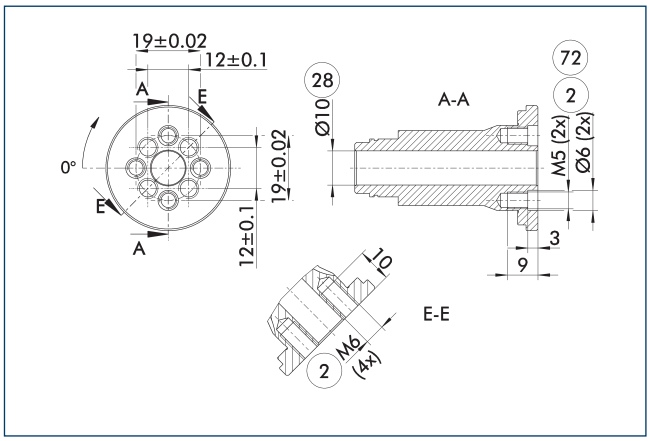
Hose-free direct connection M5



(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.

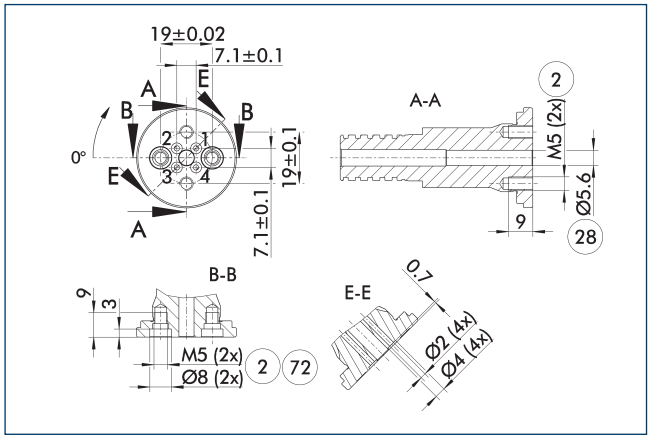
Pinion without fluid feed-through



(2) Attachment connection
(28) Through-hole
(72) Fit for centering sleeves
(77) Clearance for fitting screw

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

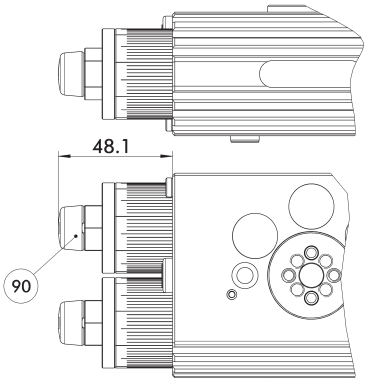


(2) Attachment connection
(28) Through-hole
(72) Fit for centering sleeves

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).

ⓘ View applicable only for versions without EDF!

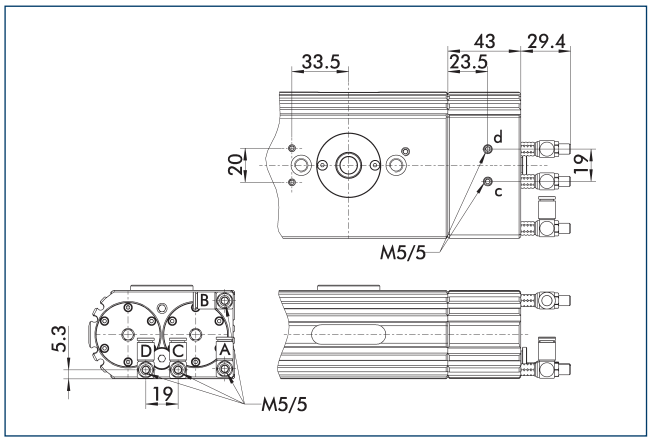
Large end position adjustability 90°



(90) 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, swivel unit clockwise turning

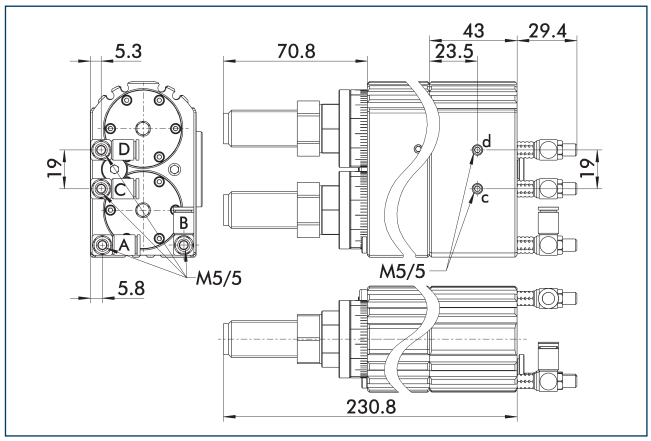
B, b Main / direct connection, swivel unit counterclockwise turning

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, swivel unit clockwise turning

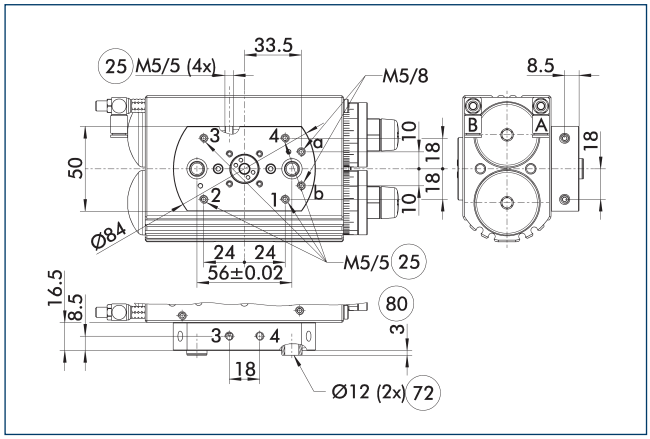
B, b Main / direct connection, swivel unit counterclockwise turning

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, swivel unit clockwise turning

B, b Main / direct connection, swivel unit counterclockwise turning

25 Fluid feed-through

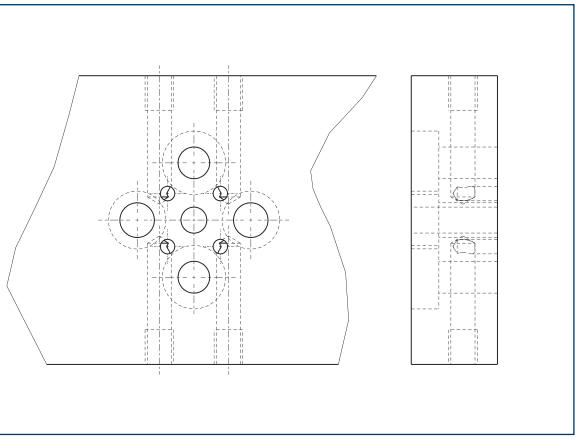
72 Fit for centering sleeves

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.

ⓘ View applicable only for versions without EDF!

Adapter plate design



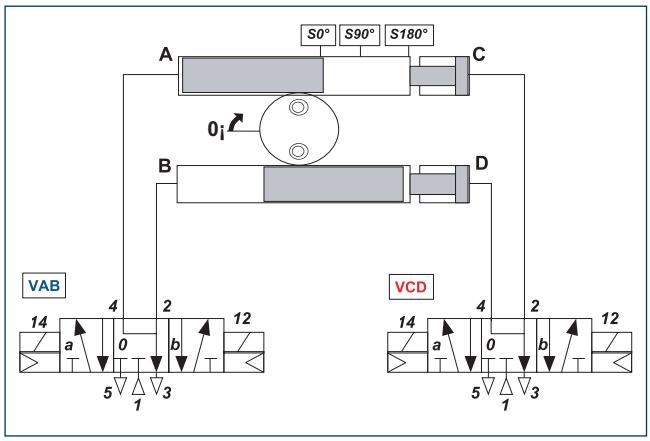
Suggested here is an adapter plate design which allows for all fluid feed-throughs to be accessed as easily as possible.

ⓘ View applicable only for versions without EDF!

SRU-plus 25

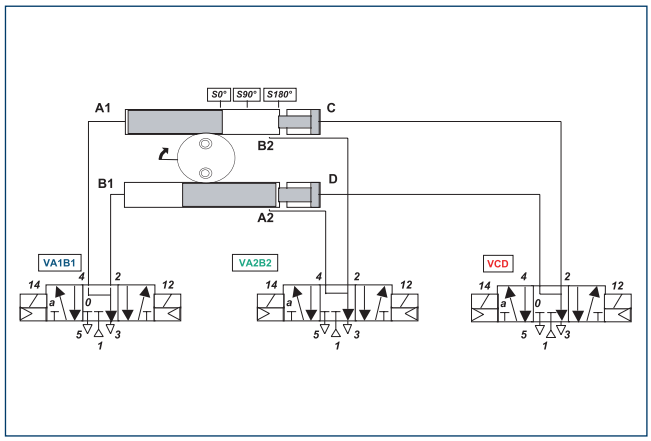
Universal swivel units

Pneumatic diagram of SRU-plus-VM — vertical axis



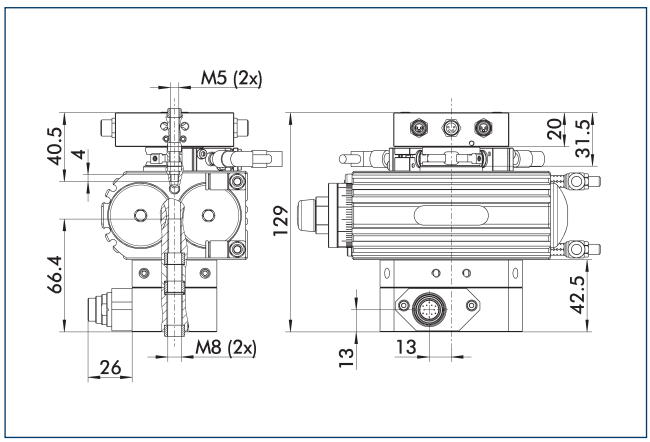
VM rotary actuators with a vertical rotary axis are generally actuated by two 5/3 directional control valves with an exhausted middle position. To prevent damage, it is essential to pay attention to the actuation sequence indicated in the operating manual.

Pneumatic diagram of SRU-plus-VM — horizontal axis



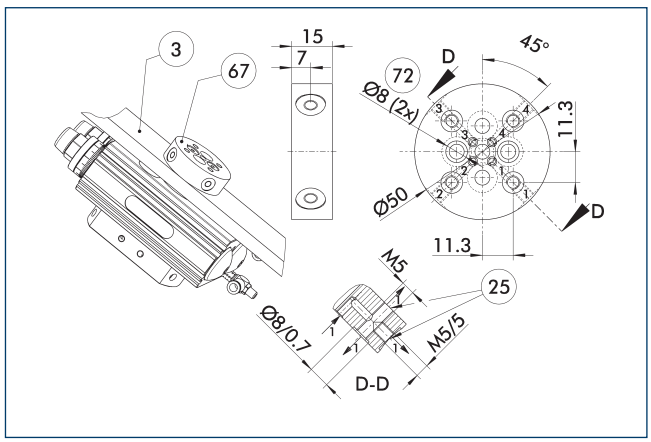
VM rotary actuators with a horizontal or non-vertical rotary axis must generally be actuated by three 5/3 directional control valves with an exhausted middle position. To prevent damage, it is essential to pay attention to the actuation sequence indicated in the operating manual.

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



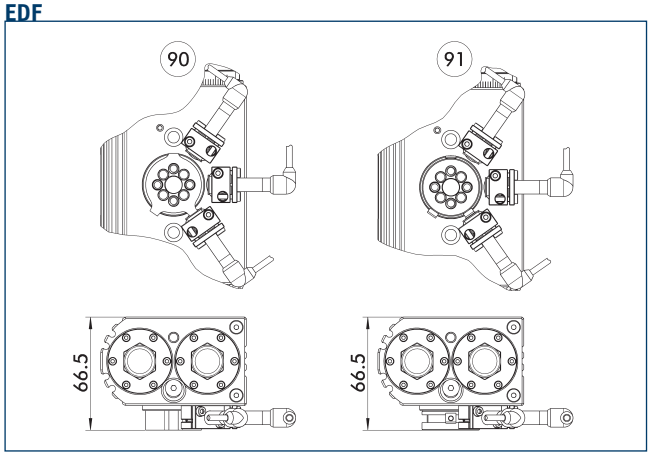
(3) Adapter
(25) Fluid feed-through
(67) Distributor for media feed-through
(72) Fit for centering sleeves

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 for SRU-plus		
V-SRU-plus 20/25/30	0357392	

ⓘ View applicable only for versions without EDF!

Attachment kit for proximity switch at SRU-plus without EDF



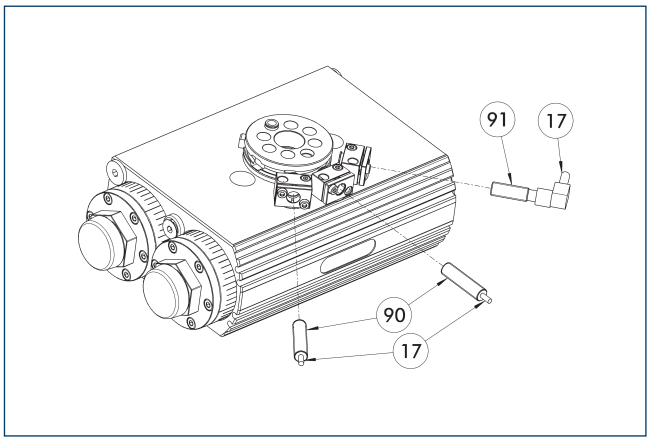
(90) AS-NHS-F-SRU-plus 25/30 (91) AS-NHS-SRU-plus 25

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 adjustable cam		
AS-NHS-SRU-plus 20/25/30-4	0361491	
AS-NHS-SRU-plus 25	0361690	
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	

ⓘ 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



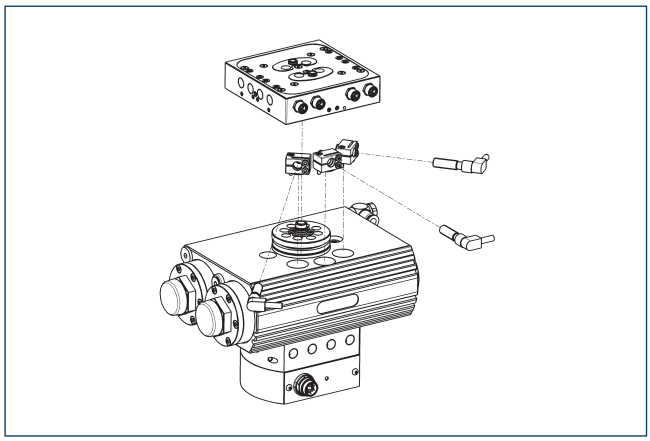
(17) Cable outlet (91) Sensor IN..-SA
(90) Sensor IN ...

End and intermediate position monitoring can be mounted with mounting kit

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

ⓘ View applicable only for versions without EDF!

Inductive proximity switches IN for SRU-plus with EDF

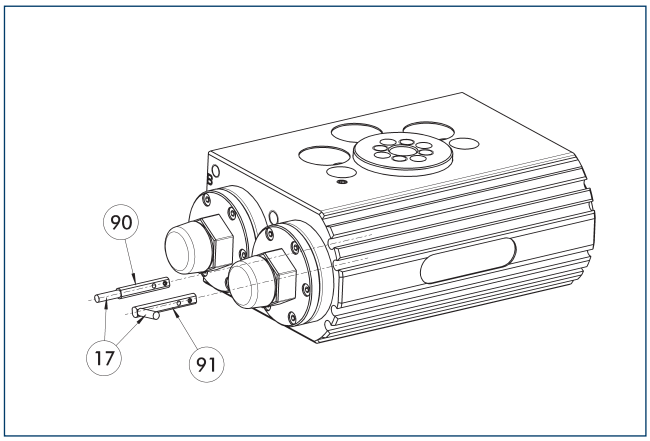


End and intermediate position monitoring mounted directly

Description	ID	Often combined
Inductive Proximity Switches		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
IN-C 80-S-M8	0301475	
INK 80-S	0301550	
INK 80-SL	0301579	
Inductive proximity switch with lateral 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	

ⓘ Two sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

Electronic magnetic switches MMS



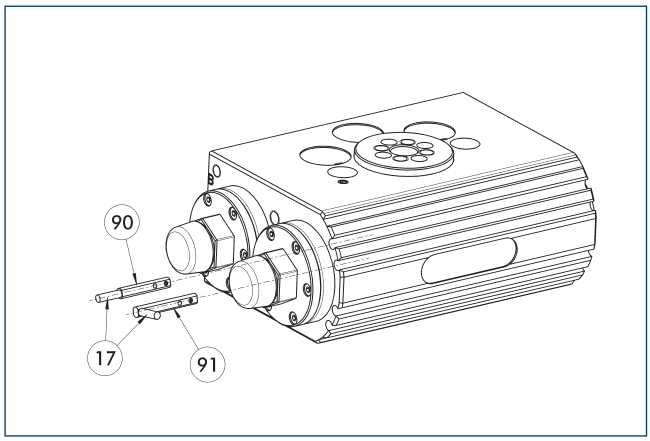
(17) Cable outlet
(90) Sensor MMS 22..
(91) Sensor MMS 22...-SA

End and intermediate position monitoring mounted in C-slot

Description	ID	Often combined
Electronic magnetic switches MMS		
MMS 22-S-M8-PNP	0301032	●
MMSK 22-S-PNP	0301034	
MMS electronic magnetic switches with lateral 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	

ⓘ Two sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

Programmable magnetic switches MMS PI1



17 Cable outlet
91 Sensor MMS 22 ..-PI1-...-SA
90 Sensor MMS 22 PI1-...

Position monitoring with one programmable position per sensor and electronics integrated in the sensor. Can be programmed using MT magnetic teaching tool (included in scope of delivery) or ST plug teaching tool (optional). End position monitoring is mounted 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.

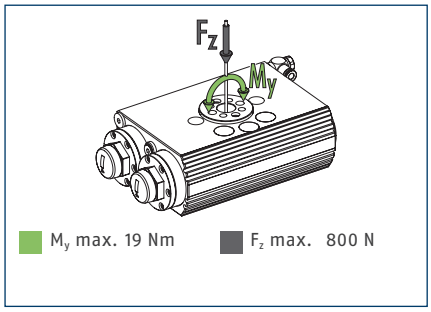
Description	ID	Often combined
Programmable magnetic switches MMS PI1		
MMS 22-PI1-S-M8-PNP	0301160	●
MMSK 22-PI1-S-PNP	0301162	
Programmable magnetic switches MMS PI1 with lateral cable outlet		
MMS 22-PI1-S-M8-PNP-SA	0301166	●
MMSK 22-PI1-S-PNP-SA	0301168	
Programmable magnetic switches MMS PI1 with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

ⓘ Two sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

SRU-plus 30

Universal swivel units

Pinion load

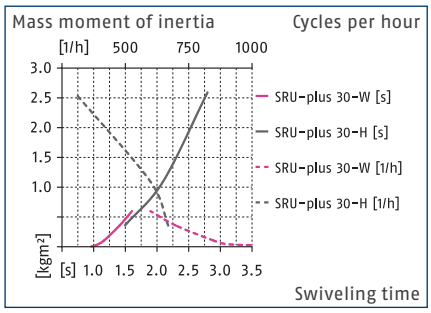


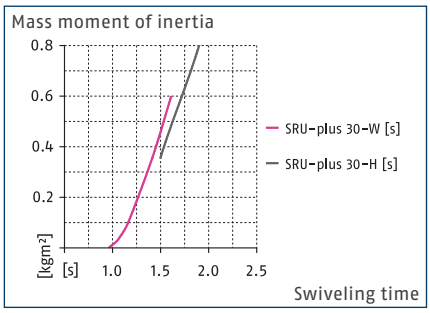
ⓘ The indicated moments and forces are statical values and should not appear simultaneously Throttling has to be done for ensuring that the rotary motion takes place without impact or bouncing. otherwise the service life reduces.

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
Description (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
Middle position		none	none	none
Protection class IP		67	67	67
Weight	[kg]	2.40	2.40	2.40
Fluid consumption (2 x nominal angle)	[cm³]	90.0	145.0	145.0
Nominal operating pressure	[bar]	6.0	6.0	6.0
min./max. operating pressure	[bar]	4/8	4/8	4/8
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
Cleanroom class ISO 14644-1		5	5	5
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
Description (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 in the air feed-through	[bar]	8	8	8
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
Description (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 E-fittings on the output side		6/M8	6/M8	6/M8
Number of wires		10	10	10
max. voltage	[V]	24	24	24
Max. current per wire / total	[A]	1/1	1/1	1/1
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
Description (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

Max. admissible inertia J





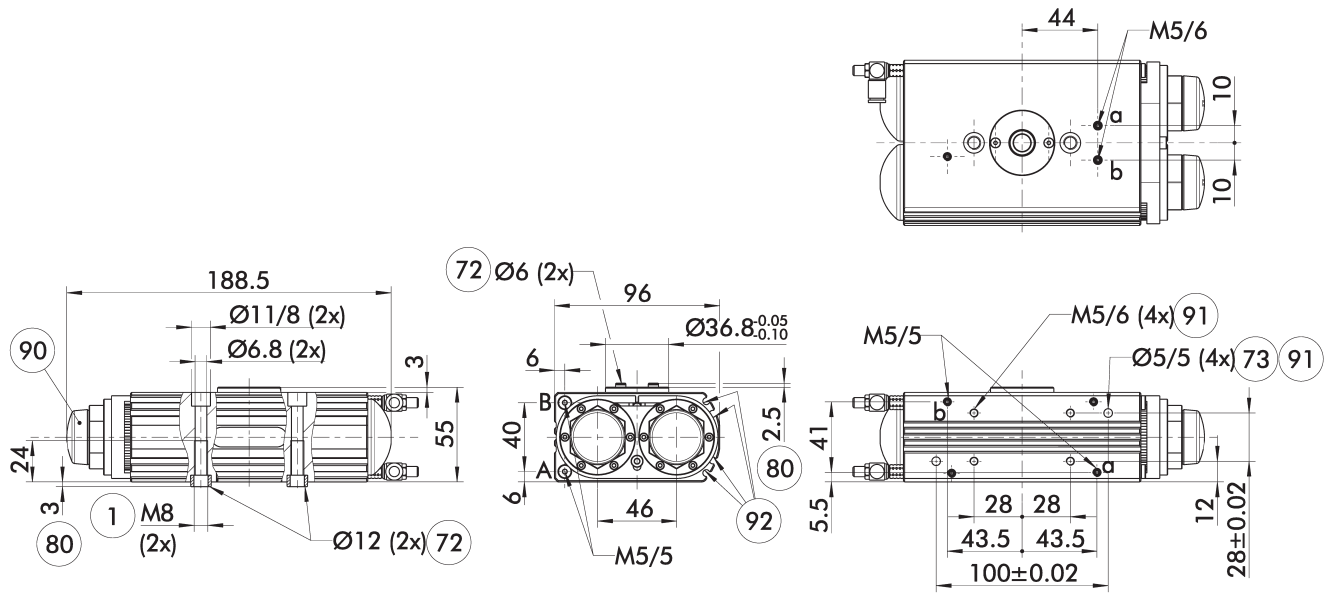
ⓘ The diagrams are valid for swivel angles of 90° and 180°, units without center position and for applications with a vertical swivel axis as well as for absolutely centric loads with a horizontal rotary axis and with a pneumatic operating pressure of 6 bar. The swiveling times per throttling have to 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
Middle position		1 x M (pneumatic)	1 x VM (locked)	1 x M (pneumatic)
Adjustability of middle position	[°]	3.0	3.0	3.0
Protection class IP		67	67	67
Weight	[kg]	3.20	3.40	3.30
Fluid consumption (2 x nominal angle)	[cm³]	145.0	145.0	145.0
Nominal operating pressure	[bar]	6.0	6.0	6.0
min./max. operating pressure	[bar]	4/8	4/6.5	4/8
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
Cleanroom class ISO 14644-1		5	5	5
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 in the air feed-through	[bar]	8	8	8
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 E-fittings on the output side		6/M8	6/M8	6/M8
Number of wires		10	10	10
max. voltage	[V]	24	24	24
Max. current per wire / total	[A]	1/1	1/1	1/1
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

ⓘ All modules are also available in a Viton version. Please contact us for details.

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.

ⓘ 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, swivel unit clockwise turning

B, b Main / direct connection, swivel unit counterclockwise turning

(1) Connection swivel unit

(72) Fit for centering sleeves

(73) Fit for centering pins

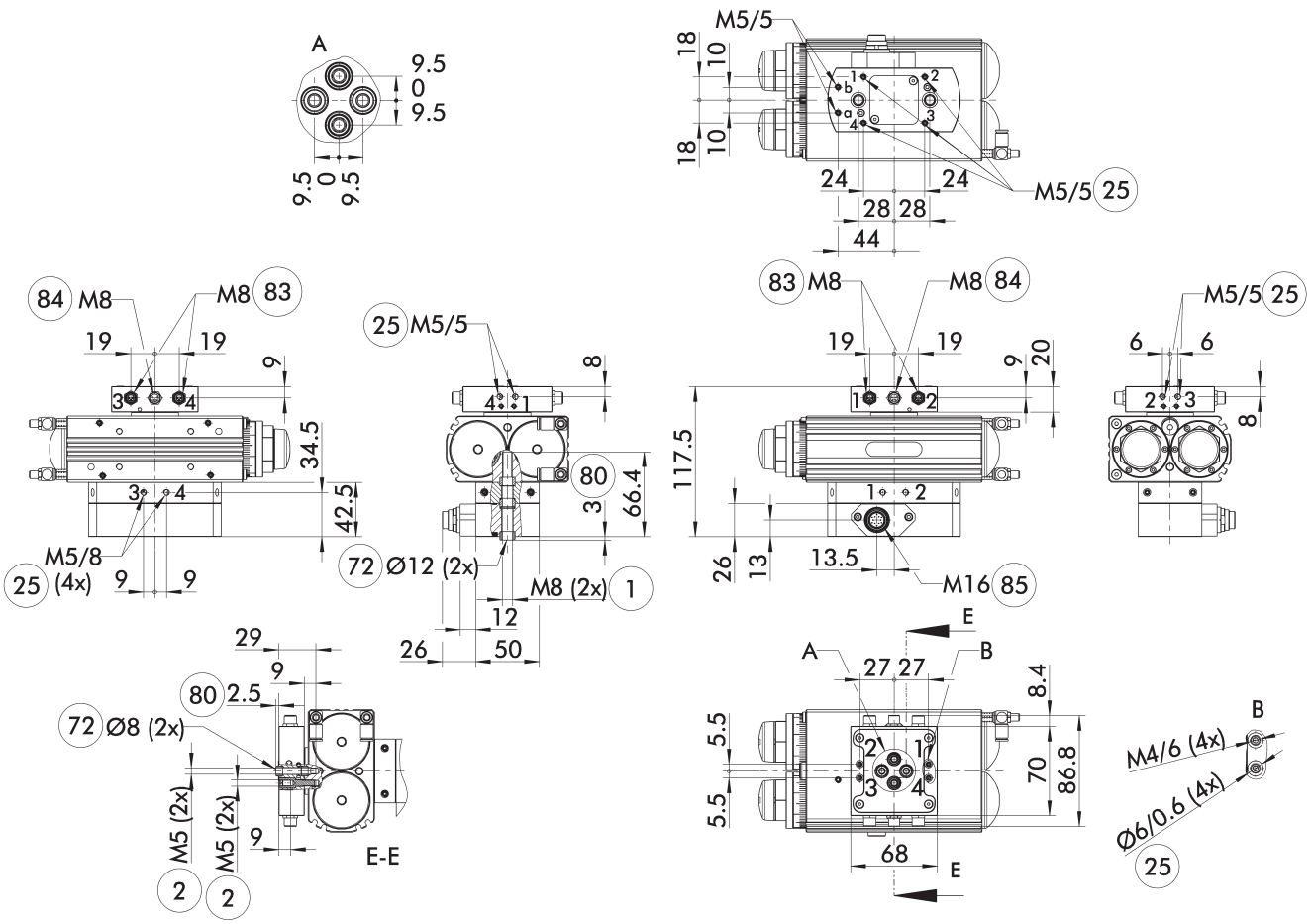
(80) Depth of the centering sleeve hole in the counter part

(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.

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

A, a Main / direct connection, swivel unit clockwise turning

B, b Main / direct connection, swivel unit counterclockwise turning

(1) Connection swivel unit

(2) Attachment connection

(25) Fluid feed-through

(72) Fit for centering sleeves

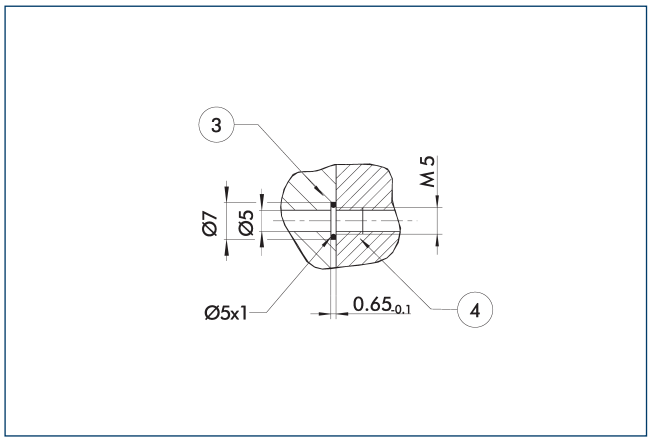
(80) Depth of the centering sleeve hole in the counter part

(83) Input for 3 pole sensor feed-through

(84) Input for 4 pole sensor feed-through

(85) Sensor feed-through output

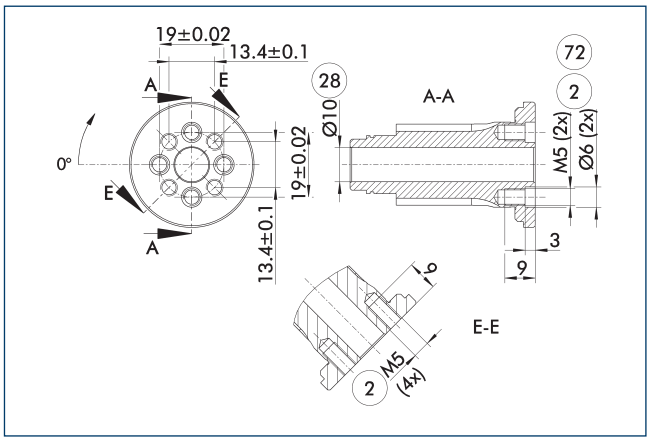
Hose-free direct connection M5



(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.

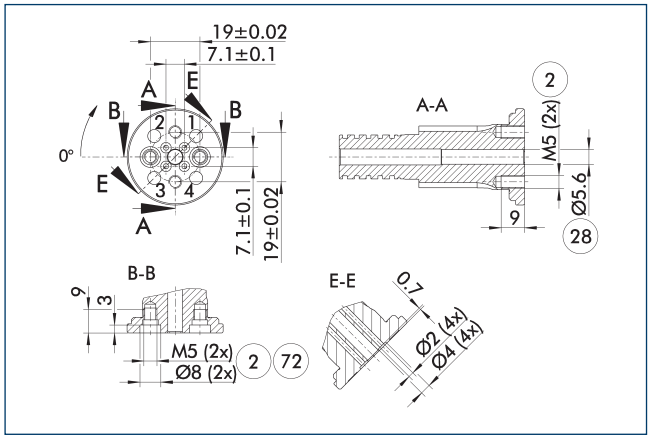
Pinion without fluid feed-through



(2) Attachment connection
(72) Fit for centering sleeves
(28) Through-hole
(77) Clearance for fitting screw

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

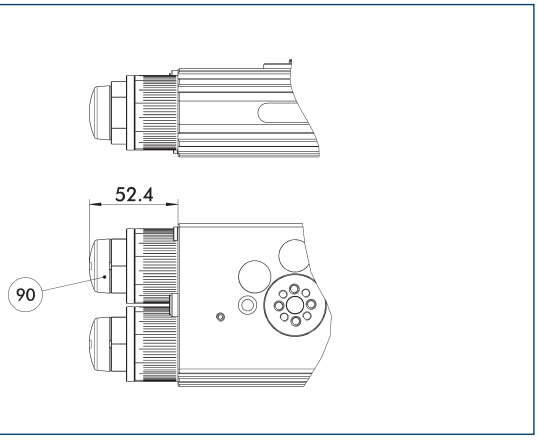


(2) Attachment connection
(72) Fit for centering sleeves
(28) Through-hole

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).

ⓘ View applicable only for versions without EDF!

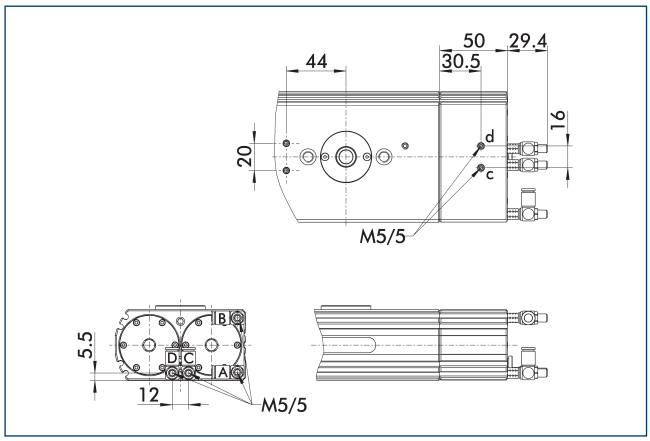
Large end position adjustability 90°



(90) 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, swivel unit clockwise turning

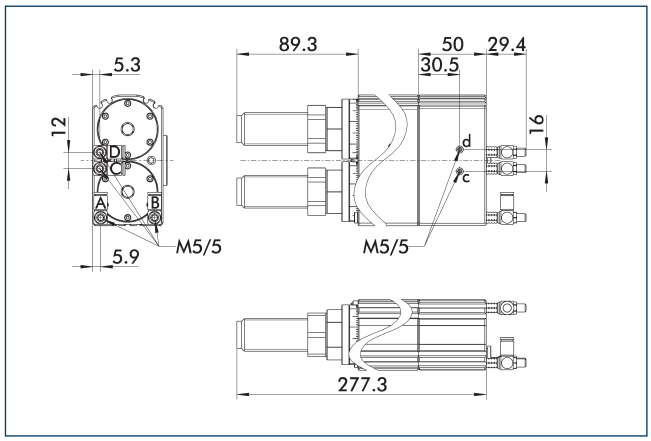
B, b Main / direct connection, swivel unit counterclockwise turning

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, swivel unit clockwise turning

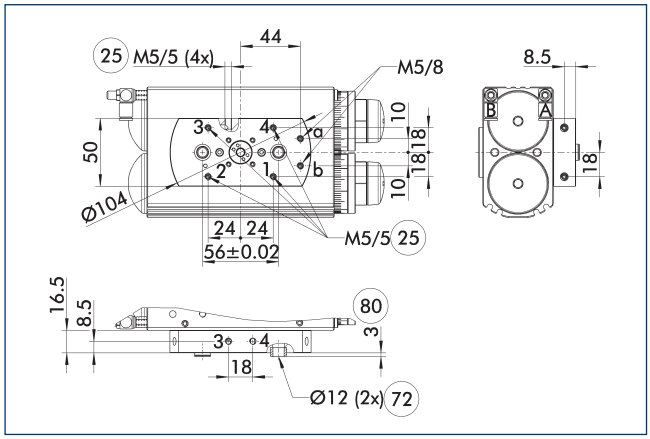
B, b Main / direct connection, swivel unit counterclockwise turning

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, swivel unit clockwise turning

B, b Main / direct connection, swivel unit counterclockwise turning

25 Fluid feed-through

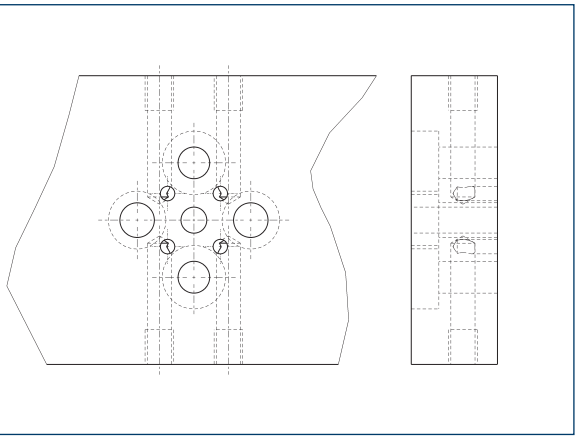
72 Fit for centering sleeves

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.

ⓘ View applicable only for versions without EDF!

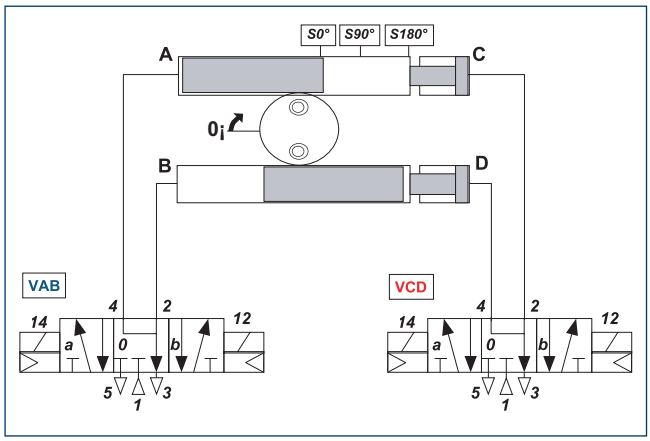
Adapter plate design



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

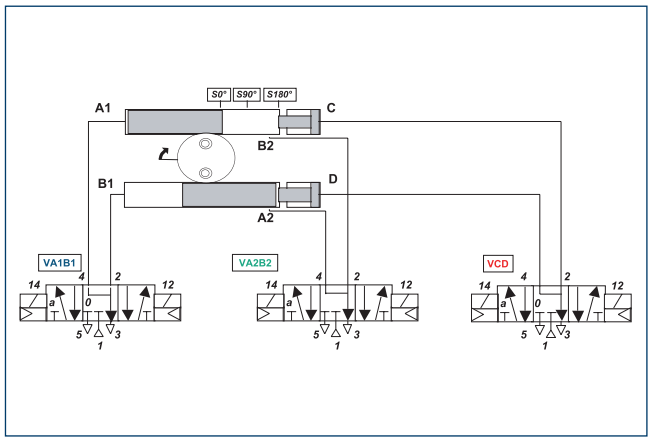
ⓘ View applicable only for versions without EDF!

Pneumatic diagram of SRU-plus-VM — vertical axis



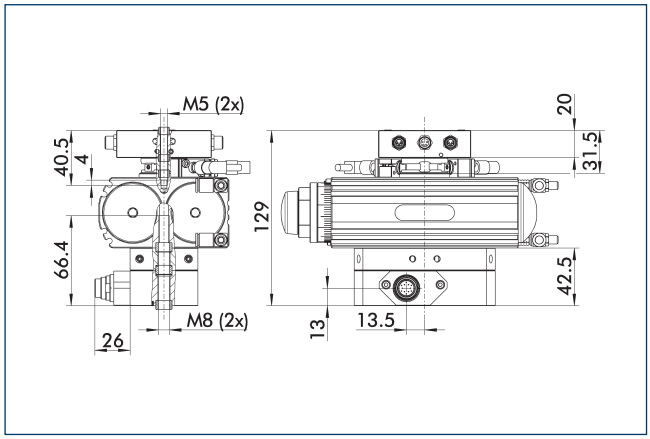
VM rotary actuators with a vertical rotary axis are generally actuated by two 5/3 directional control valves with an exhausted middle position. To prevent damage, it is essential to pay attention to the actuation sequence indicated in the operating manual.

Pneumatic diagram of SRU-plus-VM — horizontal axis



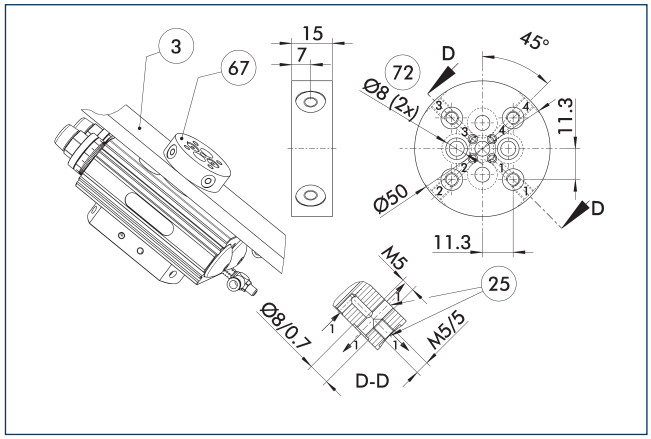
VM rotary actuators with a horizontal or non-vertical rotary axis must generally be actuated by three 5/3 directional control valves with an exhausted middle position. To prevent damage, it is essential to pay attention to the actuation sequence indicated in the operating manual.

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



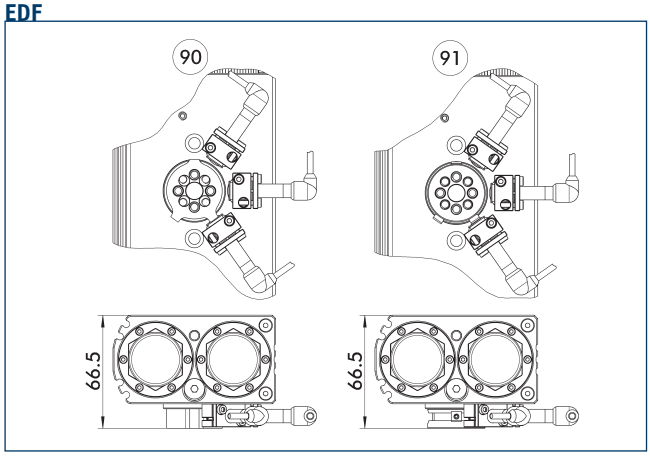
(3) Adapter
(25) Fluid feed-through
(67) Distributor for media feed-through
(72) Fit for centering sleeves

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 for SRU-plus		
V-SRU-plus 20/25/30	0357392	

ⓘ View applicable only for versions without EDF!

Attachment kit for proximity switch at SRU-plus without EDF



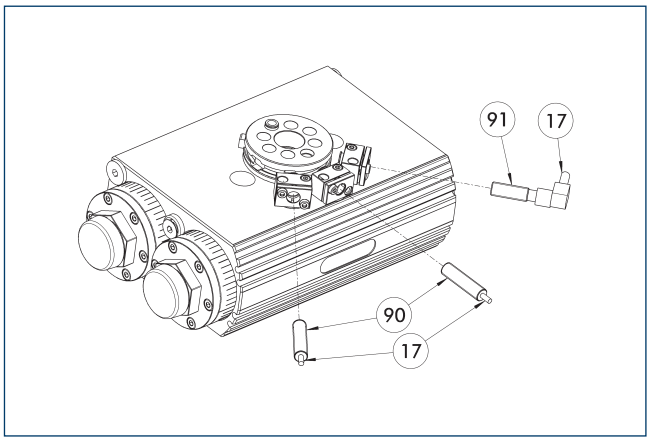
(90) AS-NHS-F-SRU-plus 25/30 (91) AS-NHS-SRU-plus 30

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 adjustable cam		
AS-NHS-SRU-plus 20/25/30-4	0361491	
AS-NHS-SRU-plus 20/30	0361490	
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	

ⓘ 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



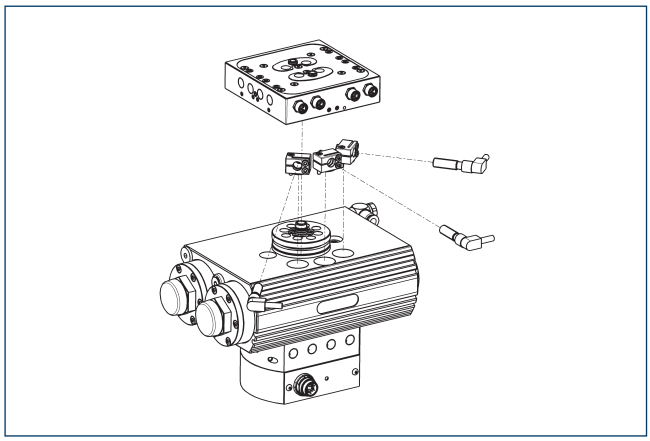
(17) Cable outlet (91) Sensor IN..-SA
(90) Sensor IN ...

End and intermediate position monitoring can be mounted with mounting kit

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

ⓘ View applicable only for versions without EDF!

Inductive proximity switches IN for SRU-plus with EDF

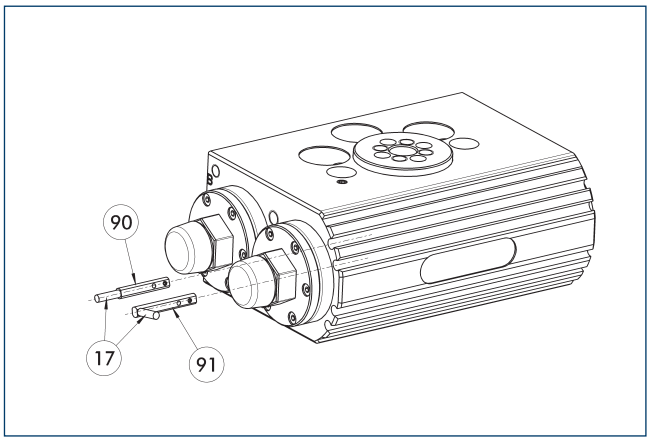


End and intermediate position monitoring mounted directly

Description	ID	Often combined
Inductive Proximity Switches		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
IN-C 80-S-M8	0301475	
INK 80-S	0301550	
INK 80-SL	0301579	
Inductive proximity switch with lateral 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	

ⓘ Two sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

Electronic magnetic switches MMS



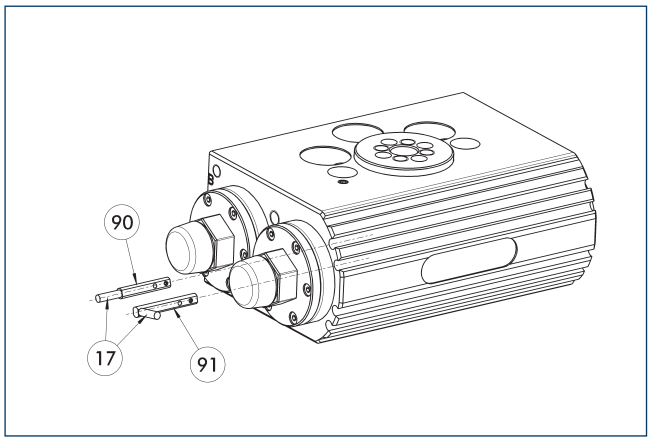
(17) Cable outlet
(91) Sensor MMS 22...-SA
(90) Sensor MMS 22..

End and intermediate position monitoring mounted in C-slot

Description	ID	Often combined
Electronic magnetic switches MMS		
MMS 22-S-M8-PNP	0301032	●
MMSK 22-S-PNP	0301034	
MMS electronic magnetic switches with lateral 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	

ⓘ Two sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

Programmable magnetic switches MMS PI1



17 Cable outlet
91 Sensor MMS 22 ..-PI1-...-SA
90 Sensor MMS 22 PI1-...

Position monitoring with one programmable position per sensor and electronics integrated in the sensor. Can be programmed using MT magnetic teaching tool (included in scope of delivery) or ST plug teaching tool (optional). End position monitoring is mounted 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.

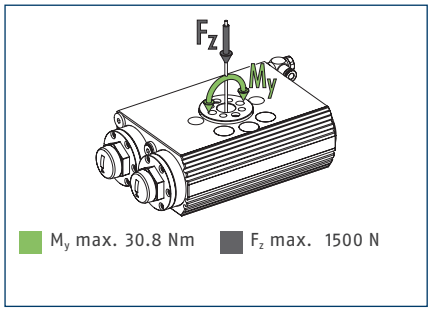
Description	ID	Often combined
Programmable magnetic switches MMS PI1		
MMS 22-PI1-S-M8-PNP	0301160	●
MMSK 22-PI1-S-PNP	0301162	
Programmable magnetic switches MMS PI1 with lateral cable outlet		
MMS 22-PI1-S-M8-PNP-SA	0301166	●
MMSK 22-PI1-S-PNP-SA	0301168	
Programmable magnetic switches MMS PI1 with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

ⓘ Two sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

SRU-plus 35

Universal swivel units

Pinion load

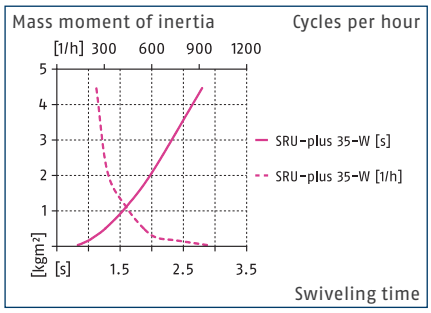


ⓘ The indicated moments and forces are statical values and should not appear simultaneously Throttling has to be done for ensuring that the rotary motion takes place without impact or bouncing. otherwise the service life reduces.

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
Middle position		none	none	none
Protection class IP		67	67	67
Weight	[kg]	2.65	2.65	2.75
Fluid consumption (2 x nominal angle)	[cm³]	132.0	216.0	216.0
Nominal operating pressure	[bar]	6.0	6.0	6.0
min./max. operating pressure	[bar]	4/8	4/8	4/8
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
Cleanroom class ISO 14644-1		5	5	5
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 in the air feed-through	[bar]	8	8	8
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 E-fittings on the output side		6/M8	6/M8	6/M8
Number of wires		10	10	10
max. voltage	[V]	24	24	24
Max. current per wire / total	[A]	1/1	1/1	1/1
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

Max. admissible inertia J



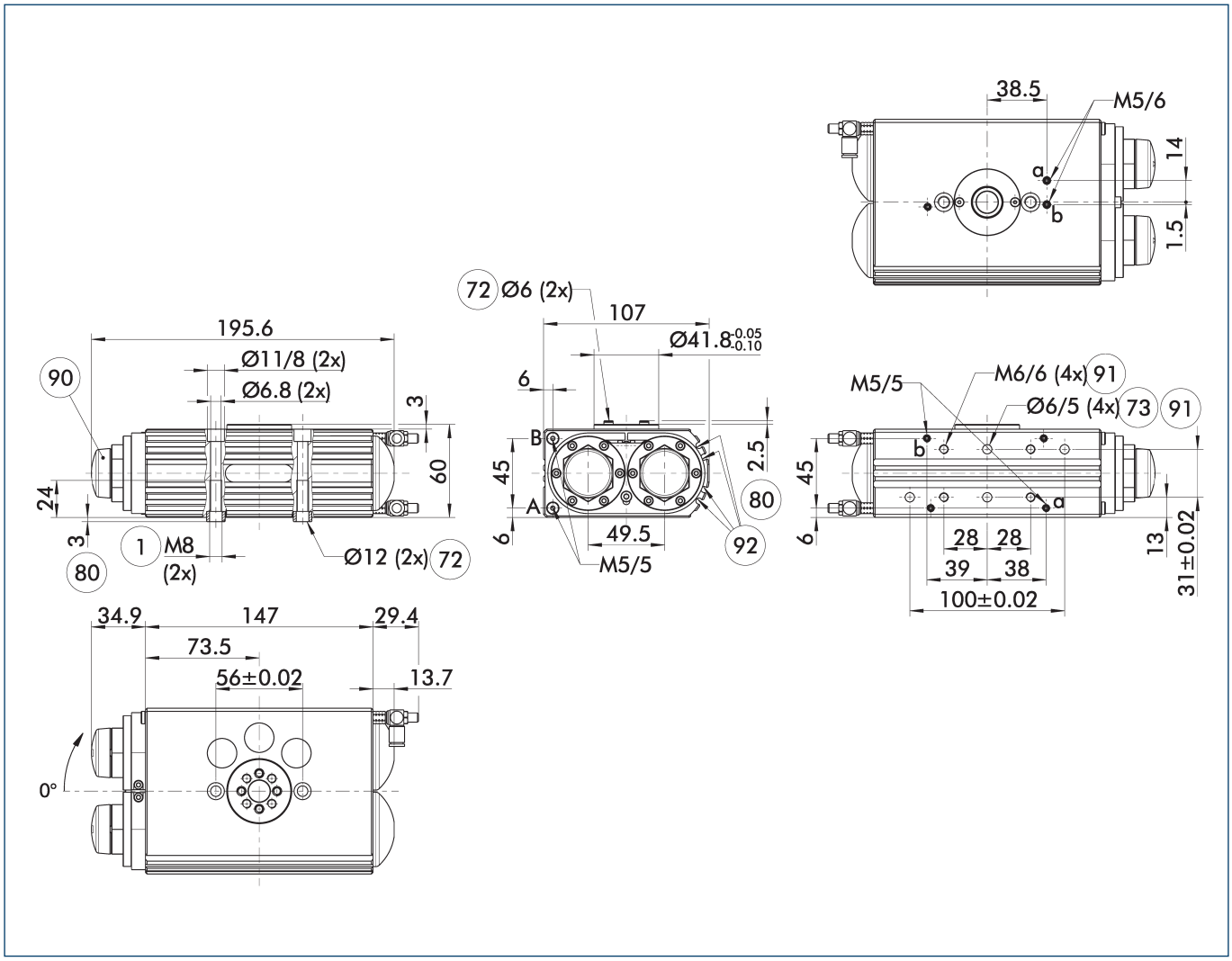
ⓘ The diagrams are valid for swivel angles of 90° and 180°, units without center position and for applications with a vertical swivel axis as well as for absolutely centric loads with a horizontal rotary axis and with a pneumatic operating pressure of 6 bar. The swiveling times per throttling have to 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
Middle position		1 x M (pneumatic)	1 x VM (locked)	1 x M (pneumatic)
Adjustability of middle position	[°]	3.0	3.0	3.0
Protection class IP		67	67	67
Weight	[kg]	3.65	4.15	3.75
Fluid consumption (2 x nominal angle)	[cm³]	216.0	216.0	216.0
Nominal operating pressure	[bar]	6.0	6.0	6.0
min./max. operating pressure	[bar]	4/8	4/6.5	4/8
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
Cleanroom class ISO 14644-1		5	5	5
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 in the air feed-through	[bar]	8	8	8
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 E-fittings on the output side		6/M8	6/M8	6/M8
Number of wires		10	10	10
max. voltage	[V]	24	24	24
Max. current per wire / total	[A]	1/1	1/1	1/1
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

ⓘ All modules are also available in a Viton version. Please contact us for details.

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.

ⓘ 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, swivel unit clockwise turning

B, b Main / direct connection, swivel unit counterclockwise turning

(1) Connection swivel unit

(72) Fit for centering sleeves

(73) Fit for centering pins

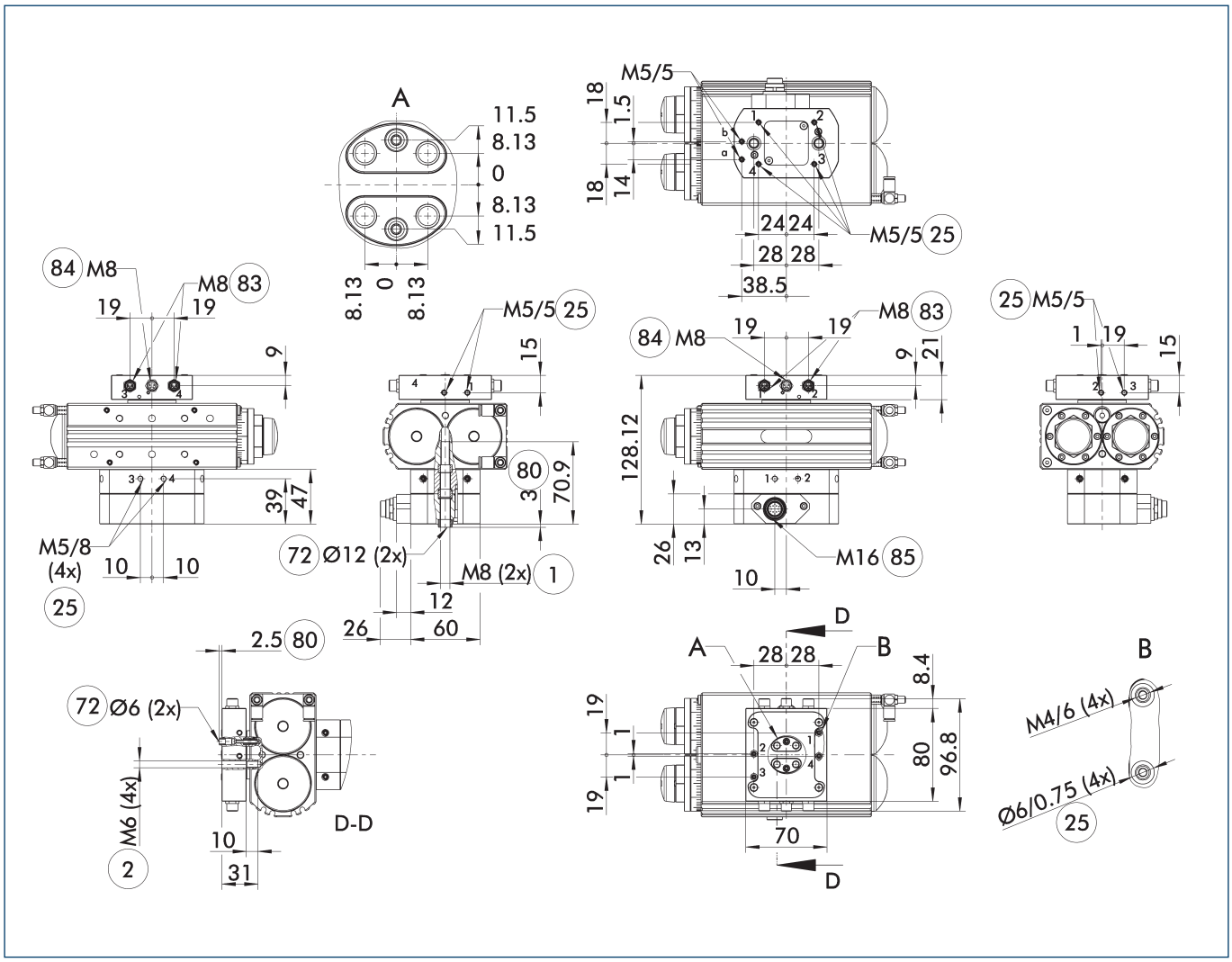
(80) Depth of the centering sleeve hole in the counter part

(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.

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

A, a Main / direct connection, swivel unit clockwise turning

B, b Main / direct connection, swivel unit counterclockwise turning

(1) Connection swivel unit

(2) Attachment connection

(25) Fluid feed-through

(72) Fit for centering sleeves

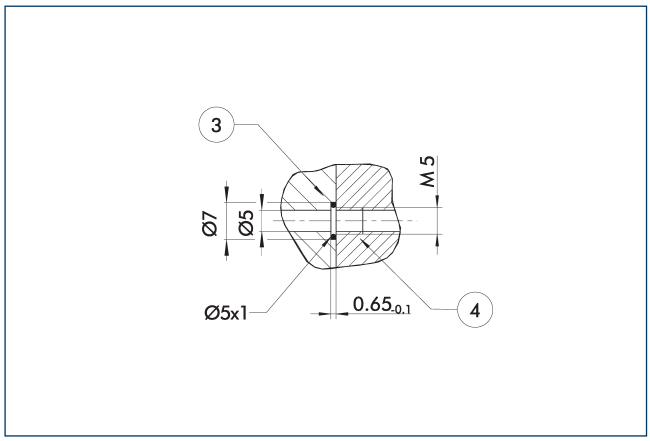
(80) Depth of the centering sleeve hole in the counter part

(83) Input for 3 pole sensor feed-through

(84) Input for 4 pole sensor feed-through

(85) Sensor feed-through output

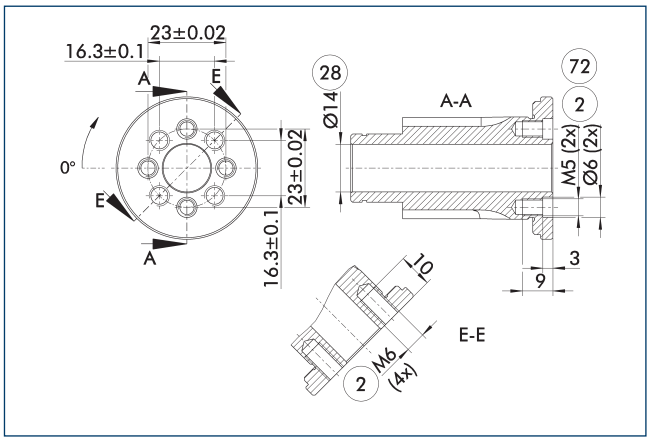
Hose-free direct connection M5



(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.

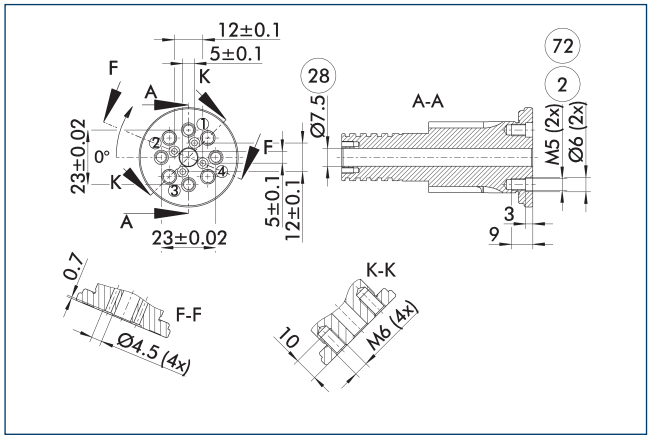
Pinion without fluid feed-through



(2) Attachment connection
(72) Fit for centering sleeves
(28) Through-hole
(77) Clearance for fitting screw

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

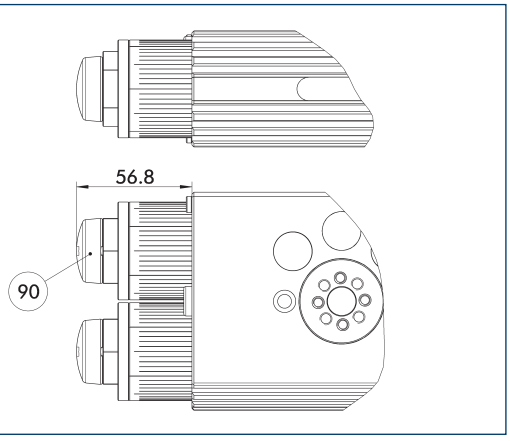


(2) Attachment connection
(72) Fit for centering sleeves
(28) Through-hole
(77) Clearance for fitting screw

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.

ⓘ View applicable only for versions without EDF!

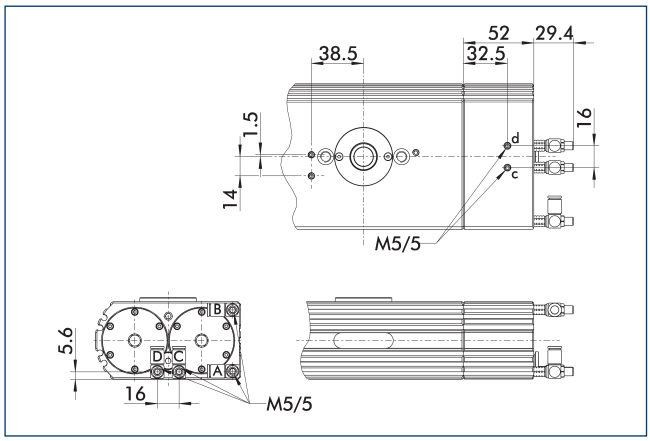
Large end position adjustability 90°



(90) 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, swivel unit clockwise turning

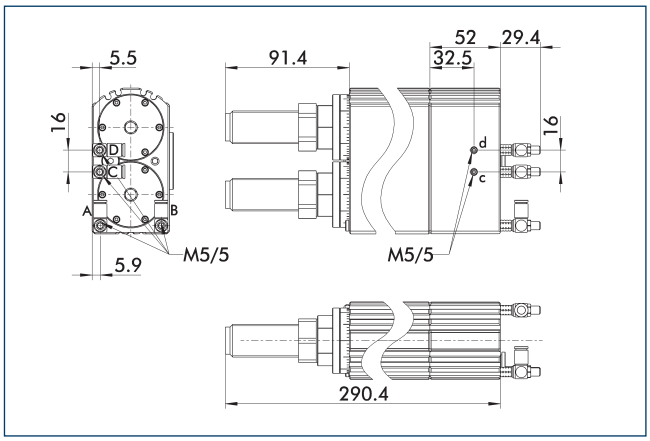
B, b Main / direct connection, swivel unit counterclockwise turning

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, swivel unit clockwise turning

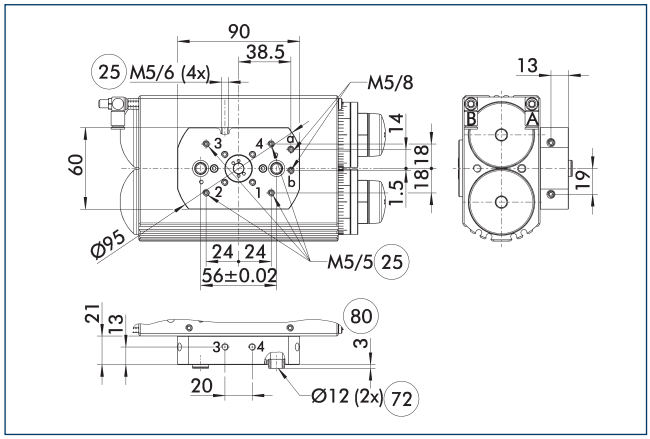
B, b Main / direct connection, swivel unit counterclockwise turning

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, swivel unit clockwise turning

B, b Main / direct connection, swivel unit counterclockwise turning

25 Fluid feed-through

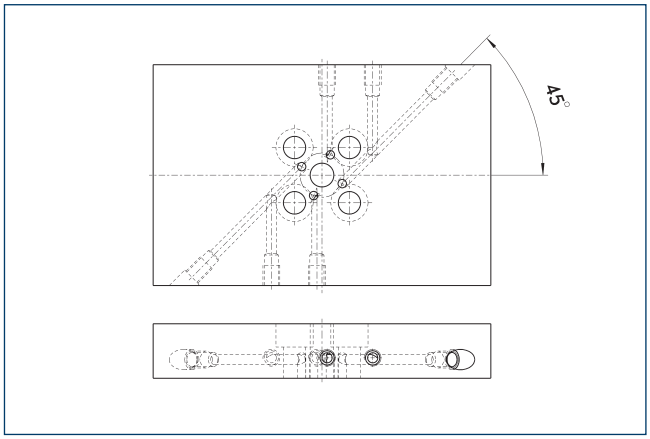
72 Fit for centering sleeves

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.

ⓘ View applicable only for versions without EDF!

Adapter plate design



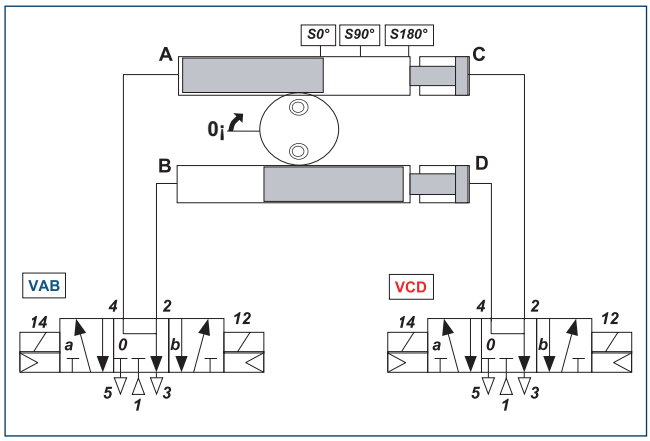
Suggested here is an adapter plate design which allows for all fluid feed-throughs to be accessed as easily as possible.

ⓘ View applicable only for versions without EDF!

SRU-plus 35

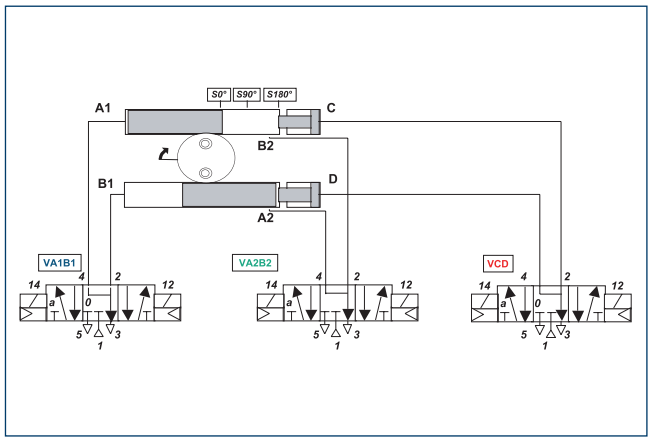
Universal swivel units

Pneumatic diagram of SRU-plus-VM — vertical axis



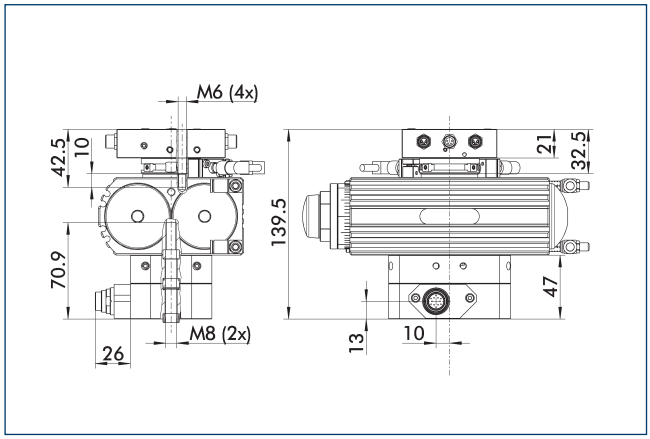
VM rotary actuators with a vertical rotary axis are generally actuated by two 5/3 directional control valves with an exhausted middle position. To prevent damage, it is essential to pay attention to the actuation sequence indicated in the operating manual.

Pneumatic diagram of SRU-plus-VM — horizontal axis



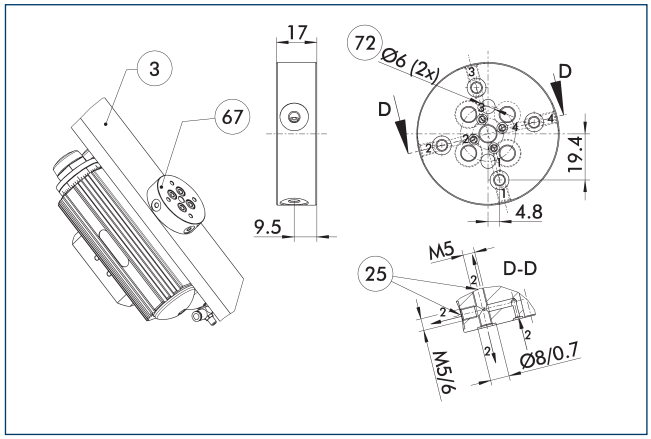
VM rotary actuators with a horizontal or non-vertical rotary axis must generally be actuated by three 5/3 directional control valves with an exhausted middle position. To prevent damage, it is essential to pay attention to the actuation sequence indicated in the operating manual.

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



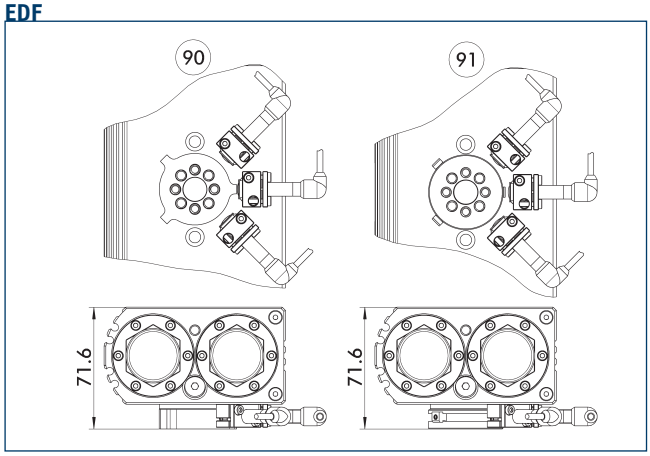
(3) Adapter
(25) Fluid feed-through
(67) Distributor for media feed-through
(72) Fit for centering sleeves

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 for SRU-plus		
V-SRU-plus 35	0357792	

ⓘ View applicable only for versions without EDF!

Attachment kit for proximity switch at SRU-plus without EDF



(90) AS-NHS-F-SRU-plus 35

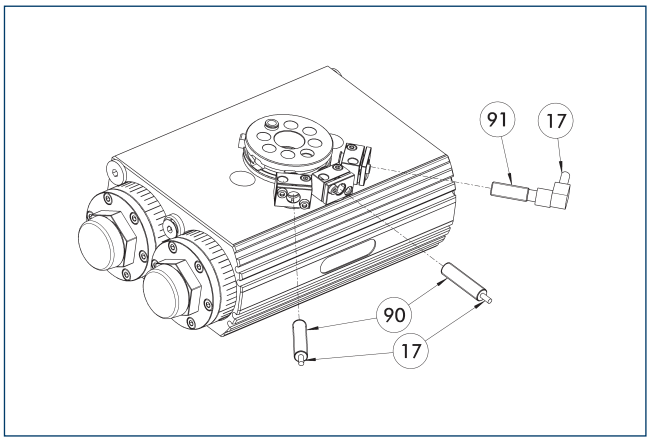
(91) AS-NHS-SRU-plus 35

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

ⓘ 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

(90) Sensor IN ...

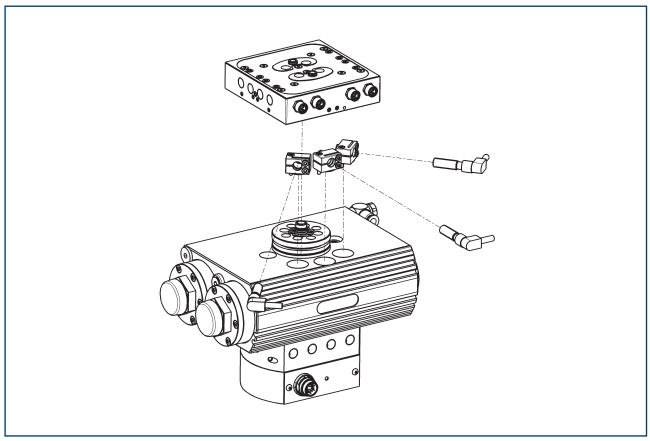
(91) Sensor IN..-SA

End and intermediate position monitoring can be mounted with mounting kit

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

ⓘ View applicable only for versions without EDF!

Inductive proximity switches IN for SRU-plus with EDF

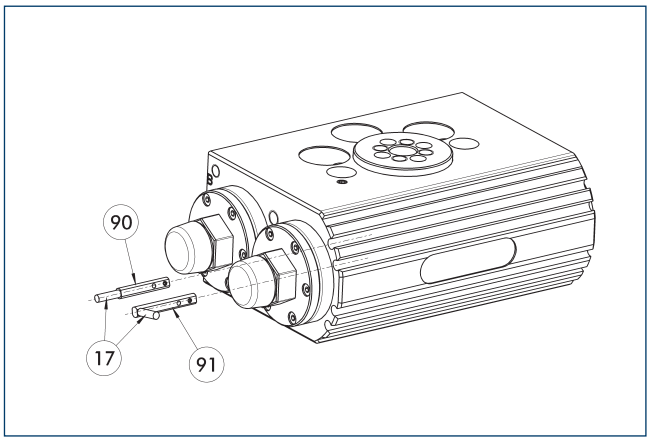


End and intermediate position monitoring mounted directly

Description	ID	Often combined
Inductive Proximity Switches		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
IN-C 80-S-M8	0301475	
INK 80-S	0301550	
INK 80-SL	0301579	
Inductive proximity switch with lateral 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	

ⓘ Two sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

Electronic magnetic switches MMS



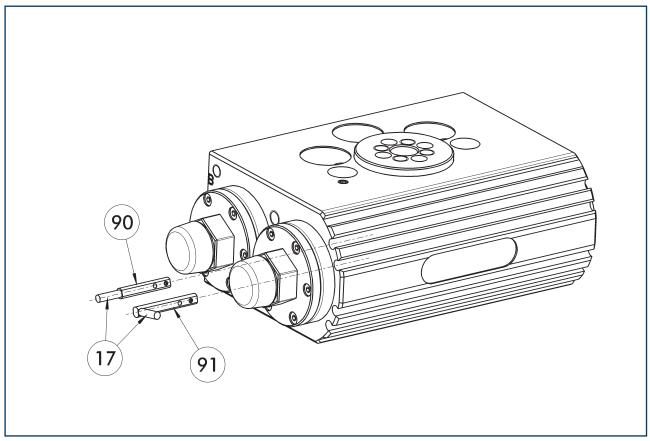
(17) Cable outlet
(90) Sensor MMS 22..
(91) Sensor MMS 22...-SA

End and intermediate position monitoring mounted in C-slot

Description	ID	Often combined
Electronic magnetic switches MMS		
MMS 22-S-M8-PNP	0301032	●
MMSK 22-S-PNP	0301034	
MMS electronic magnetic switches with lateral 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	

ⓘ Two sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

Programmable magnetic switches MMS PI1



17 Cable outlet
91 Sensor MMS 22 ..-PI1-...-SA
90 Sensor MMS 22 PI1-...

Position monitoring with one programmable position per sensor and electronics integrated in the sensor. Can be programmed using MT magnetic teaching tool (included in scope of delivery) or ST plug teaching tool (optional). End position monitoring is mounted 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.

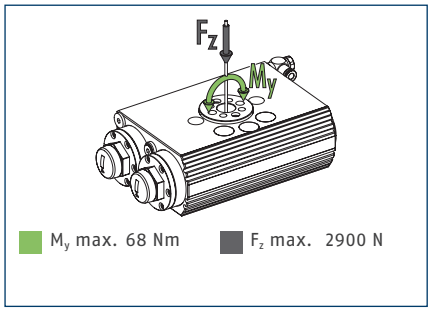
Description	ID	Often combined
Programmable magnetic switches MMS PI1		
MMS 22-PI1-S-M8-PNP	0301160	●
MMSK 22-PI1-S-PNP	0301162	
Programmable magnetic switches MMS PI1 with lateral cable outlet		
MMS 22-PI1-S-M8-PNP-SA	0301166	●
MMSK 22-PI1-S-PNP-SA	0301168	
Programmable magnetic switches MMS PI1 with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

ⓘ Two sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

SRU-plus 40

Universal swivel units

Pinion load

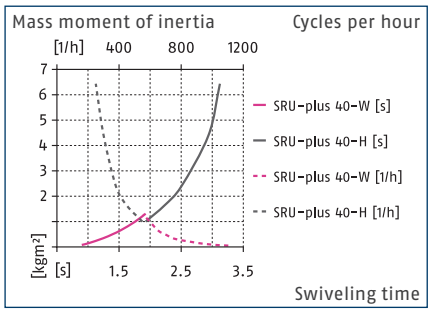


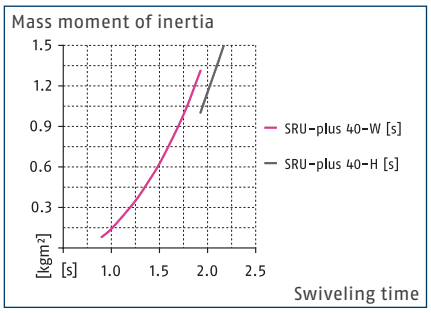
ⓘ The indicated moments and forces are statical values and should not appear simultaneously Throttling has to be done for ensuring that the rotary motion takes place without impact or bouncing. otherwise the service life reduces.

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
Description (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
Middle position		none	none	none
Protection class IP		67	67	67
Weight	[kg]	4.20	4.20	4.30
Fluid consumption (2 x nominal angle)	[cm³]	208.0	336.0	336.0
Nominal operating pressure	[bar]	6.0	6.0	6.0
min./max. operating pressure	[bar]	4/8	4/8	4/8
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
Cleanroom class ISO 14644-1		5	5	5
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
Description (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 in the air feed-through	[bar]	8	8	8
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
Description (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 E-fittings on the output side		9/M8	9/M8	9/M8
Number of wires		10	10	10
max. voltage	[V]	24	24	24
Max. current per wire / total	[A]	1/1	1/1	1/1
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
Description (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

Max. admissible inertia J





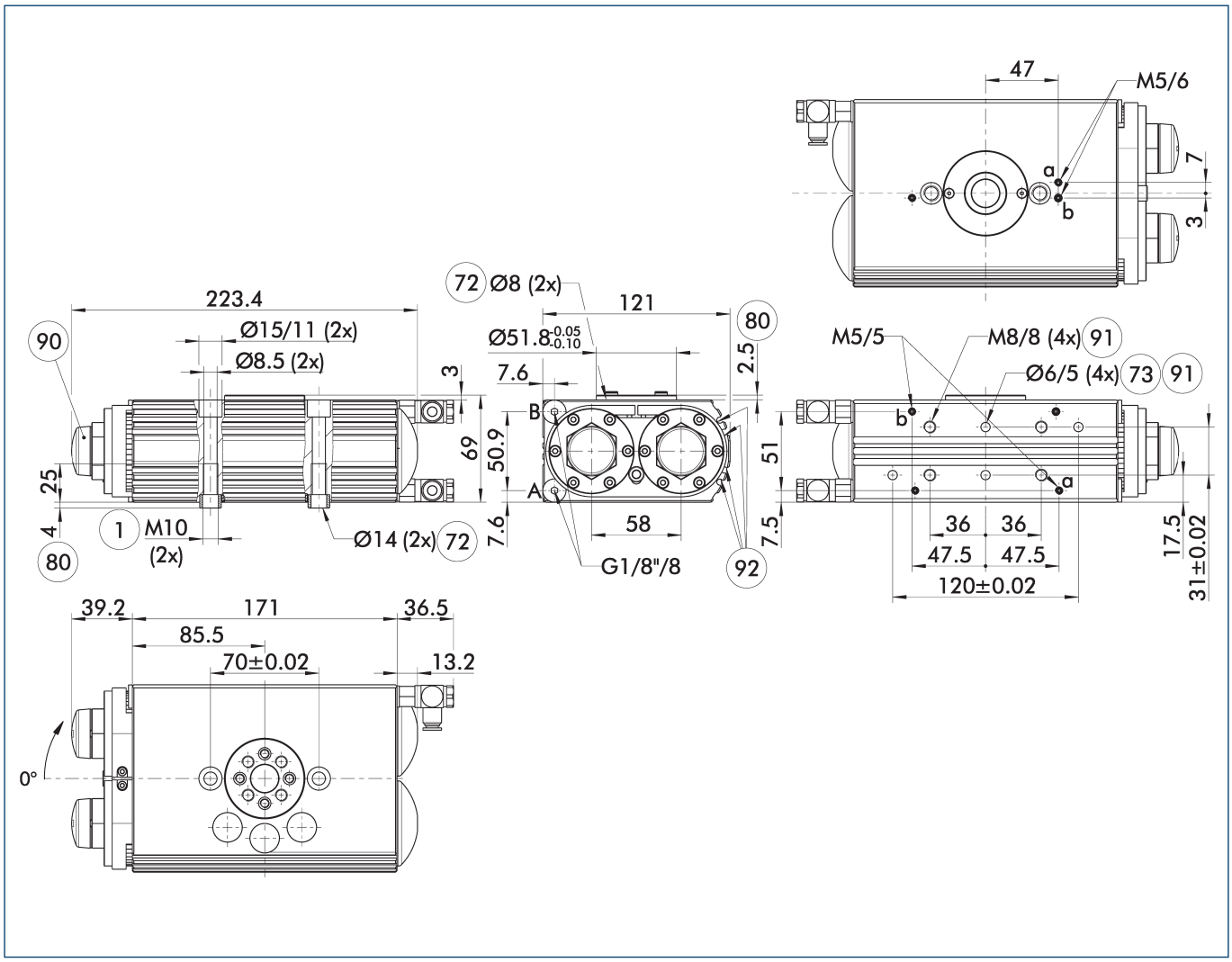
ⓘ The diagrams are valid for swivel angles of 90° and 180°, units without center position and for applications with a vertical swivel axis as well as for absolutely centric loads with a horizontal rotary axis and with a pneumatic operating pressure of 6 bar. The swiveling times per throttling have to 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
Middle position		1 x M (pneumatic)	1 x VM (locked)	1 x M (pneumatic)
Adjustability of middle position	[°]	3.0	3.0	3.0
Protection class IP		67	67	67
Weight	[kg]	5.50	6.50	5.70
Fluid consumption (2 x nominal angle)	[cm³]	336.0	336.0	336.0
Nominal operating pressure	[bar]	6.0	6.0	6.0
min./max. operating pressure	[bar]	4/8	4/6.5	4/8
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
Cleanroom class ISO 14644-1		5	5	5
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 in the air feed-through	[bar]	8	8	8
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 E-fittings on the output side		9/M8	9/M8	9/M8
Number of wires		10	10	10
max. voltage	[V]	24	24	24
Max. current per wire / total	[A]	1/1	1/1	1/1
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

ⓘ All modules are also available in a Viton version. Please contact us for details.

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.

ⓘ 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, swivel unit clockwise turning

B, b Main / direct connection, swivel unit counterclockwise turning

(1) Connection swivel unit

(72) Fit for centering sleeves

(73) Fit for centering pins

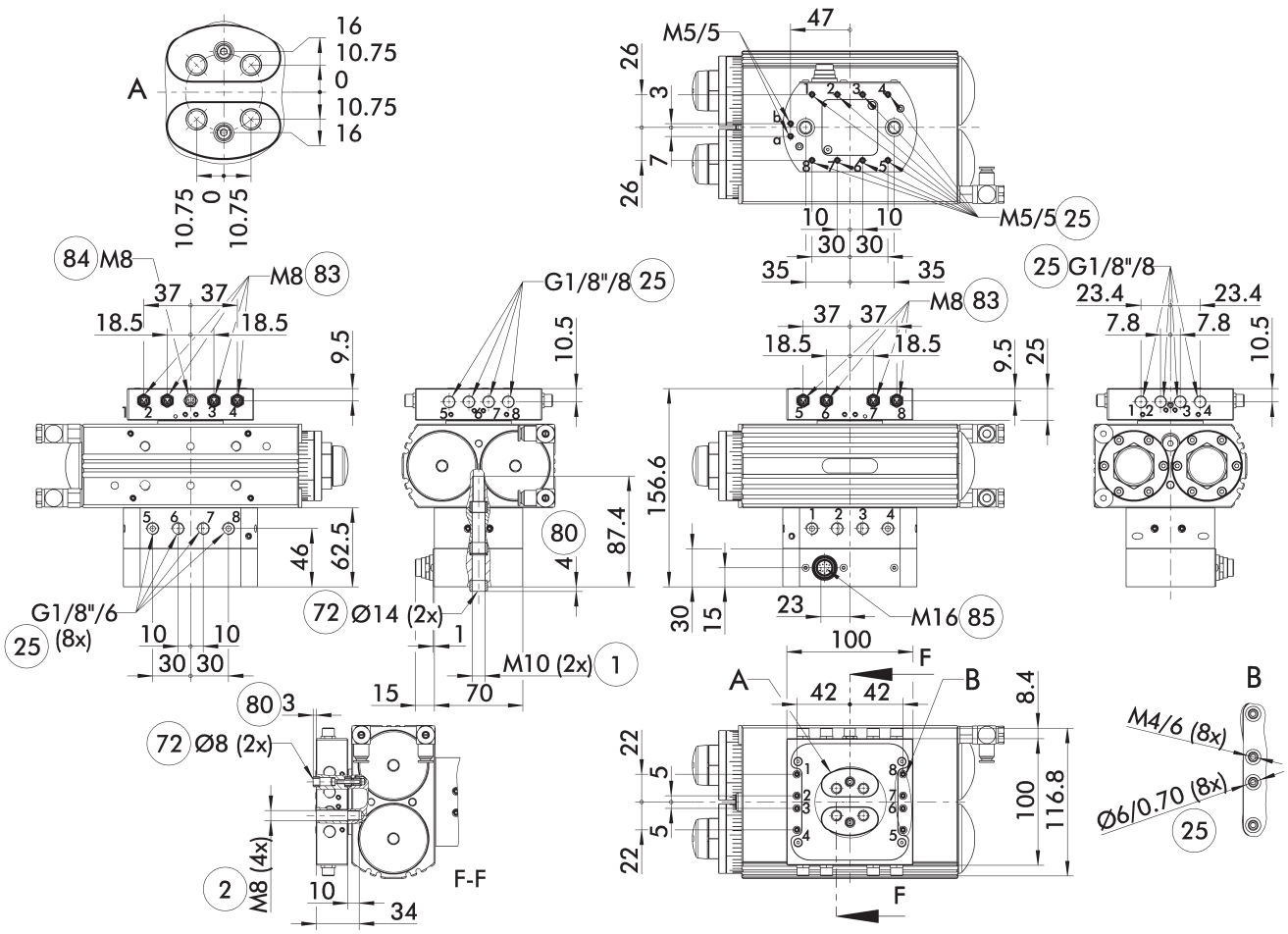
(80) Depth of the centering sleeve hole in the counter part

(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.

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

A, a Main / direct connection, swivel unit clockwise turning

B, b Main / direct connection, swivel unit counterclockwise turning

(1) Connection swivel unit

(2) Attachment connection

(25) Fluid feed-through

(72) Fit for centering sleeves

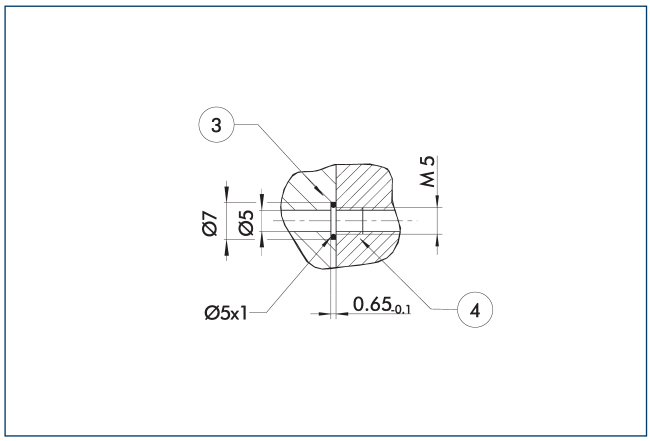
(80) Depth of the centering sleeve hole in the counter part

(83) Input for 3 pole sensor feed-through

(84) Input for 4 pole sensor feed-through

(85) Sensor feed-through output

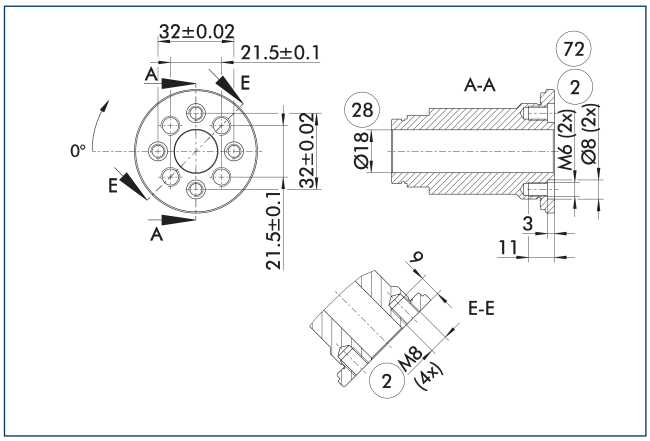
Hose-free direct connection M5



(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.

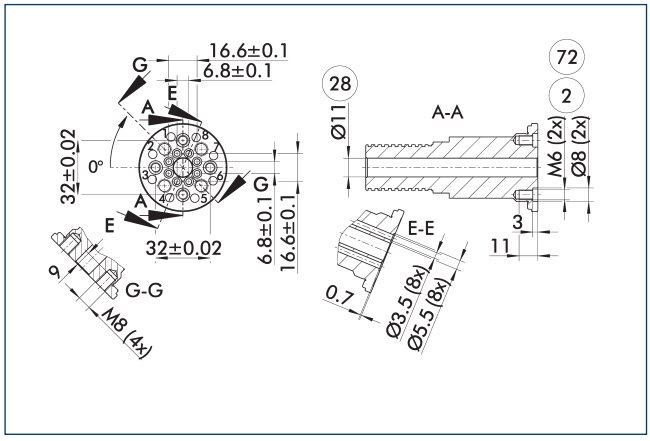
Pinion without fluid feed-through



(2) Attachment connection
(28) Through-hole
(72) Fit for centering sleeves
(77) Clearance for fitting screw

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

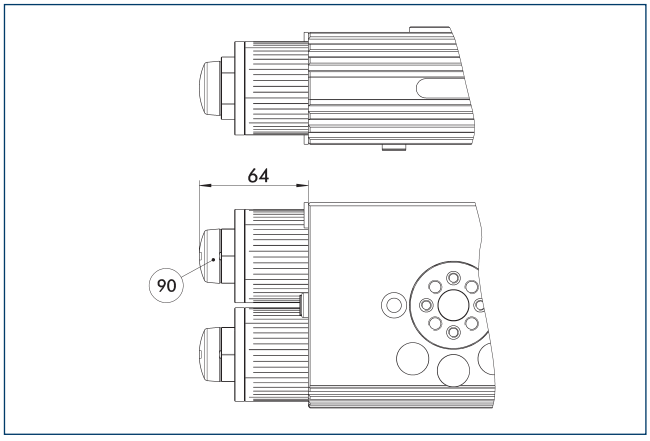


(2) Attachment connection
(28) Through-hole
(72) Fit for centering sleeves
(77) Clearance for fitting screw

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.

ⓘ View applicable only for versions without EDF!

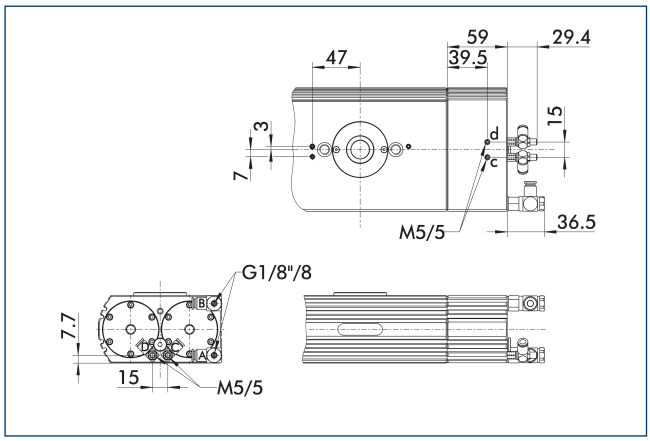
Large end position adjustability 90°



(90) 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, swivel unit clockwise turning

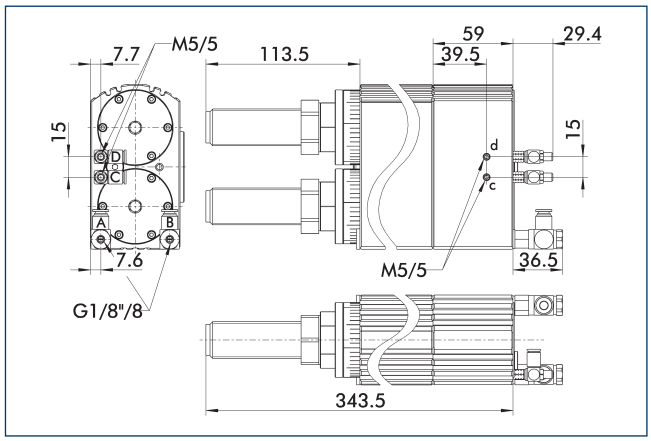
B, b Main / direct connection, swivel unit counterclockwise turning

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, swivel unit clockwise turning

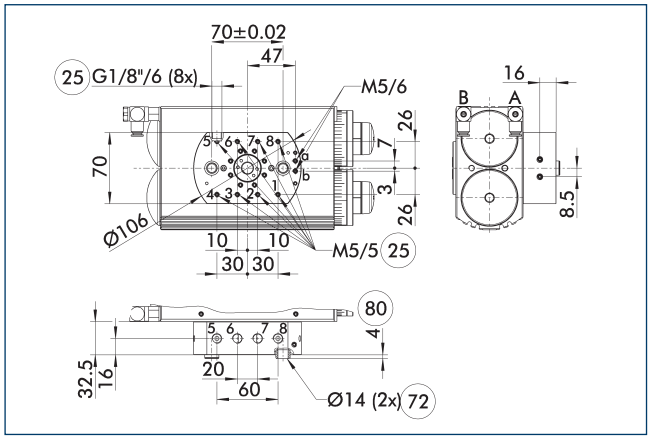
B, b Main / direct connection, swivel unit counterclockwise turning

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, swivel unit clockwise turning

B, b Main / direct connection, swivel unit counterclockwise turning

(25) Fluid feed-through

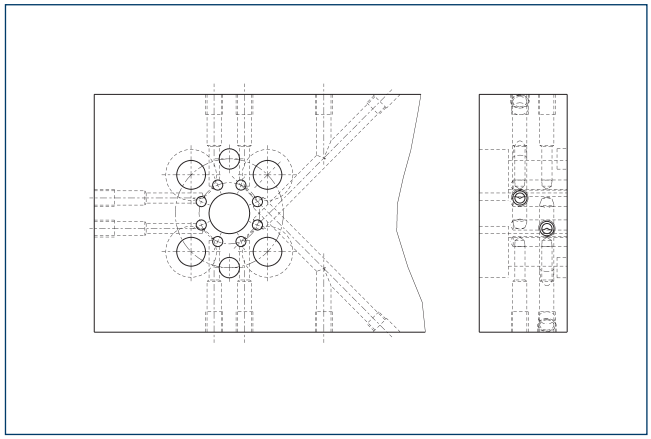
(72) Fit for centering sleeves

(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.

ⓘ View applicable only for versions without EDF!

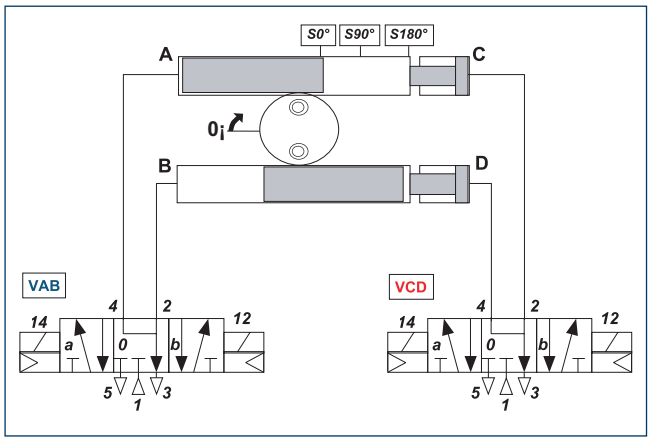
Adapter plate design



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

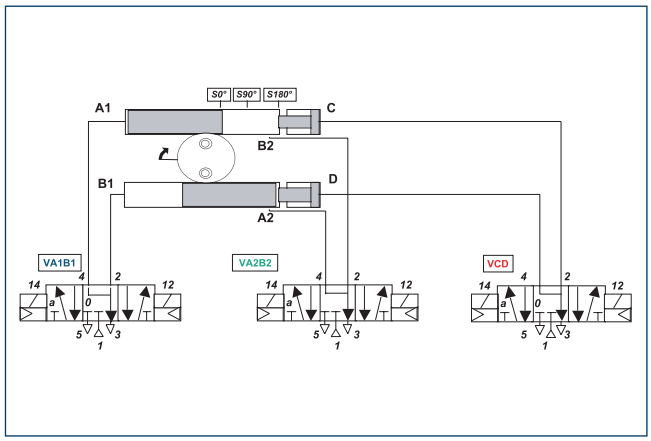
ⓘ View applicable only for versions without EDF!

Pneumatic diagram of SRU-plus-VM — vertical axis



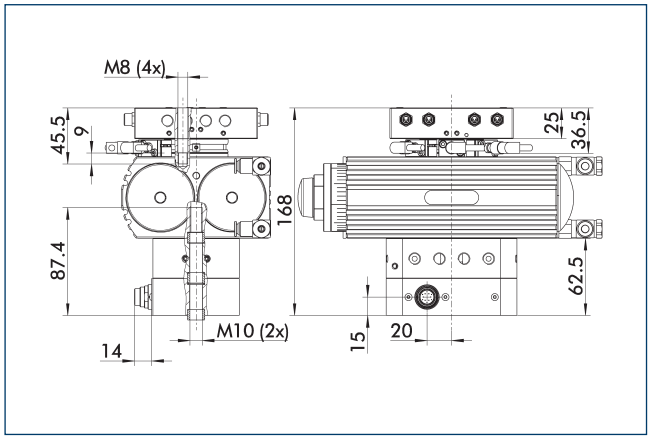
VM rotary actuators with a vertical rotary axis are generally actuated by two 5/3 directional control valves with an exhausted middle position. To prevent damage, it is essential to pay attention to the actuation sequence indicated in the operating manual.

Pneumatic diagram of SRU-plus-VM — horizontal axis



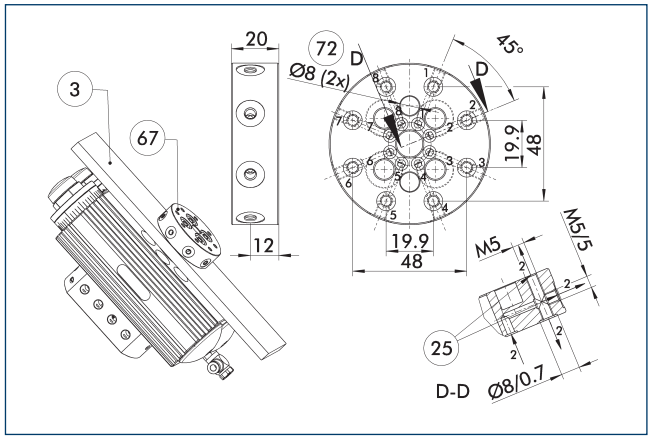
VM rotary actuators with a horizontal or non-vertical rotary axis must generally be actuated by three 5/3 directional control valves with an exhausted middle position. To prevent damage, it is essential to pay attention to the actuation sequence indicated in the operating manual.

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



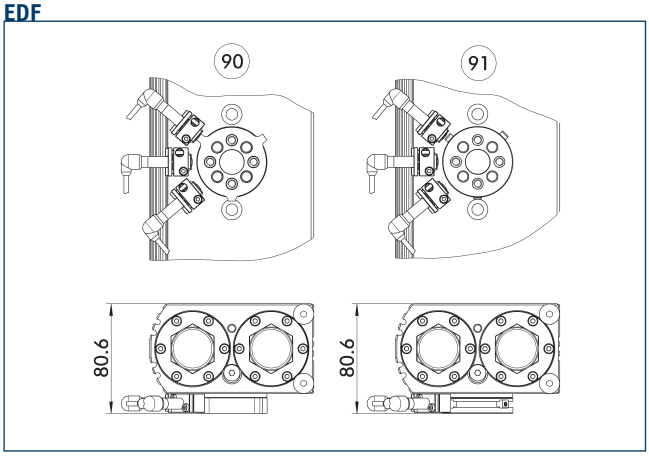
(3) Adapter
(25) Fluid feed-through
(67) Distributor for media feed-through
(72) Fit for centering sleeves

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 for SRU-plus		
V-SRU-plus 40	0357992	

ⓘ View applicable only for versions without EDF!

Attachment kit for proximity switch at SRU-plus without EDF



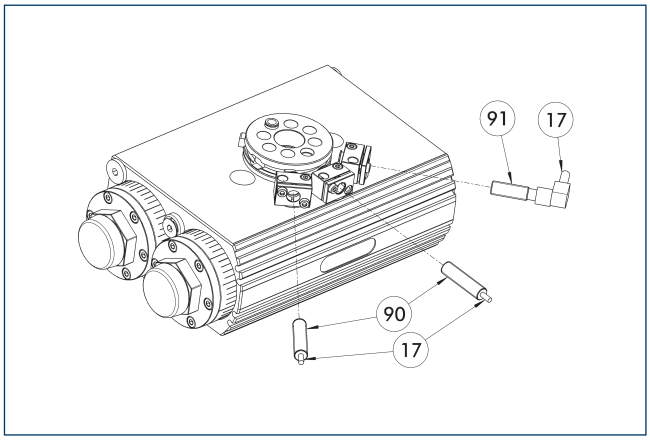
(90) AS-NHS-F-SRU-plus 40
(91) AS-NHS-SRU-plus 40

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

ⓘ 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



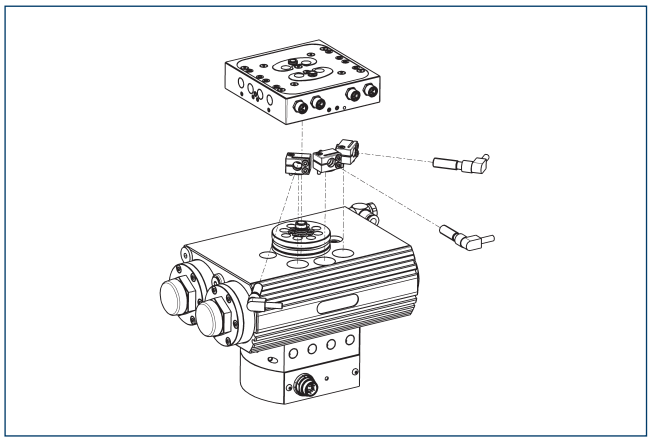
(17) Cable outlet
(90) Sensor IN ...
(91) Sensor IN..-SA

End and intermediate position monitoring can be mounted with mounting kit

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

ⓘ View applicable only for versions without EDF!

Inductive proximity switches IN for SRU-plus with EDF

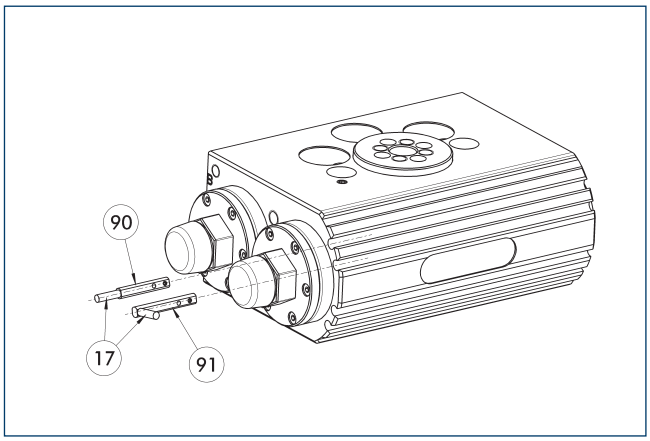


End and intermediate position monitoring mounted directly

Description	ID	Often combined
Inductive Proximity Switches		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
IN-C 80-S-M8	0301475	
INK 80-S	0301550	
INK 80-SL	0301579	
Inductive proximity switch with lateral 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	

ⓘ Two sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

Electronic magnetic switches MMS



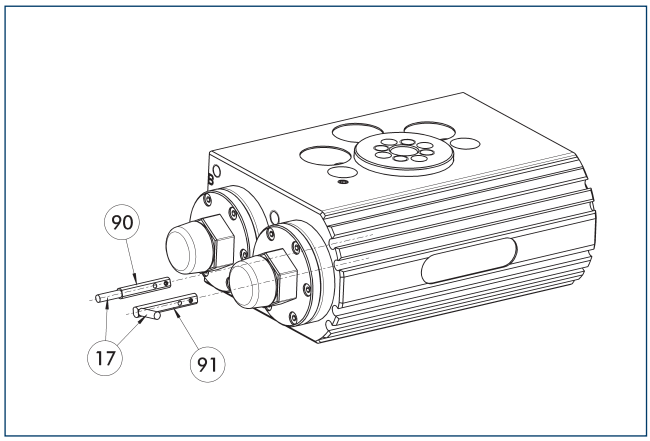
(17) Cable outlet
(90) Sensor MMS 22..
(91) Sensor MMS 22...-SA

End and intermediate position monitoring mounted in C-slot

Description	ID	Often combined
Electronic magnetic switches MMS		
MMS 22-S-M8-PNP	0301032	●
MMSK 22-S-PNP	0301034	
MMS electronic magnetic switches with lateral 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	

ⓘ Two sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

Programmable magnetic switches MMS PI1



17 Cable outlet
91 Sensor MMS 22 ..-PI1-...-SA
90 Sensor MMS 22 PI1-...

Position monitoring with one programmable position per sensor and electronics integrated in the sensor. Can be programmed using MT magnetic teaching tool (included in scope of delivery) or ST plug teaching tool (optional). End position monitoring is mounted 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.

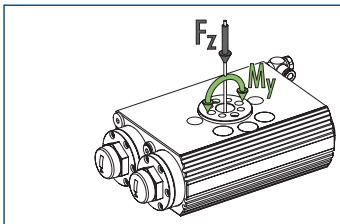
Description	ID	Often combined
Programmable magnetic switches MMS PI1		
MMS 22-PI1-S-M8-PNP	0301160	●
MMSK 22-PI1-S-PNP	0301162	
Programmable magnetic switches MMS PI1 with lateral cable outlet		
MMS 22-PI1-S-M8-PNP-SA	0301166	●
MMSK 22-PI1-S-PNP-SA	0301168	
Programmable magnetic switches MMS PI1 with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

ⓘ Two sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

SRU-plus 50

Universal swivel units

Pinion load



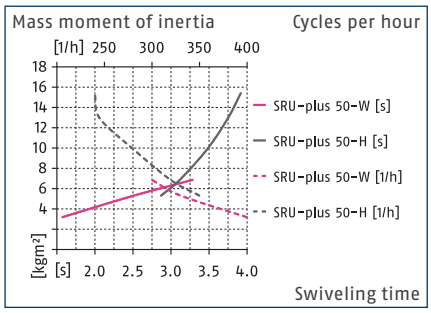
M_y max. 340 Nm F_z max. 9000 N

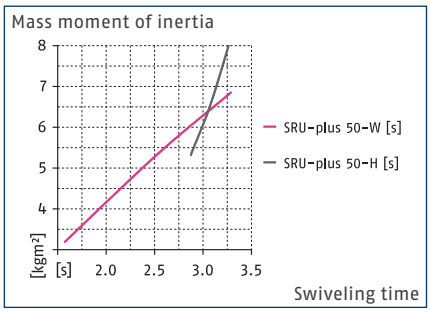
ⓘ The indicated moments and forces are statical values and should not appear simultaneously Throttling has to be done for ensuring that the rotary motion takes place without impact or bouncing. otherwise the service life reduces.

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
Description (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
Middle position		none	none	none
Protection class IP		67	67	67
Weight	[kg]	9.40	9.40	9.80
Fluid consumption (2 x nominal angle)	[cm³]	448.0	776.0	776.0
Nominal operating pressure	[bar]	6.0	6.0	6.0
min./max. operating pressure	[bar]	4/8	4/8	4/8
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
Cleanroom class ISO 14644-1		5	5	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
Description (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 in the air feed-through	[bar]	8	8	8
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
Description (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 E-fittings on the output side		9/M8	9/M8	9/M8
Number of wires		10	10	10
max. voltage	[V]	24	24	24
Max. current per wire / total	[A]	1/1	1/1	1/1
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
Description (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

Max. admissible inertia J





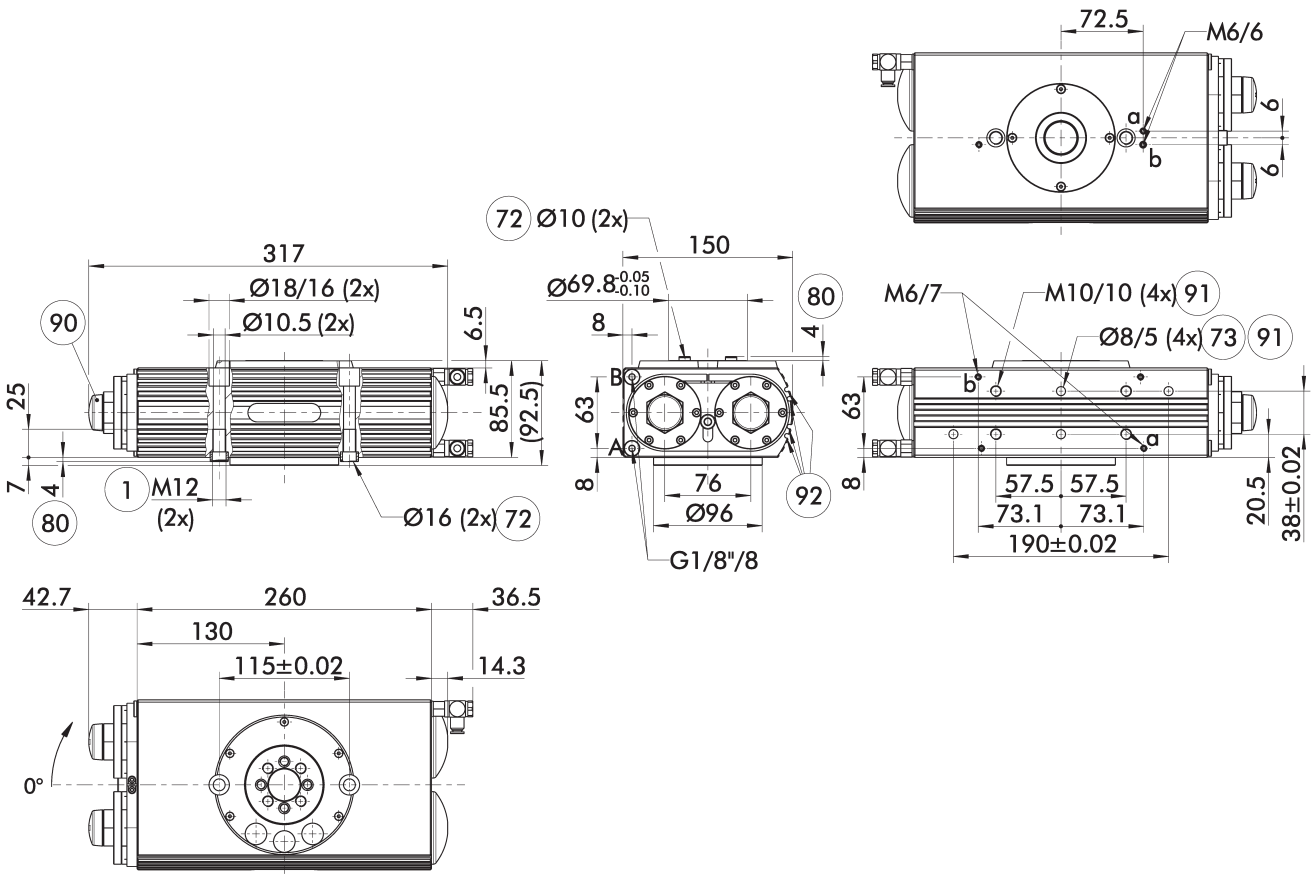
ⓘ The diagrams are valid for swivel angles of 90° and 180°, units without center position and for applications with a vertical swivel axis as well as for absolutely centric loads with a horizontal rotary axis and with a pneumatic operating pressure of 6 bar. The swiveling times per throttling have to 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
Middle position		1 x M (pneumatic)	1 x VM (locked)	1 x M (pneumatic)
Adjustability of middle position	[°]	3.0	3.0	3.0
Protection class IP		67	67	67
Weight	[kg]	12.20	12.80	12.60
Fluid consumption (2 x nominal angle)	[cm³]	776.0	776.0	776.0
Nominal operating pressure	[bar]	6.0	6.0	6.0
min./max. operating pressure	[bar]	4/8	4/6.5	4/8
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
Cleanroom class ISO 14644-1		5	5	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 in the air feed-through	[bar]	8	8	8
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 E-fittings on the output side		9/M8	9/M8	9/M8
Number of wires		10	10	10
max. voltage	[V]	24	24	24
Max. current per wire / total	[A]	1/1	1/1	1/1
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

ⓘ All modules are also available in a Viton version. Please contact us for details.

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.

ⓘ 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, swivel unit clockwise turning

B, b Main / direct connection, swivel unit counterclockwise turning

(1) Connection swivel unit

(2) Attachment connection

(73) Fit for centering pins

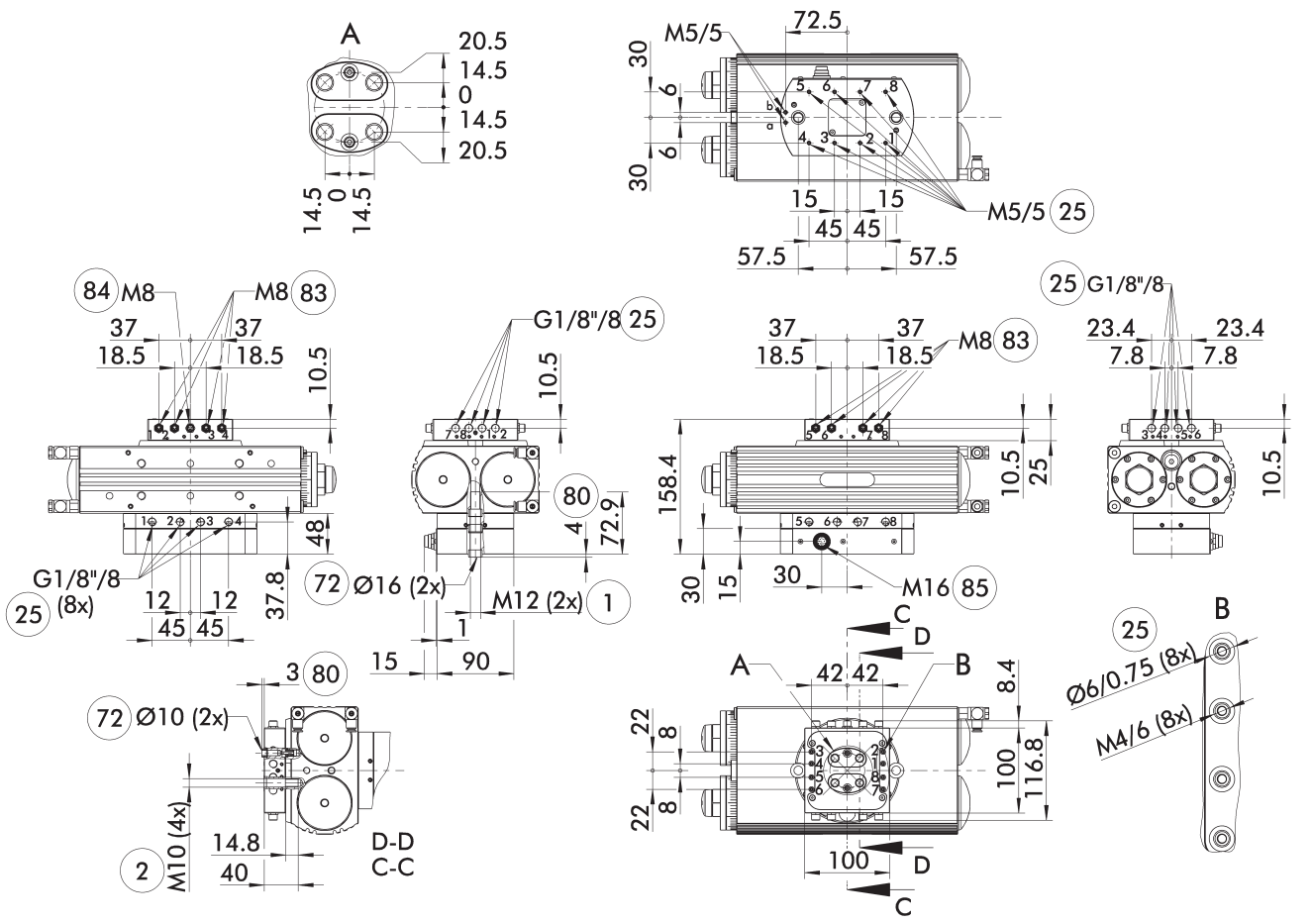
(80) Depth of the centering sleeve hole in the counter part

(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.

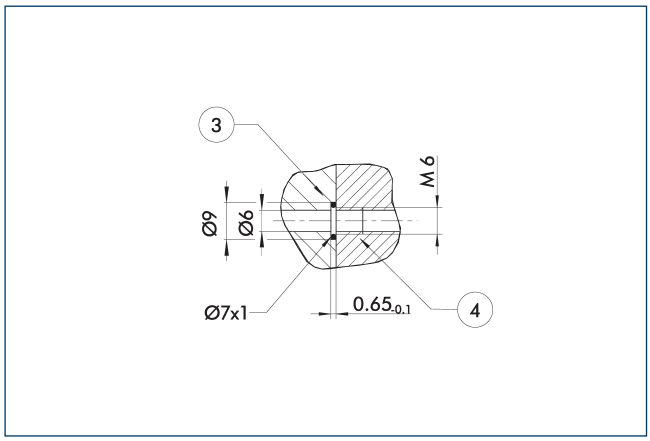
ⓘ The SRU-plus swivel unit with the EDF option can only be mounted from the bottom.

A, a Main / direct connection, swivel unit clockwise turning

B, b Main / direct connection, swivel unit counterclockwise turning

(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

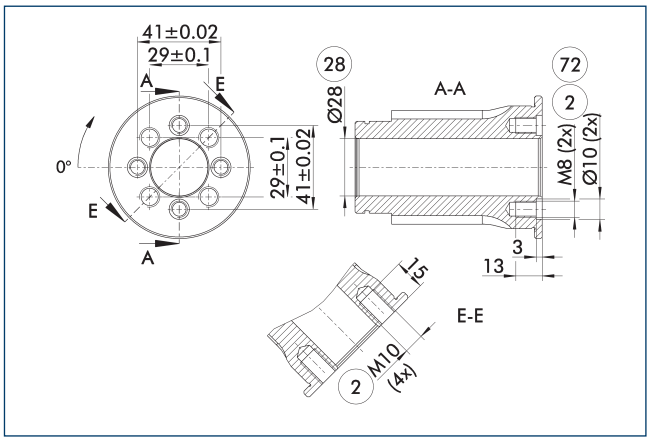
Hose-free direct connection M6



(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.

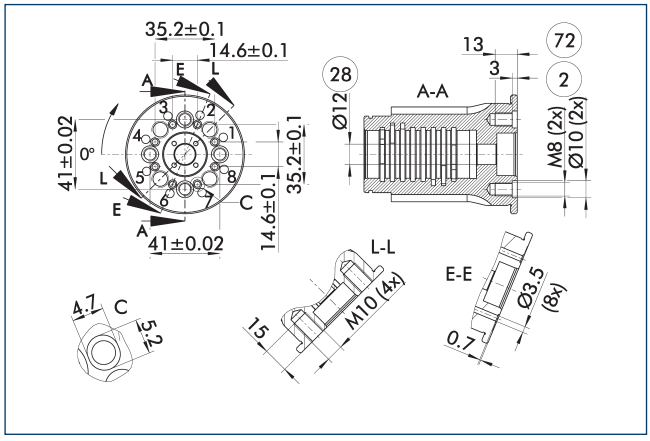
Pinion without fluid feed-through



(2) Attachment connection
(72) Fit for centering sleeves
(28) Through-hole
(77) Clearance for fitting screw

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

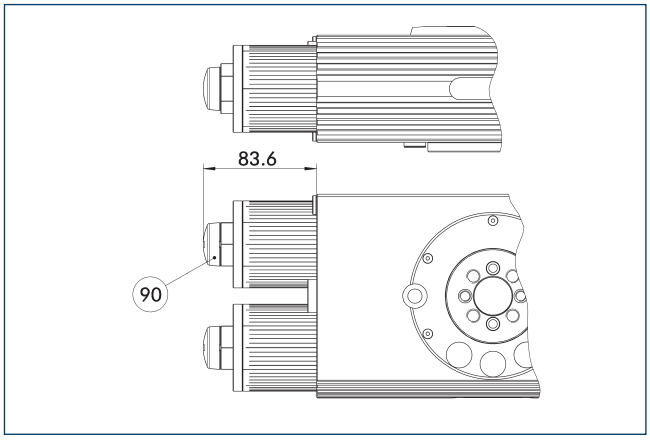


(2) Attachment connection
(72) Fit for centering sleeves
(28) Through-hole
(77) Clearance for fitting screw

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.

ⓘ View applicable only for versions without EDF!

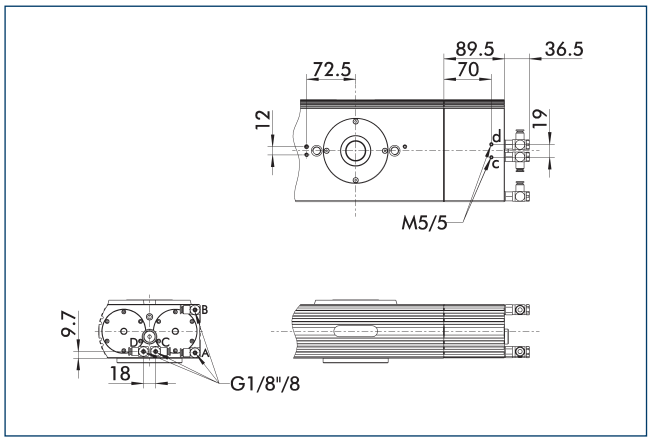
Large end position adjustability 90°



(90) 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, swivel unit clockwise turning

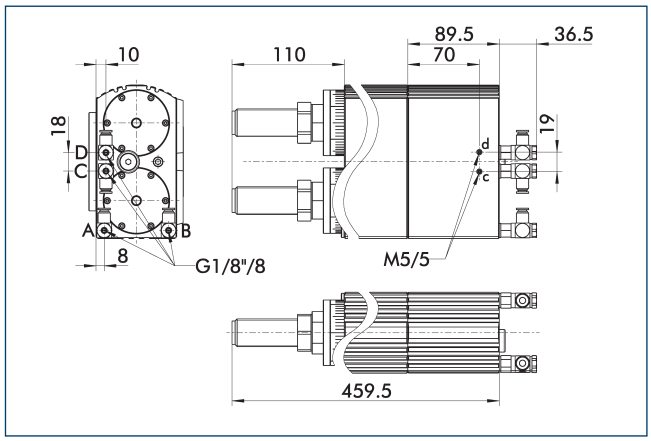
B, b Main / direct connection, swivel unit counterclockwise turning

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, swivel unit clockwise turning

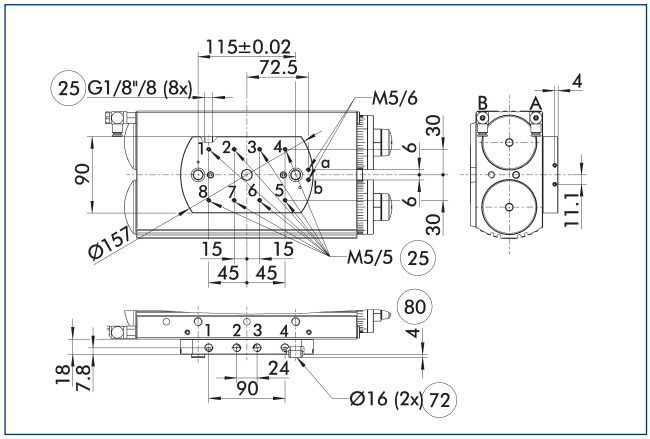
B, b Main / direct connection, swivel unit counterclockwise turning

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, swivel unit clockwise turning

B, b Main / direct connection, swivel unit counterclockwise turning

25 Fluid feed-through

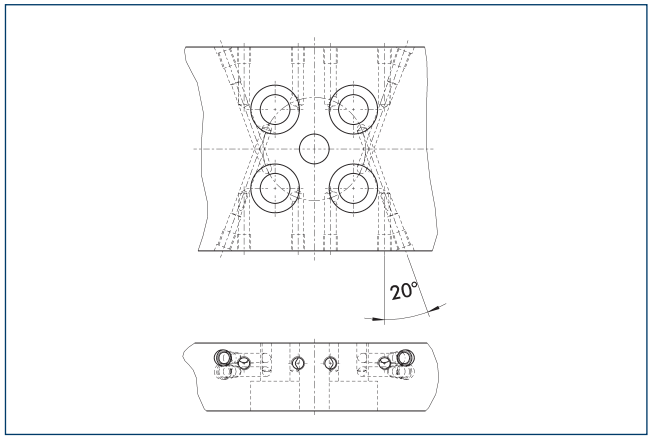
72 Fit for centering sleeves

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.

ⓘ View applicable only for versions without EDF!

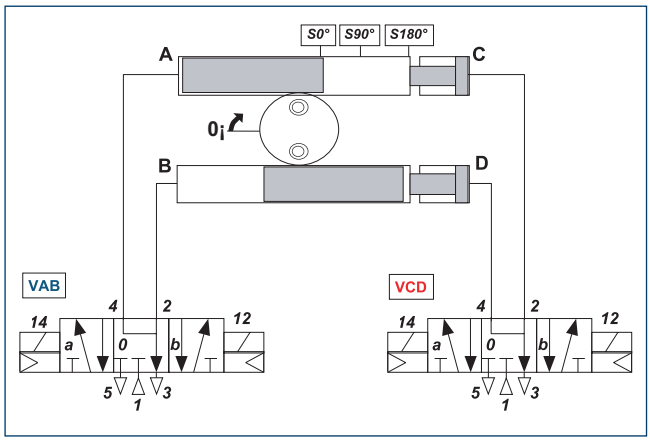
Adapter plate design



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

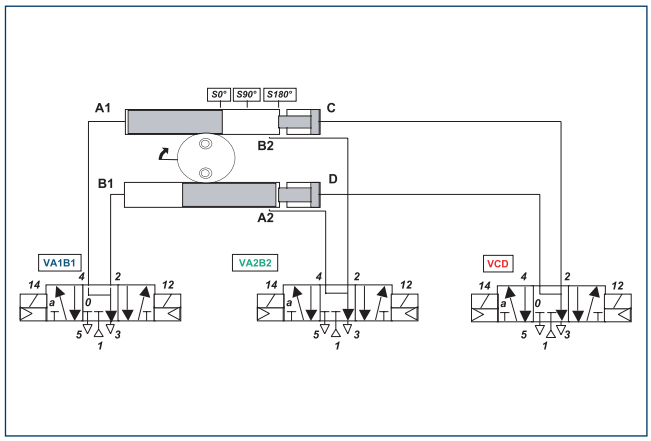
ⓘ View applicable only for versions without EDF!

Pneumatic diagram of SRU-plus-VM — vertical axis



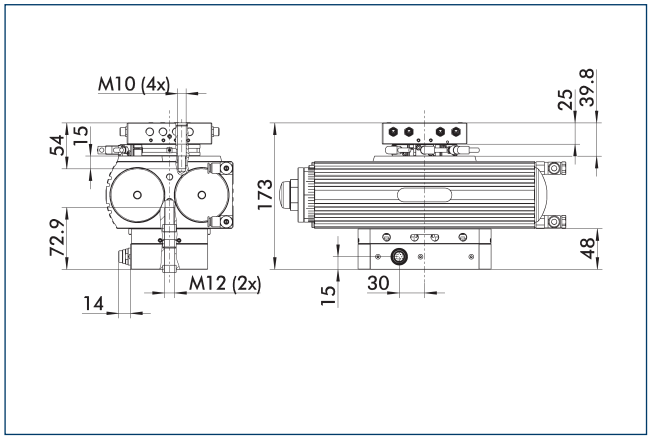
VM rotary actuators with a vertical rotary axis are generally actuated by two 5/3 directional control valves with an exhausted middle position. To prevent damage, it is essential to pay attention to the actuation sequence indicated in the operating manual.

Pneumatic diagram of SRU-plus-VM — horizontal axis



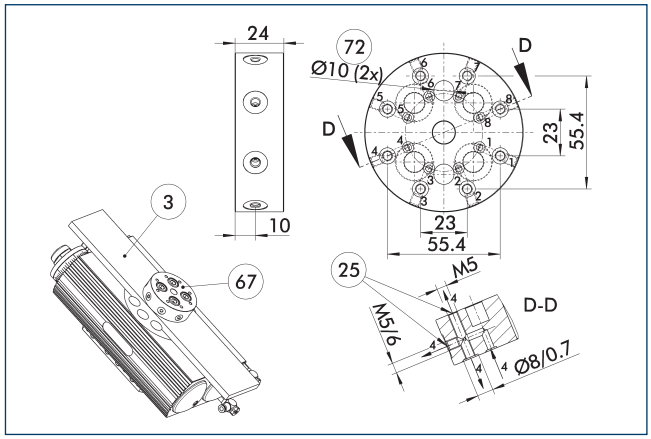
VM rotary actuators with a horizontal or non-vertical rotary axis must generally be actuated by three 5/3 directional control valves with an exhausted middle position. To prevent damage, it is essential to pay attention to the actuation sequence indicated in the operating manual.

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



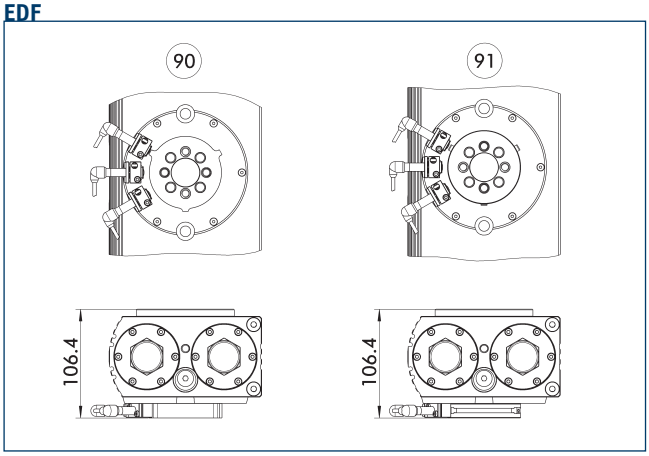
(3) Adapter
(25) Fluid feed-through
(67) Distributor for media feed-through
(72) Fit for centering sleeves

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 for SRU-plus		
V-SRU-plus 50/60	0358192	

ⓘ View applicable only for versions without EDF!

Attachment kit for proximity switch at SRU-plus without EDF



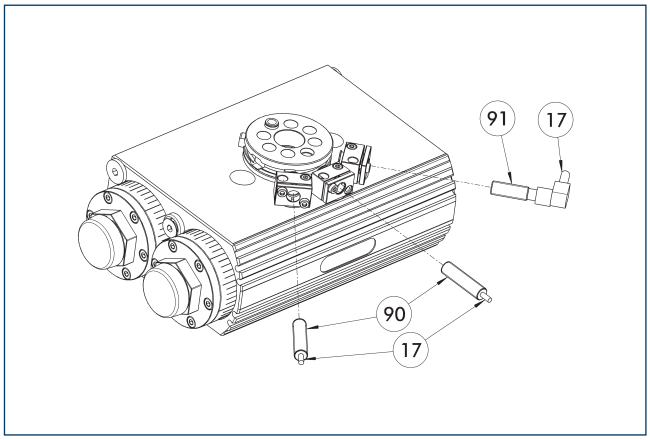
(90) AS-NHS-F-SRU-plus 50
(91) AS-NHS-SRU-plus 50

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 adjustable cam		
AS-NHS-SRU-plus 50/60	0362690	
AS-NHS-SRU-plus 50/60-8	0362691	
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	

ⓘ 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



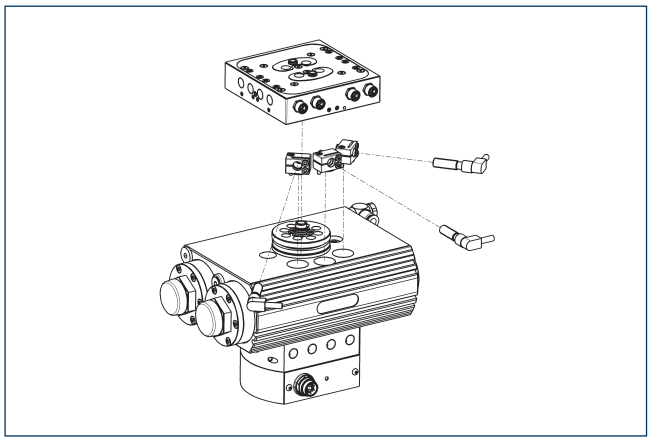
(17) Cable outlet
(90) Sensor IN ...
(91) Sensor IN..-SA

End and intermediate position monitoring can be mounted with mounting kit

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

ⓘ View applicable only for versions without EDF!

Inductive proximity switches IN for SRU-plus with EDF

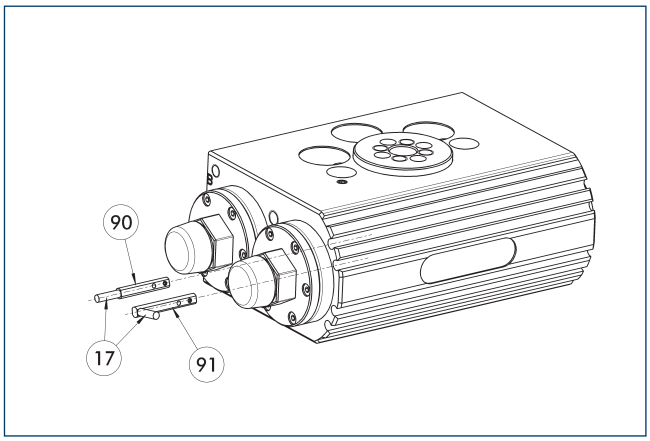


End and intermediate position monitoring mounted directly

Description	ID	Often combined
Inductive Proximity Switches		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
IN-C 80-S-M8	0301475	
INK 80-S	0301550	
INK 80-SL	0301579	
Inductive proximity switch with lateral 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	

ⓘ Two sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

Electronic magnetic switches MMS



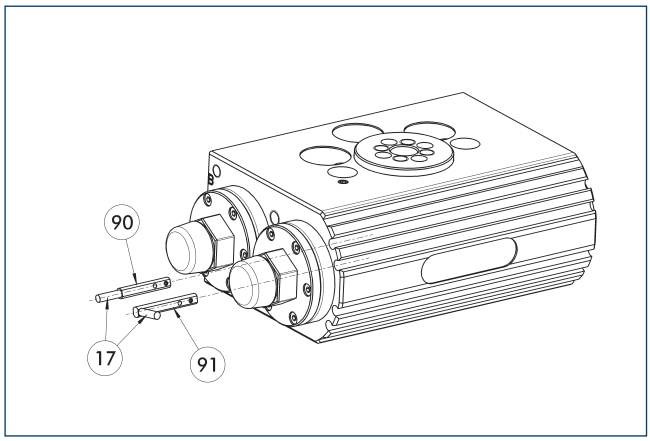
(17) Cable outlet
(90) Sensor MMS 22..
(91) Sensor MMS 22...-SA

End and intermediate position monitoring mounted in C-slot

Description	ID	Often combined
Electronic magnetic switches MMS		
MMS 22-S-M8-PNP	0301032	●
MMSK 22-S-PNP	0301034	
MMS electronic magnetic switches with lateral 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	

ⓘ Two sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

Programmable magnetic switches MMS PI1



17 Cable outlet
91 Sensor MMS 22 ..-PI1-...-SA
90 Sensor MMS 22 PI1-...

Position monitoring with one programmable position per sensor and electronics integrated in the sensor. Can be programmed using MT magnetic teaching tool (included in scope of delivery) or ST plug teaching tool (optional). End position monitoring is mounted 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.

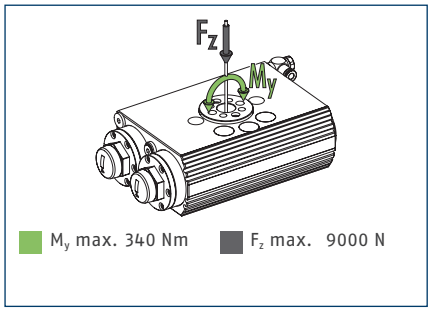
Description	ID	Often combined
Programmable magnetic switches MMS PI1		
MMS 22-PI1-S-M8-PNP	0301160	●
MMSK 22-PI1-S-PNP	0301162	
Programmable magnetic switches MMS PI1 with lateral cable outlet		
MMS 22-PI1-S-M8-PNP-SA	0301166	●
MMSK 22-PI1-S-PNP-SA	0301168	
Programmable magnetic switches MMS PI1 with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

ⓘ Two sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

SRU-plus 60

Universal swivel units

Pinion load

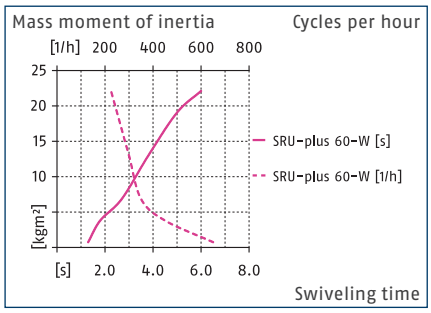


ⓘ The indicated moments and forces are statical values and should not appear simultaneously Throttling has to be done for ensuring that the rotary motion takes place without impact or bouncing. otherwise the service life reduces.

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
Middle position		none	none	none
Protection class IP		67	67	67
Weight	[kg]	12.80	12.80	13.50
Fluid consumption (2 x nominal angle)	[cm³]	656.0	1120.0	1120.0
Nominal operating pressure	[bar]	6.0	6.0	6.0
min./max. operating pressure	[bar]	4/8	4/8	4/8
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
Cleanroom class ISO 14644-1		5	5	5
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 in the air feed-through	[bar]	8	8	8
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 E-fittings on the output side		9/M8	9/M8	9/M8
Number of wires		10	10	10
max. voltage	[V]	24	24	24
Max. current per wire / total	[A]	1/1	1/1	1/1
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

Max. admissible inertia J



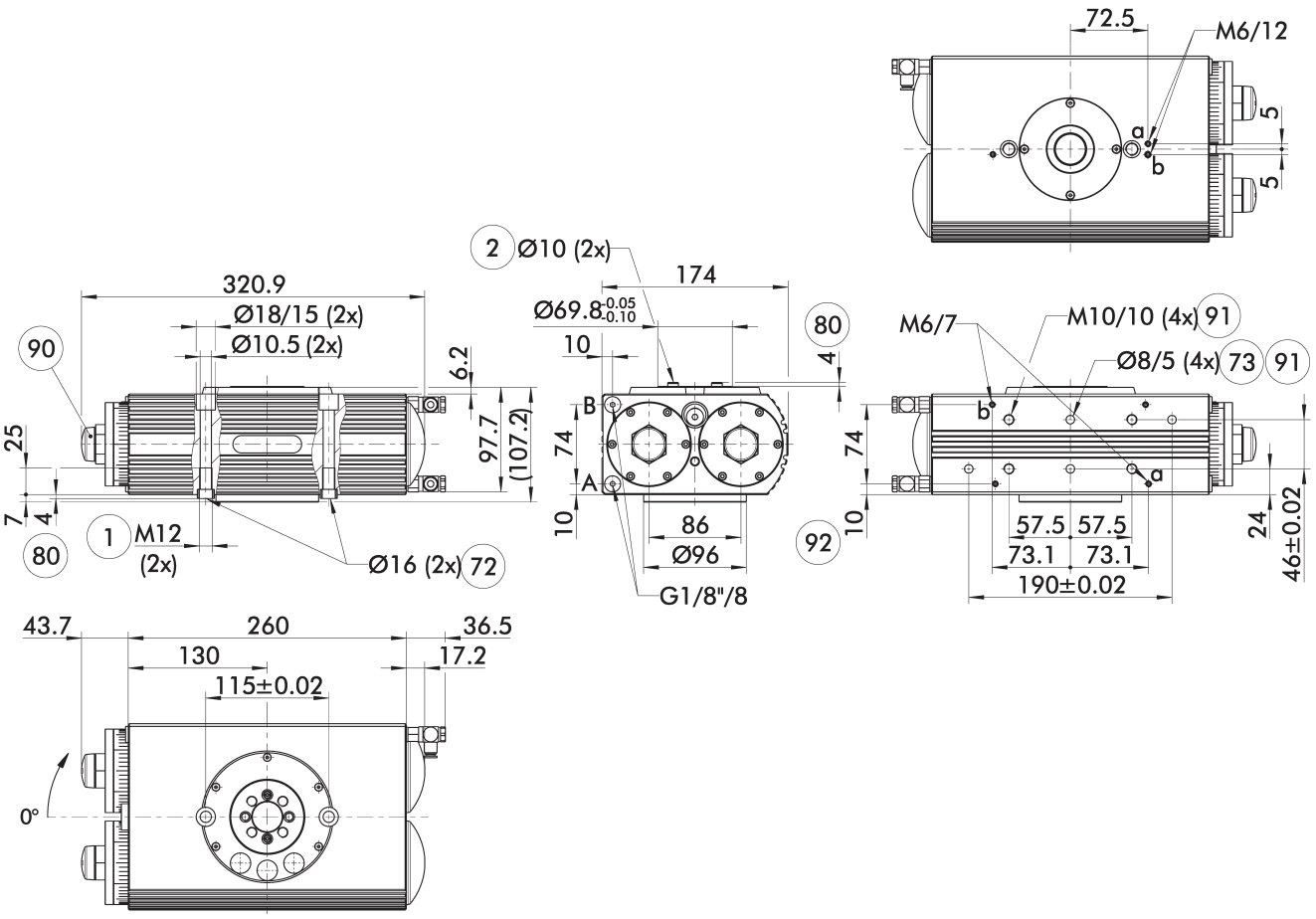
ⓘ The diagrams are valid for swivel angles of 90° and 180°, units without center position and for applications with a vertical swivel axis as well as for absolutely centric loads with a horizontal rotary axis and with a pneumatic operating pressure of 6 bar. The swiveling times per throttling have to 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
Middle position		1 x M (pneumatic)	1 x VM (locked)	1 x M (pneumatic)
Adjustability of middle position	[°]	3.0	3.0	3.0
Protection class IP		67	67	67
Weight	[kg]	16.80	17.80	17.50
Fluid consumption (2 x nominal angle)	[cm³]	1120.0	1120.0	1120.0
Nominal operating pressure	[bar]	6.0	6.0	6.0
min./max. operating pressure	[bar]	4/8	4/6.5	4/8
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
Cleanroom class ISO 14644-1		5	5	5
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 in the air feed-through	[bar]	8	8	8
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 E-fittings on the output side		9/M8	9/M8	9/M8
Number of wires		10	10	10
max. voltage	[V]	24	24	24
Max. current per wire / total	[A]	1/1	1/1	1/1
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

ⓘ All modules are also available in a Viton version. Please contact us for details.

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.

ⓘ 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, swivel unit clockwise turning

B, b Main / direct connection, swivel unit counterclockwise turning

(1) Connection swivel unit

(2) Attachment connection

(72) Fit for centering sleeves

(73) Fit for centering pins

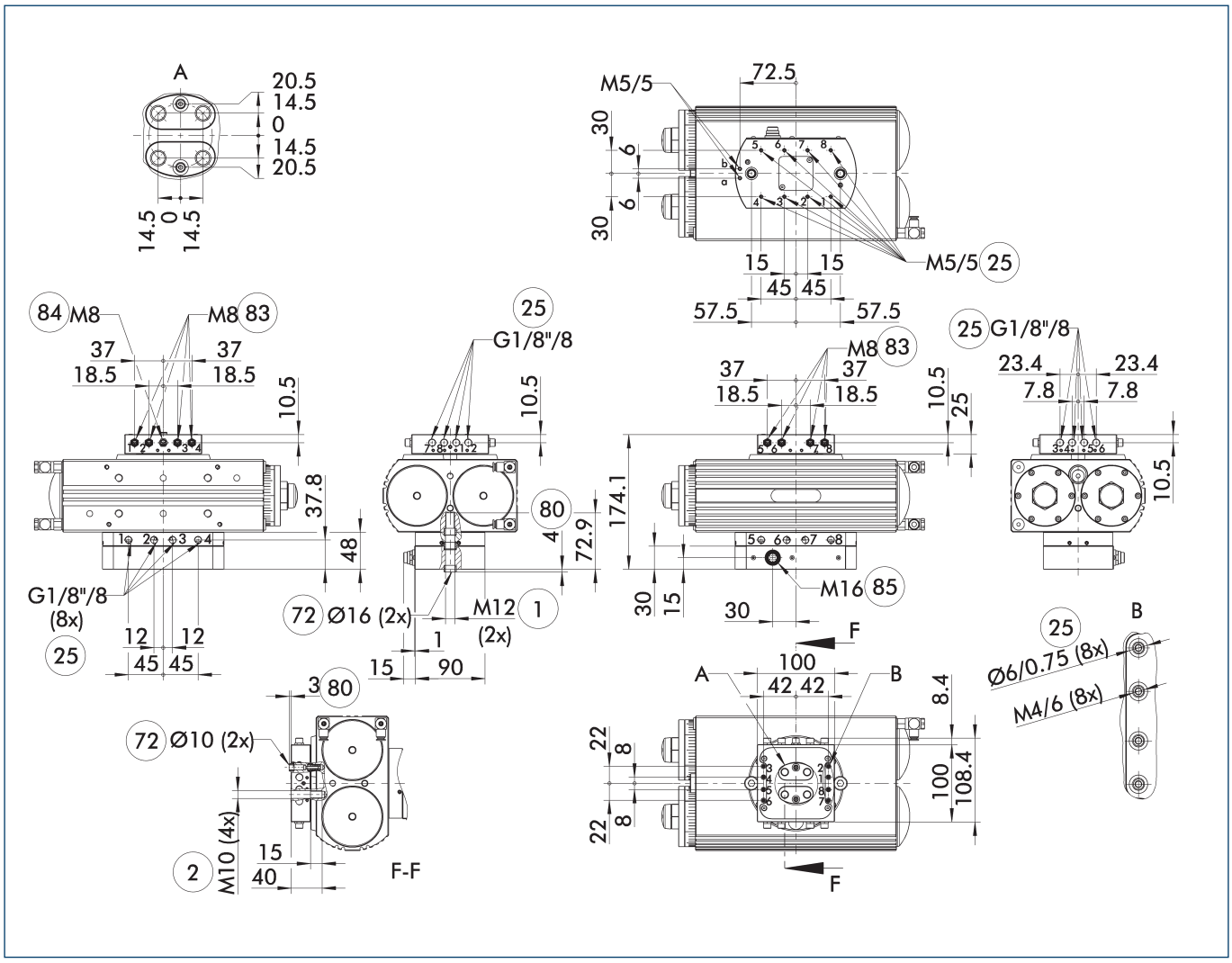
(80) Depth of the centering sleeve hole in the counter part

(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.

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

A, a Main / direct connection, swivel unit clockwise turning

B, b Main / direct connection, swivel unit counterclockwise turning

(1) Connection swivel unit

(2) Attachment connection

(25) Fluid feed-through

(72) Fit for centering sleeves

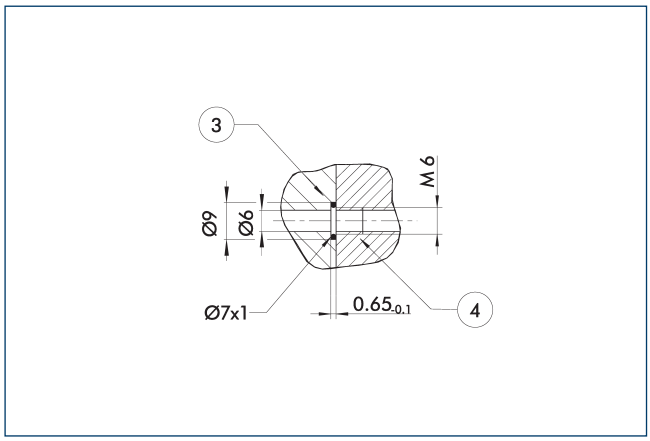
(80) Depth of the centering sleeve hole in the counter part

(83) Input for 3 pole sensor feed-through

(84) Input for 4 pole sensor feed-through

(85) Sensor feed-through output

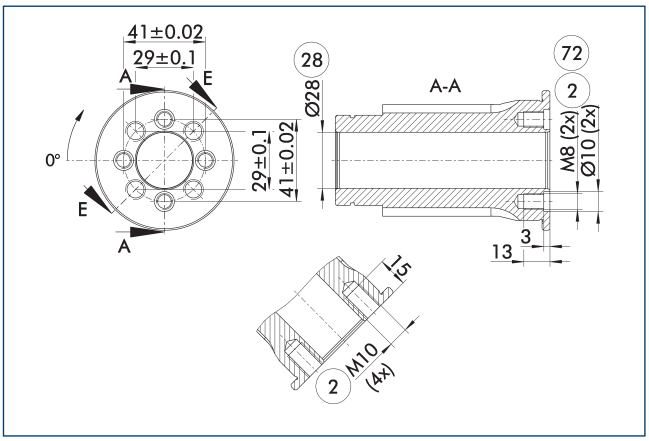
Hose-free direct connection M6



(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.

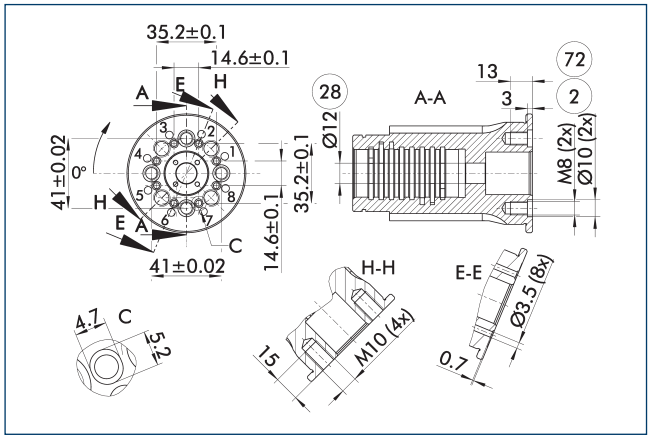
Pinion without fluid feed-through



(2) Attachment connection
(72) Fit for centering sleeves
(28) Through-hole
(77) Clearance for fitting screw

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

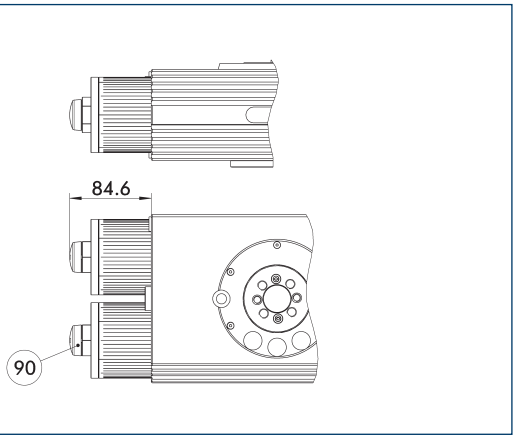


(2) Attachment connection
(72) Fit for centering sleeves
(28) Through-hole
(77) Clearance for fitting screw

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.

ⓘ View applicable only for versions without EDF!

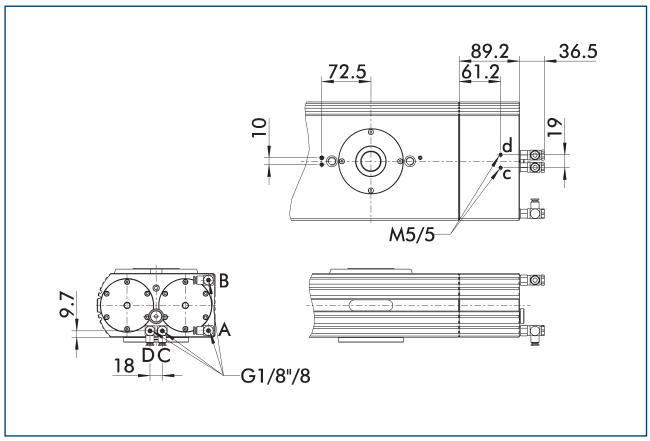
Large end position adjustability 90°



(90) 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, swivel unit clockwise turning

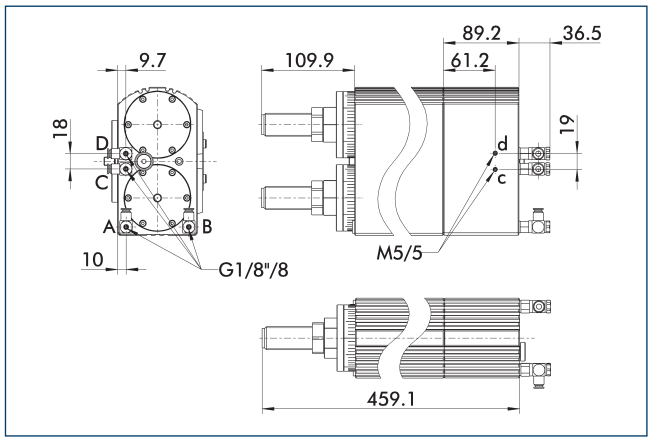
B, b Main / direct connection, swivel unit counterclockwise turning

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, swivel unit clockwise turning

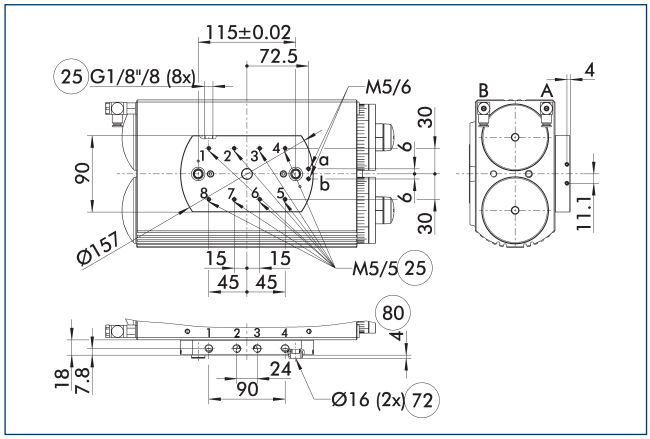
B, b Main / direct connection, swivel unit counterclockwise turning

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, swivel unit clockwise turning

B, b Main / direct connection, swivel unit counterclockwise turning

(25) Fluid feed-through

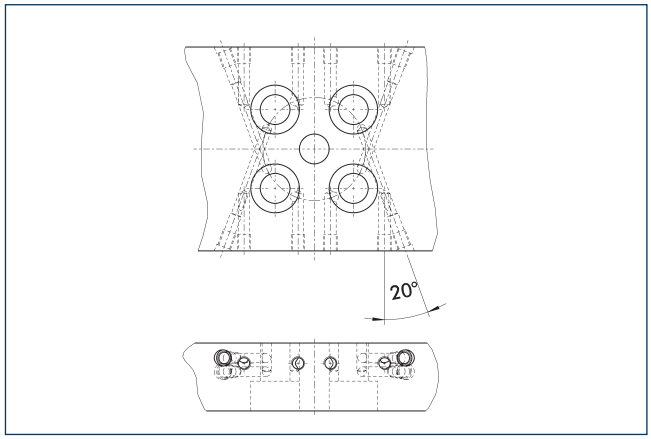
(72) Fit for centering sleeves

(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.

ⓘ View applicable only for versions without EDF!

Adapter plate design



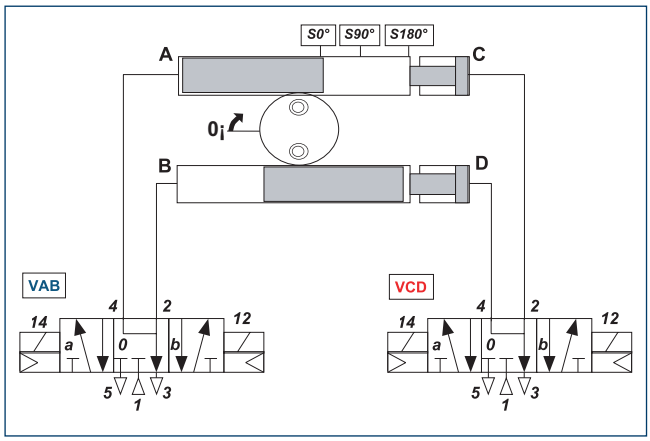
Suggested here is an adapter plate design which allows for all fluid feed-throughs to be accessed as easily as possible.

ⓘ View applicable only for versions without EDF!

SRU-plus 60

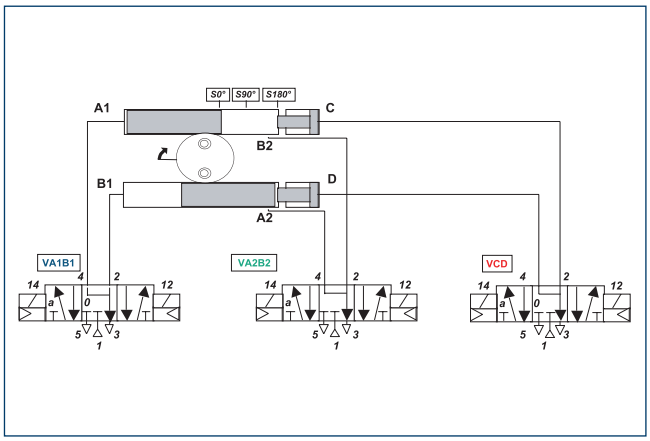
Universal swivel units

Pneumatic diagram of SRU-plus-VM — vertical axis



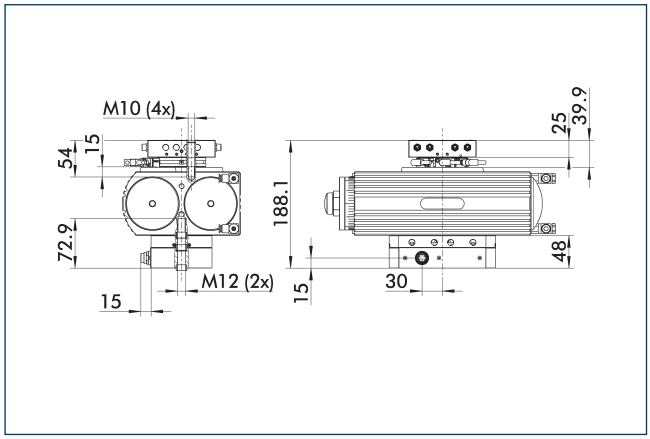
VM rotary actuators with a vertical rotary axis are generally actuated by two 5/3 directional control valves with an exhausted middle position. To prevent damage, it is essential to pay attention to the actuation sequence indicated in the operating manual.

Pneumatic diagram of SRU-plus-VM — horizontal axis



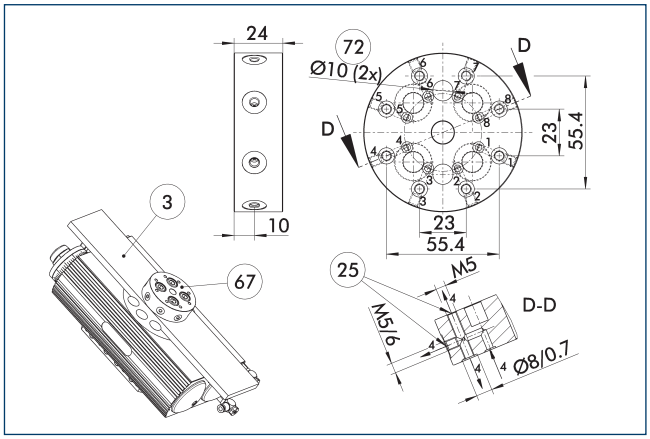
VM rotary actuators with a horizontal or non-vertical rotary axis must generally be actuated by three 5/3 directional control valves with an exhausted middle position. To prevent damage, it is essential to pay attention to the actuation sequence indicated in the operating manual.

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



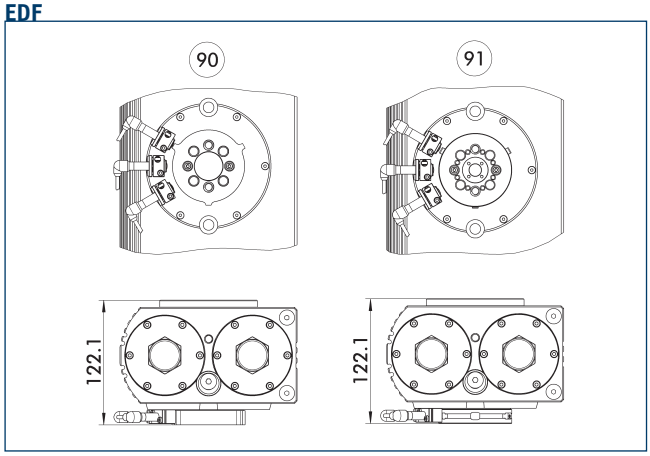
(3) Adapter
(25) Fluid feed-through
(67) Distributor for media feed-through
(72) Fit for centering sleeves

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 for SRU-plus		
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

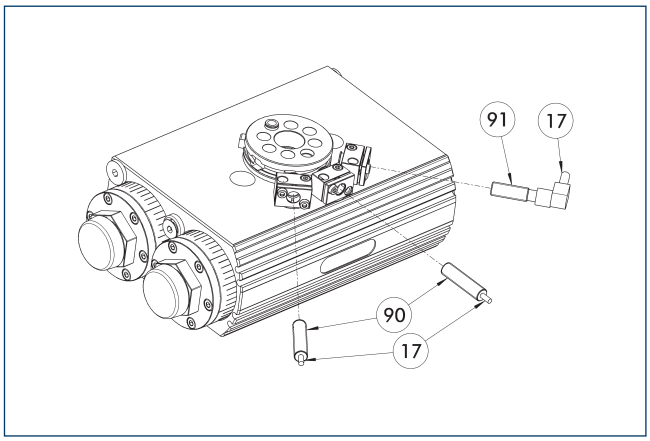
(91) AS-NHS-SRU-plus 60

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 adjustable cam		
AS-NHS-SRU-plus 50/60	0362690	
AS-NHS-SRU-plus 50/60-8	0362691	
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	

ⓘ 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

(90) Sensor IN ...

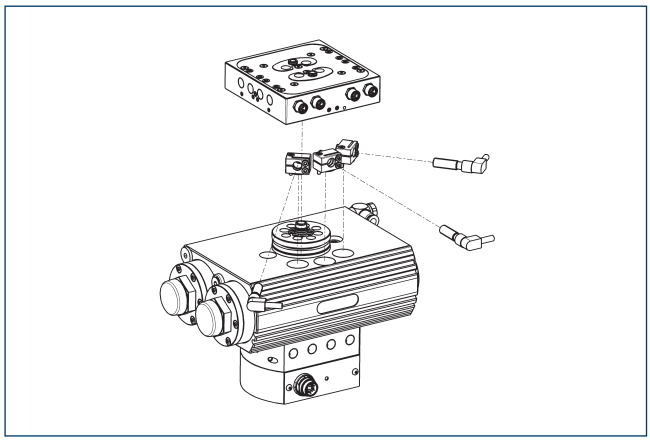
(91) Sensor IN..-SA

End and intermediate position monitoring can be mounted with mounting kit

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

ⓘ View applicable only for versions without EDF!

Inductive proximity switches IN for SRU-plus with EDF

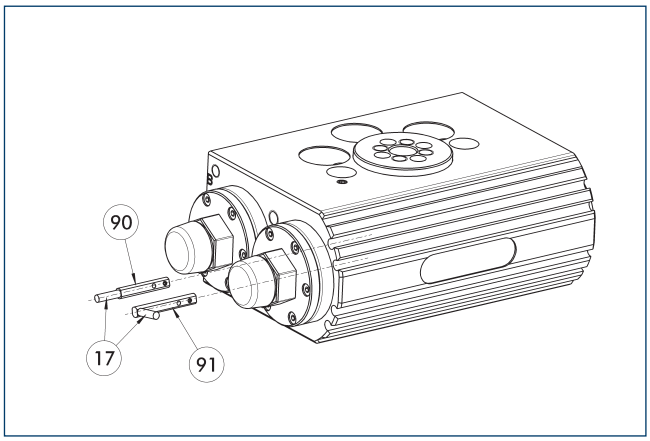


End and intermediate position monitoring mounted directly

Description	ID	Often combined
Inductive Proximity Switches		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
IN-C 80-S-M8	0301475	
INK 80-S	0301550	
INK 80-SL	0301579	
Inductive proximity switch with lateral 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	

ⓘ Two sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

Electronic magnetic switches MMS



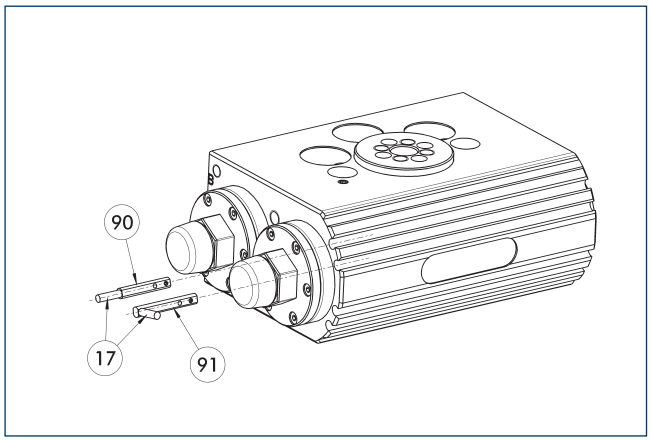
(17) Cable outlet
(91) Sensor MMS 22...-SA
(90) Sensor MMS 22..

End and intermediate position monitoring mounted in C-slot

Description	ID	Often combined
Electronic magnetic switches MMS		
MMS 22-S-M8-PNP	0301032	●
MMSK 22-S-PNP	0301034	
MMS electronic magnetic switches with lateral 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	

ⓘ Two sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

Programmable magnetic switches MMS PI1



17 Cable outlet
91 Sensor MMS 22 ..-PI1-...-SA
90 Sensor MMS 22 PI1-...

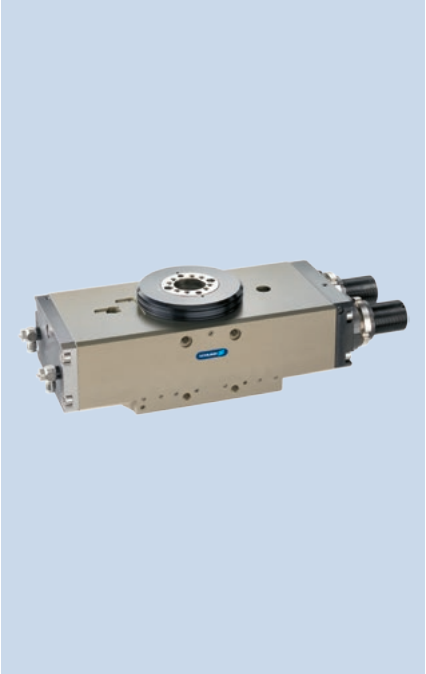
Position monitoring with one programmable position per sensor and electronics integrated in the sensor. Can be programmed using MT magnetic teaching tool (included in scope of delivery) or ST plug teaching tool (optional). End position monitoring is mounted in the C-slot. If the ST plug teaching tools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

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

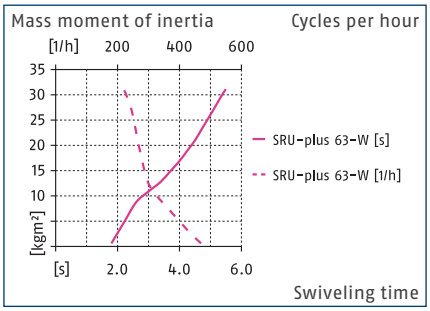
ⓘ Two sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

SRU-plus 63

Universal swivel units

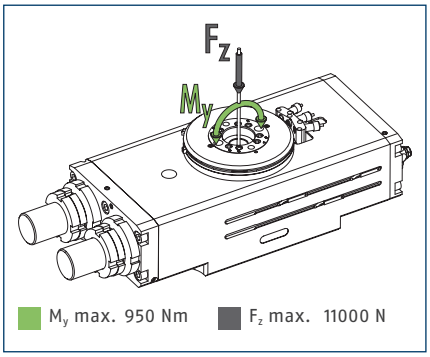


Max. admissible inertia J



ⓘ 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.

Pinion load

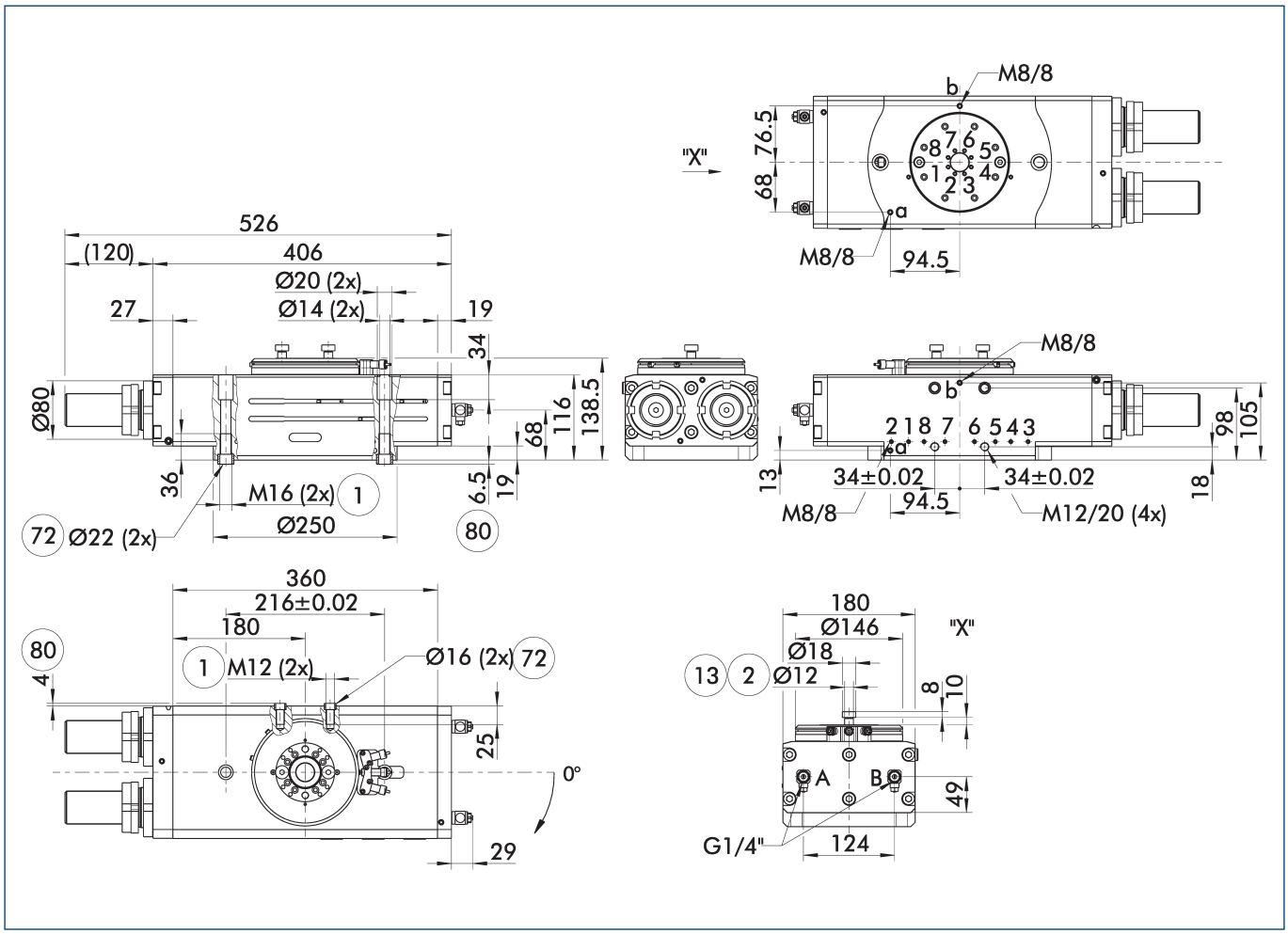


ⓘ The indicated moments and forces are statical values and should not appear simultaneously Throttling has to be done for ensuring that the rotary motion takes place without impact or bouncing. otherwise the service life reduces.

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
Protection class IP		67	67	67
Weight	[kg]	26.50	26.50	26.50
Fluid consumption (2 x nominal angle)	[cm³]	656.0	656.0	1120.0
Nominal operating pressure	[bar]	6.0	6.0	6.0
min./max. operating pressure	[bar]	4.5/8	4.5/8	4.5/8
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
Cleanroom class ISO 14644-1		5	5	5

Main view for SRU-plus



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

ⓘ 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, swivel unit clockwise turning

B, b Main / direct connection, swivel unit counterclockwise turning

(1) Connection swivel unit

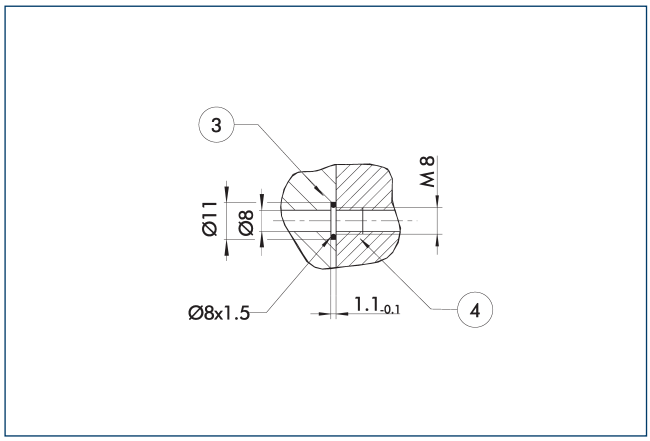
(2) Attachment connection

(13) Fitting screw

(72) Fit for centering sleeves

(80) Depth of the centering sleeve hole in the counter part

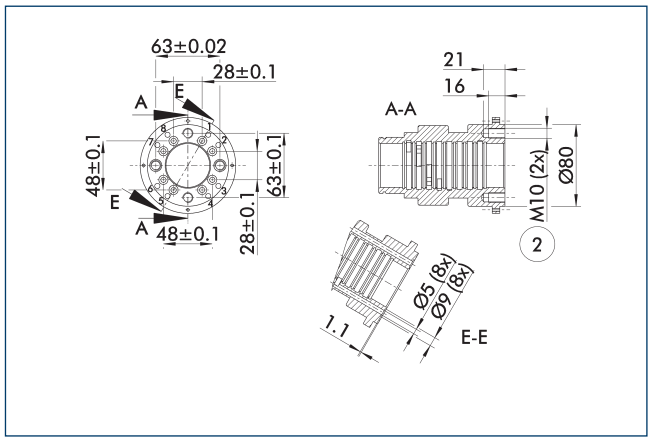
Hose-free direct connection M8



(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.

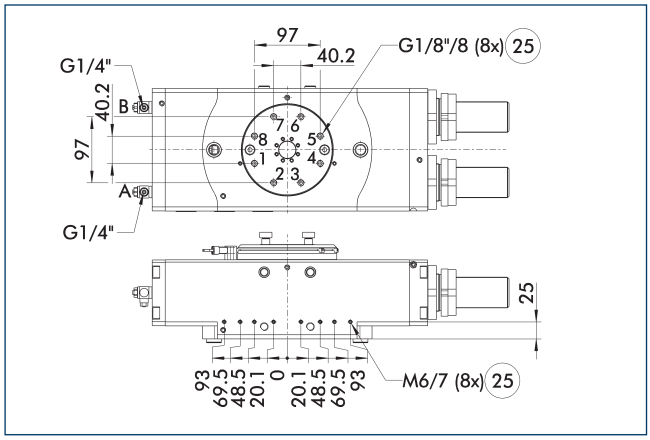
Pinion with fluid feed-through



(2) Attachment connection (77) Clearance for fitting screw

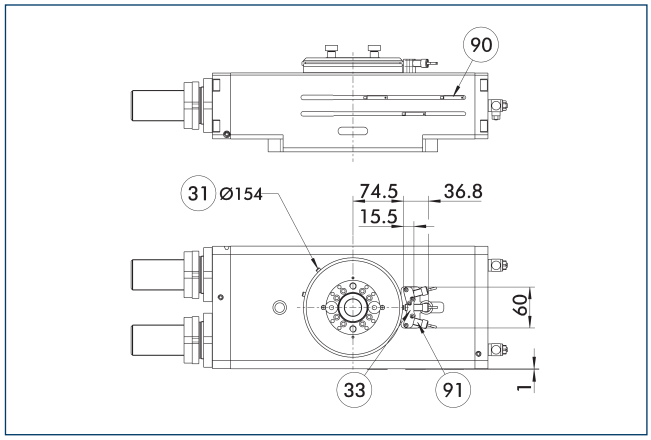
Mounting pattern for assembling the rotating load to the pinion.

Connections for 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



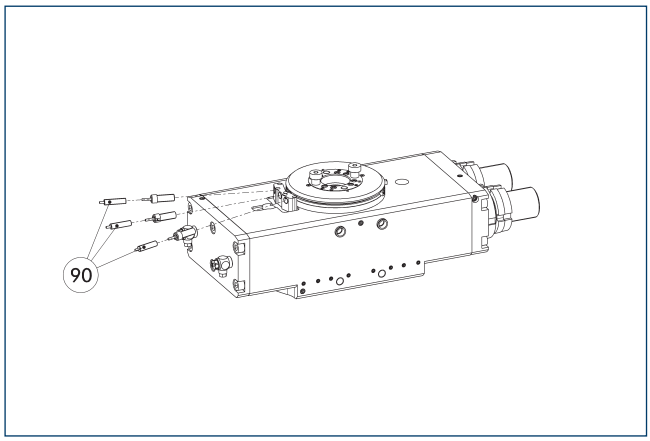
(31) Interfering contour of control cam
(33) Attachment kit
(90) MMS 30
(91) Sensor IN ...

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	
Mounting kit for proximity switch with fixed cam		
AS-NHS-F-SRU-plus 63	0300772	

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

IN 80 inductive proximity switches



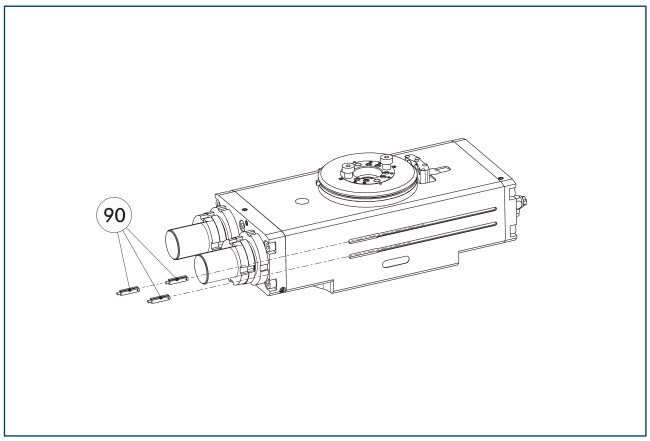
90 Sensor IN ...

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	
Mounting kit for proximity switch with fixed cam		
AS-NHS-F-SRU-plus 63	0300772	
Inductive Proximity Switches		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
IN-C 80-S-M8	0301475	
INK 80-S	0301550	
INK 80-SL	0301579	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	●
INK 80-S-SA	0301566	

ⓘ 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 switches MMS



90 MMS 30

End position monitoring for mounting in the C-slot.

Description	ID	Often combined
Electronic magnetic switches MMS		
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	

ⓘ Two sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

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