

Compact. Fast. Productive. Miniature Swivel Head SKE

90° swivel head with single piston drive

Field of Application

For use in clean environments such as assembly or packaging zones and for light external loads

Advantages – Your benefit

90° swivel head with integrated end stops

Low weight and compact design for short cycle times

Standardized interfaces to many grippers in the RH series for rapid gripper assembly without intermediate plates



Sizes
Quantity: 4



Weight
0.13 .. 1.95 kg



Torque
0.4 .. 9 Nm



Repeat accuracy
0.03°

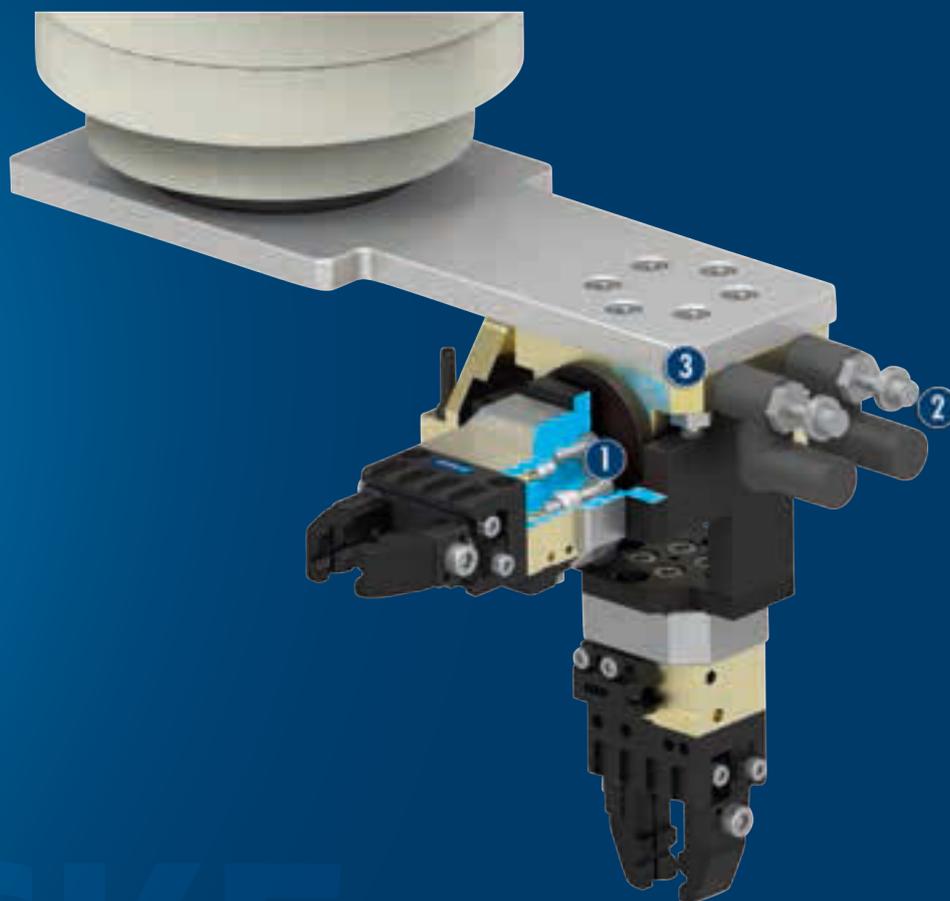


Angle of rotation
90°

Functional Description

A double-acting piston located in the housing turns the die 90° swivel axis. Its speed is restricted by flow control

couplings, ensuring that it travels cleanly to the end position.



① Screw connection diagram for adapter plates

② Flow control valves

③ End position adjustability

General Notes about the Series

Housing material: aluminum

Internal functional components material: steel

Actuation: pneumatic, with filtered compressed air as per DIN ISO 8573-1: 7 4 4

Operating Principle: double acting piston with gear drive

Scope of delivery: small parts for mounting, flow control valves, assembly and operating manual with a manufacturer's declaration.

Warranty: 24 months (details, general terms and conditions and operation manuals can be downloaded at www.schunk.com)

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

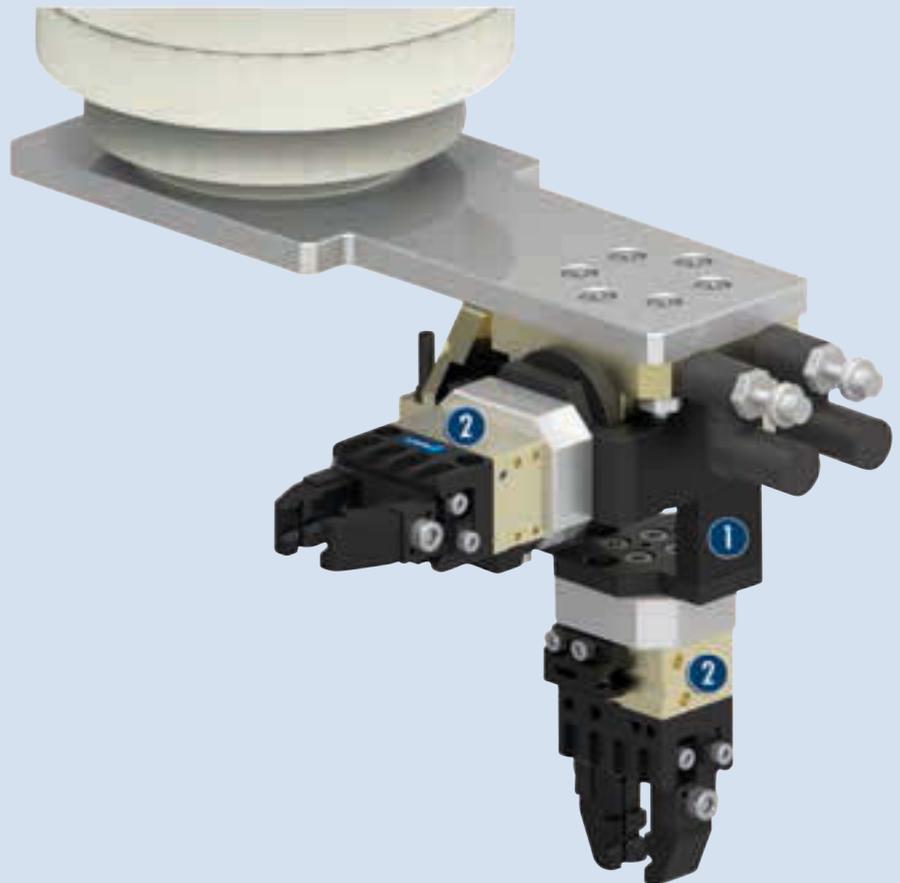
Cycle time: is the pure rotation time of the pinion / flange rotating about the nominal angle of rotation. Valve switching times, hose filling times, or PLC reaction times are not included, and have to be considered for determining the cycle times.

Direct connection of grippers: some RH grippers can be flange mounted directly to the SKE without an adapter plate. In this case, please note the screw connection diagram.

Application example

Robot and gripper assembly for the removal and loading of various axes and bolts

- 1 Swivel Head SKE
- 2 2-Finger Parallel Gripper MPG-plus



SCHUNK offers more ...

The following components make the SKE even more productive – the perfect complement for highest functionality, flexibility and process reliability.



Fittings



Inductive Proximity Switches



Pressure Maintenance Valve



Sensor Cables



3-Finger Centric Gripper MPZ



Sensor Distributor



Pneumatic Small Parts Gripper MPG-plus

① Further 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

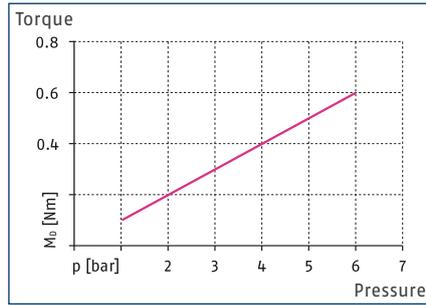
Note that suitable emergency stop scenarios (e.g. controlled shut down) and restarting scenarios (e.g. pressure build-up valves, appropriate valve switching sequences) are needed for all pneumatic actuators. Cutting off the pressure in an uncontrolled manner could lead to undefined states and behavior.

SKE 18

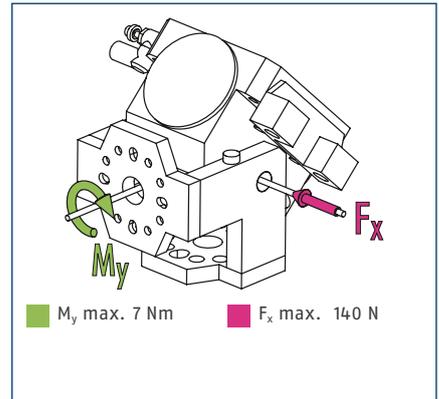
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Torque



Forces and Moments

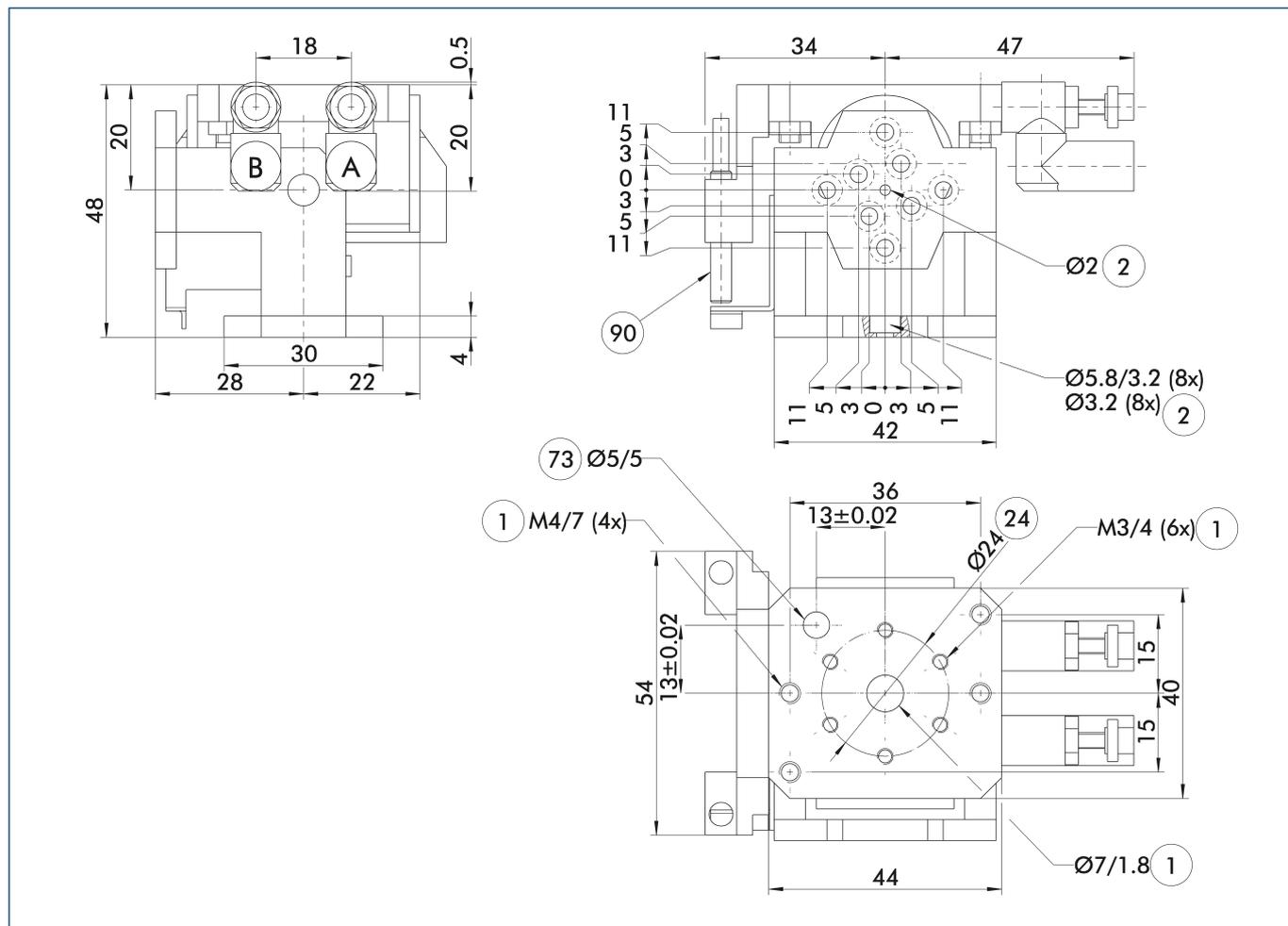


- ① The indicated moments and forces are static values and may occur simultaneously. Flow control valves must always be used to ensure that the swivel unit operates without impact or bouncing in the end positions, otherwise the service life could be reduced.

Technical data

Description	Unit	SKE 18
ID		0351100
Angle of rotation	[°]	90.0
End position adjustability	[°]	5.0
Torque	[Nm]	0.4
IP class		30
Weight	[kg]	0.13
Cycle time (1x rotation angle) without attached load	[s]	0.50
Fluid consumption (2 x nominal angle)	[cm ³]	10.0
Nominal operating pressure	[bar]	4.0
min. / max. operating pressure	[bar]	1/6
Diameter of connecting hose		4.3 x 3 x 0.65
min. / max. ambient temperature	[°C]	5/50
Repeat accuracy	[°]	0.03
Cleanroom class ISO 14644-1		5

Main view



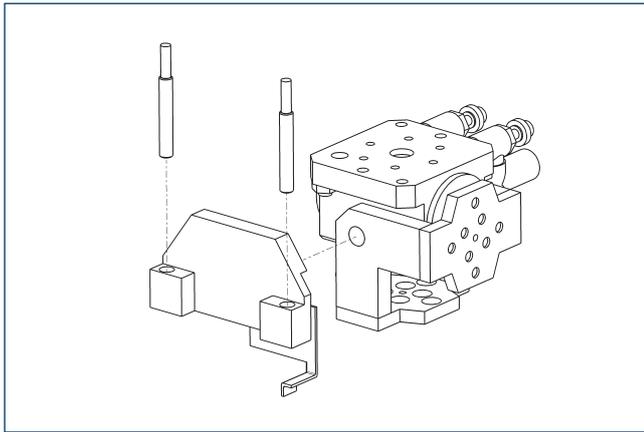
The drawing shows the unit in standard design, without considering any dimensions of the options described below.

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

- A, a Main / direct connection, rotary actuator rotates clockwise
- B, b Main / direct connection, rotary actuator rotates counterclockwise

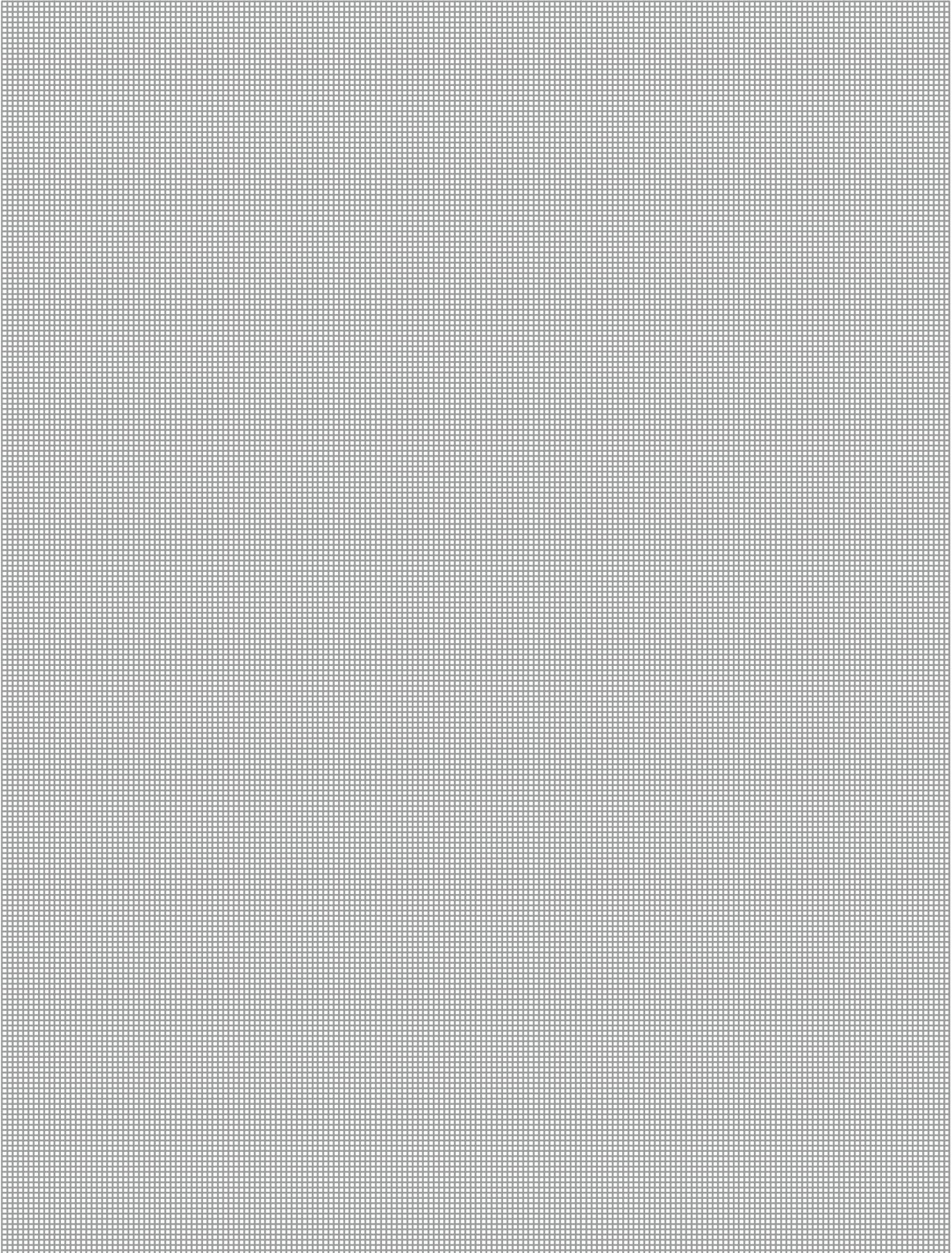
- ① Rotary actuator connection
- ② Attachment connection
- ②4 Bolt circle
- ⑦3 Fit for a centering pin
- ⑨0 Sensor IN ...

Sensor system



Description	ID	often combined
Inductive proximity switches		
IN 40-S-M12	0301574	
IN 40-S-M8	0301474	●
INK 40-S	0301555	
Cable extensions		
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	
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		
V4-M12	0301747	
V4-M8	0301746	
V8-M12	0301752	
V8-M8	0301751	

- ① Two sensors (closer / NO) are required for each unit, plus extension cables as an option. Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

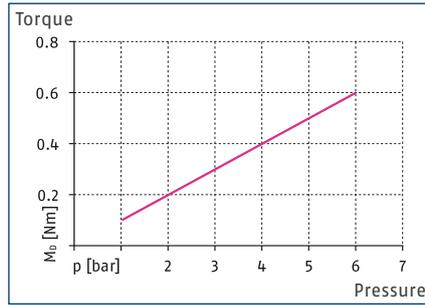


SKE 22

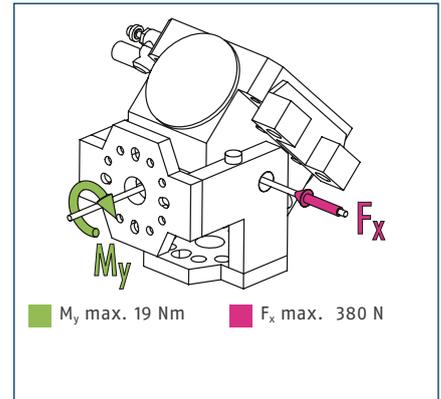
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Torque



Forces and Moments

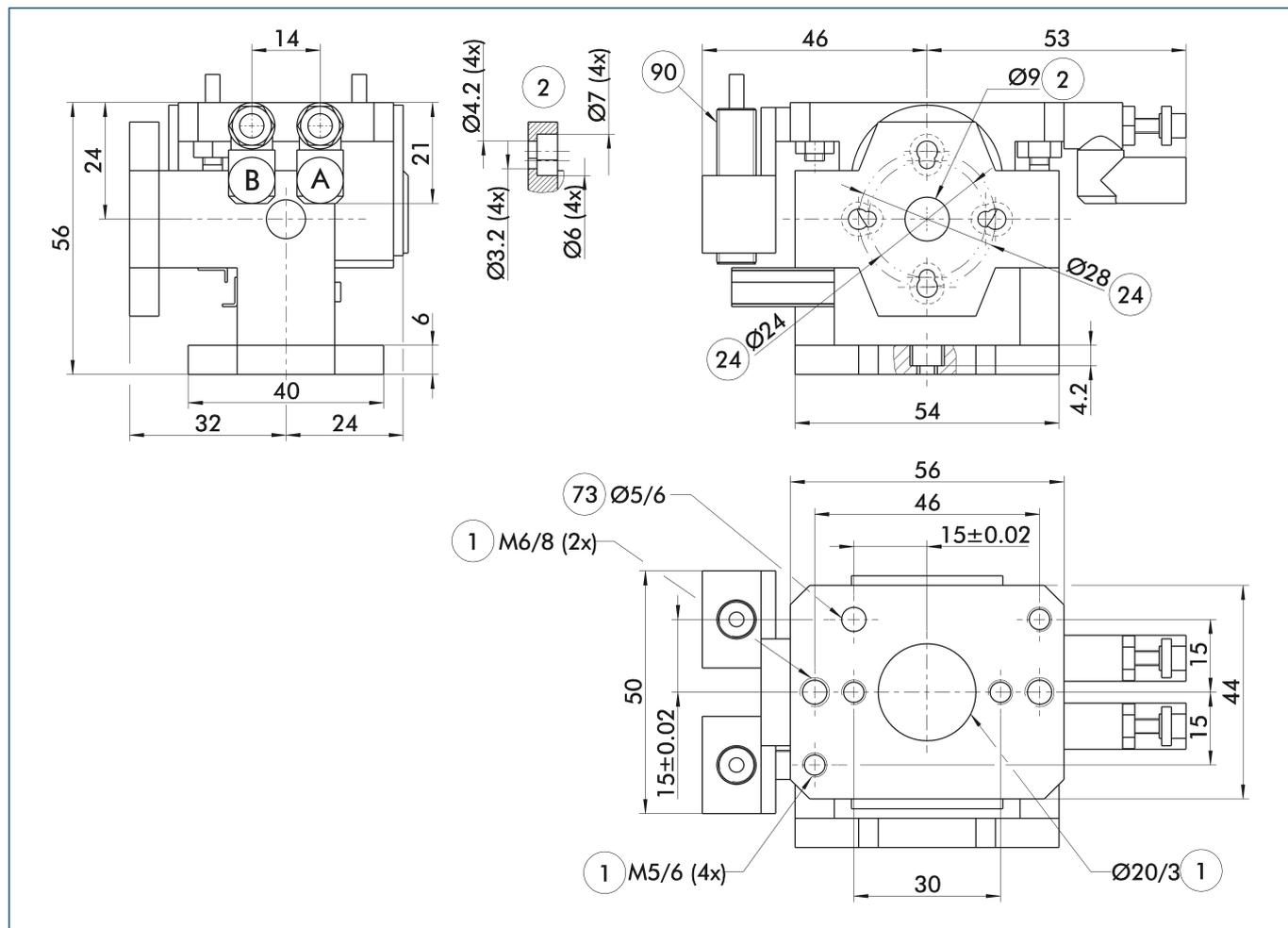


- ① The indicated moments and forces are static values and may occur simultaneously. Flow control valves must always be used to ensure that the swivel unit operates without impact or bouncing in the end positions, otherwise the service life could be reduced.

Technical data

Description	Unit	SKE 22
ID		0351102
Angle of rotation	[°]	90.0
End position adjustability	[°]	5.0
Torque	[Nm]	0.75
IP class		30
Weight	[kg]	0.2
Cycle time (1x rotation angle) without attached load	[s]	0.80
Fluid consumption (2 x nominal angle)	[cm ³]	20.0
Nominal operating pressure	[bar]	4.0
min. / max. operating pressure	[bar]	1/6
Diameter of connecting hose		4.3 x 3 x 0.65
min. / max. ambient temperature	[°C]	5/50
Repeat accuracy	[°]	0.03
Cleanroom class ISO 14644-1		5

Main view



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

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

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

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

① Rotary actuator connection

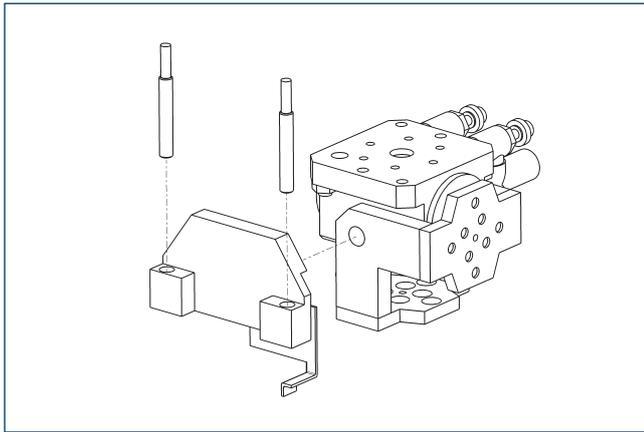
② Attachment connection

②④ Bolt circle

⑦③ Fit for a centering pin

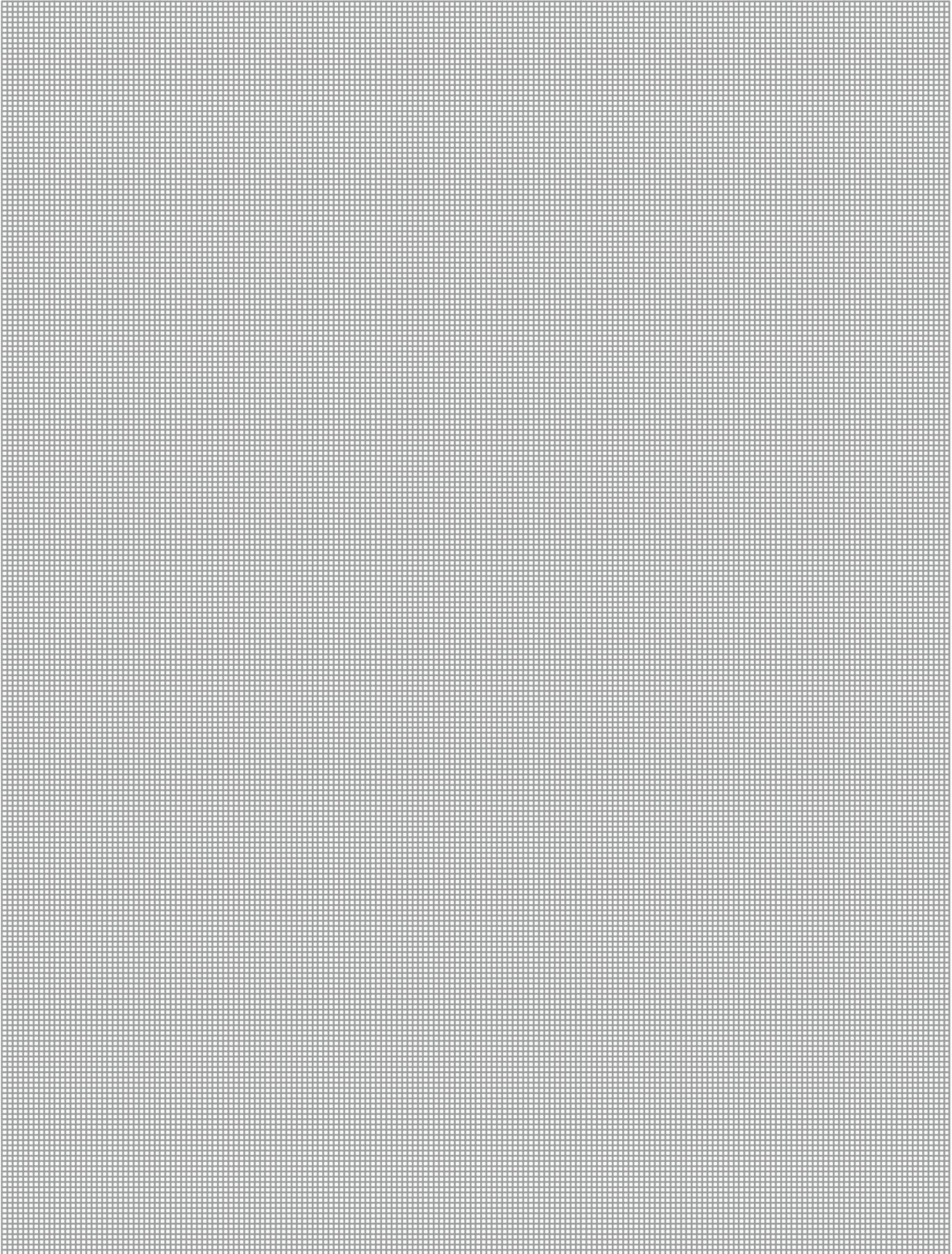
⑨① Sensor IN ...

Sensor system



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	
Cable extensions		
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	
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		
V4-M12	0301747	
V4-M8	0301746	
V8-M12	0301752	
V8-M8	0301751	

- ① Two sensors (closer / NO) are required for each unit, plus extension cables as an option. Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

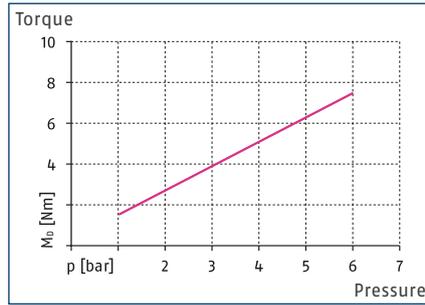


SKE 40

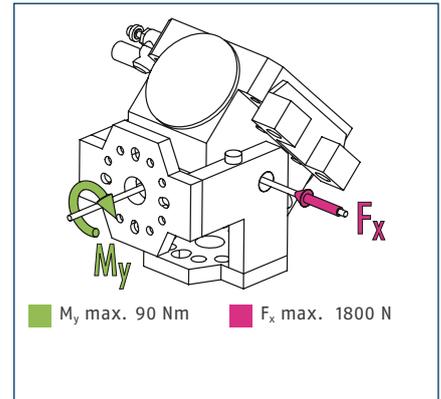
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Torque



Forces and Moments

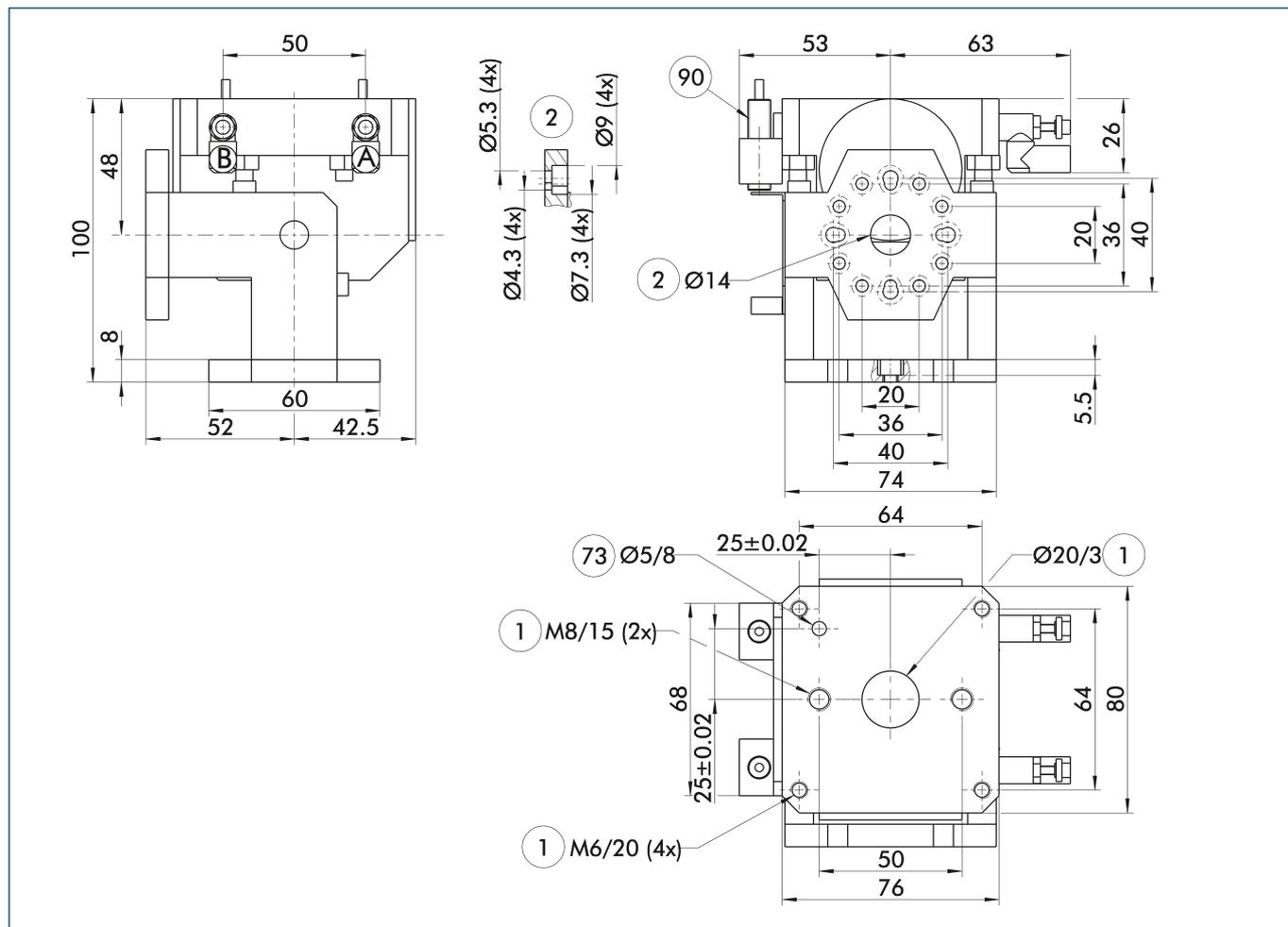


① The indicated moments and forces are static values and may occur simultaneously. Flow control valves must always be used to ensure that the swivel unit operates without impact or bouncing in the end positions, otherwise the service life could be reduced.

Technical data

Description	Unit	SKE 40
ID		0351104
Angle of rotation	[°]	90.0
End position adjustability	[°]	5.0
Torque	[Nm]	5
IP class		30
Weight	[kg]	0.92
Cycle time (1x rotation angle) without attached load	[s]	1.00
Fluid consumption (2 x nominal angle)	[cm ³]	100.0
Nominal operating pressure	[bar]	4.0
min. / max. operating pressure	[bar]	1/6
Diameter of connecting hose		4.3 x 3 x 0.65
min. / max. ambient temperature	[°C]	5/50
Repeat accuracy	[°]	0.03
Cleanroom class ISO 14644-1		5

Main view



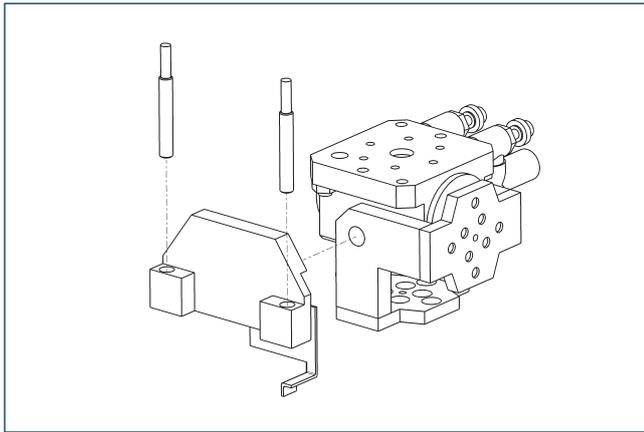
The drawing shows the unit in standard design, without considering any dimensions of the options described below.

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

A, a Main / direct connection, rotary actuator rotates clockwise
 B, b Main / direct connection, rotary actuator rotates counterclockwise

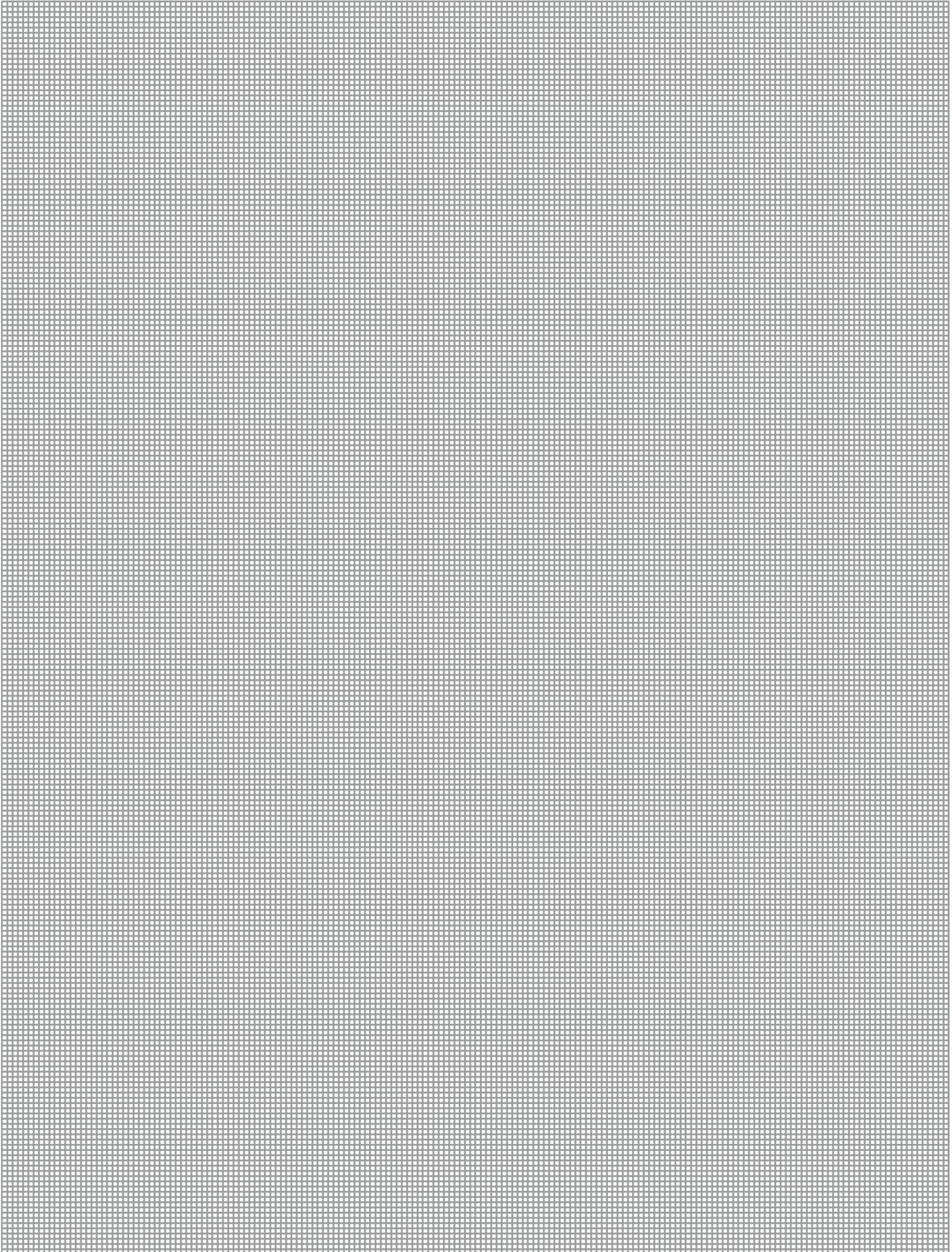
① Rotary actuator connection
 ② Attachment connection
 73 Fit for a centering pin
 90 Sensor IN ...

Sensor system



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	
Cable extensions		
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	
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		
V4-M12	0301747	
V4-M8	0301746	
V8-M12	0301752	
V8-M8	0301751	

- ① Two sensors (closer / NO) are required for each unit, plus extension cables as an option. Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

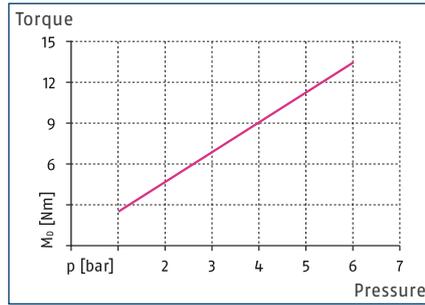


SKE 55

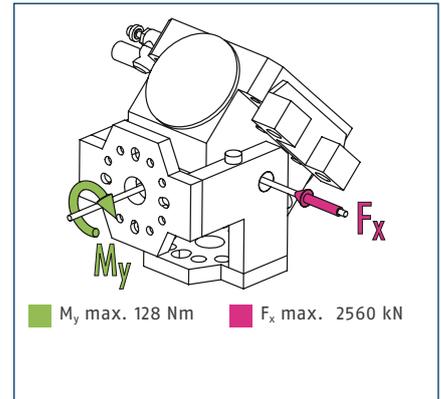
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Torque



Forces and Moments

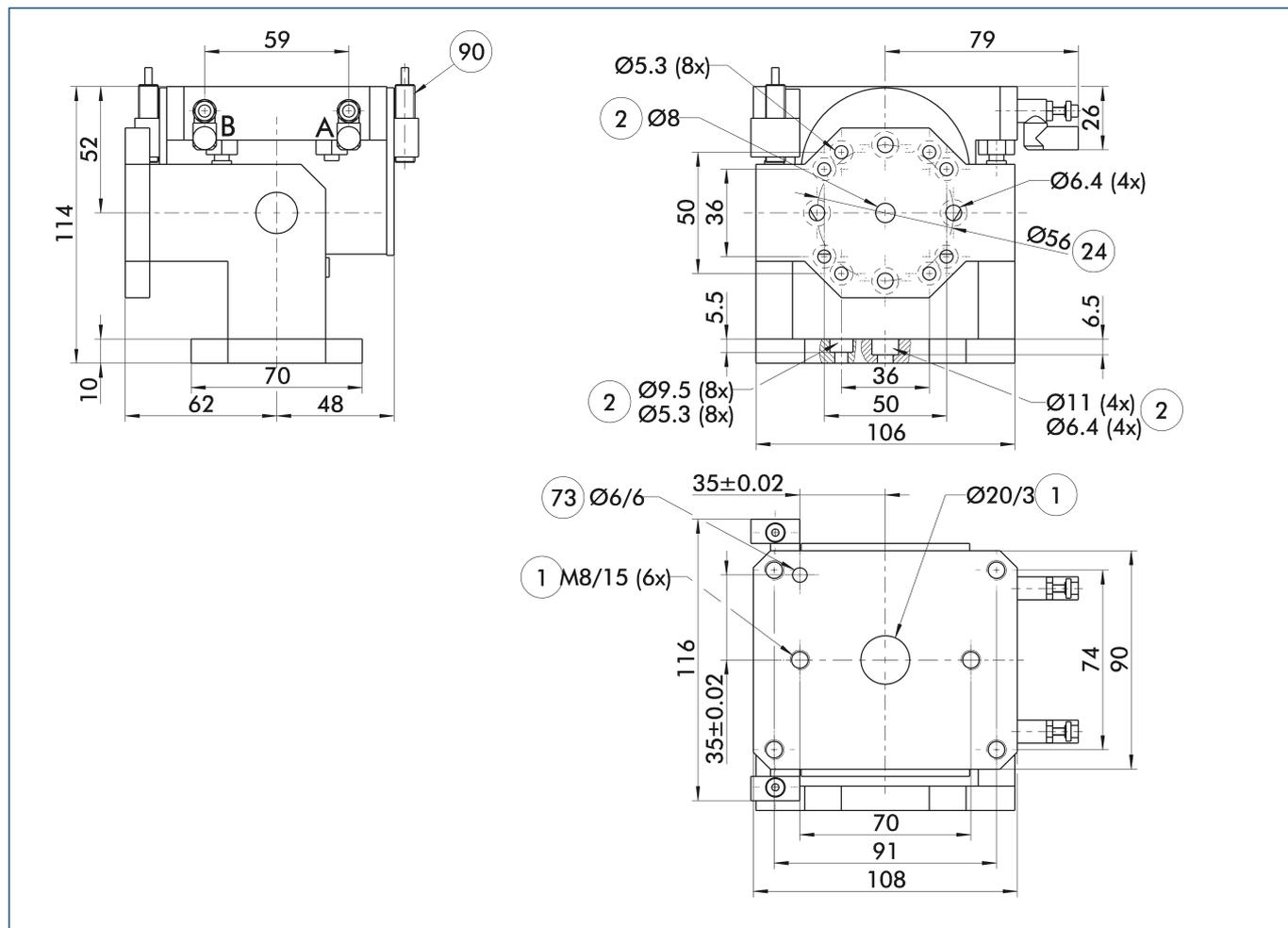


① The indicated moments and forces are static values and may occur simultaneously. Flow control valves must always be used to ensure that the swivel unit operates without impact or bouncing in the end positions, otherwise the service life could be reduced.

Technical data

Description	Unit	SKE 55
ID		0351106
Angle of rotation	[°]	90.0
End position adjustability	[°]	5.0
Torque	[Nm]	9
IP class		30
Weight	[kg]	1.95
Cycle time (1x rotation angle) without attached load	[s]	1.50
Fluid consumption (2 x nominal angle)	[cm ³]	160.0
Nominal operating pressure	[bar]	4.0
min. / max. operating pressure	[bar]	1/6
Diameter of connecting hose		4.3 x 3 x 0.65
min. / max. ambient temperature	[°C]	5/50
Repeat accuracy	[°]	0.03
Cleanroom class ISO 14644-1		5

Main view



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

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

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

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

① Rotary actuator connection

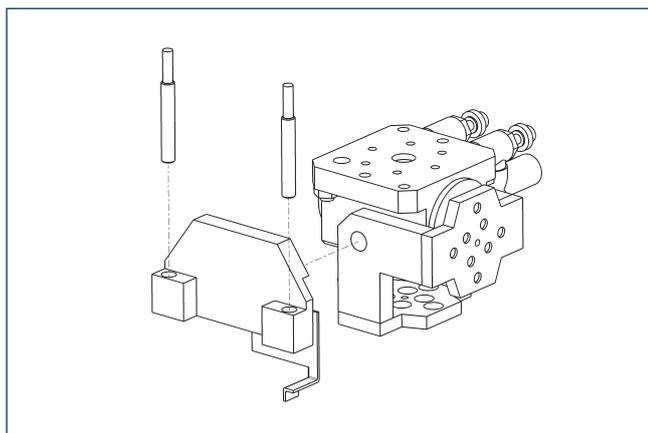
② Attachment connection

②④ Bolt circle

⑦③ Fit for a centering pin

⑨① Sensor IN ...

Sensor system



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	
Cable extensions		
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	
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		
V4-M12	0301747	
V4-M8	0301746	
V8-M12	0301752	
V8-M8	0301751	

① Two sensors (closer / NO) are required for each unit, plus extension cables as an option. Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.