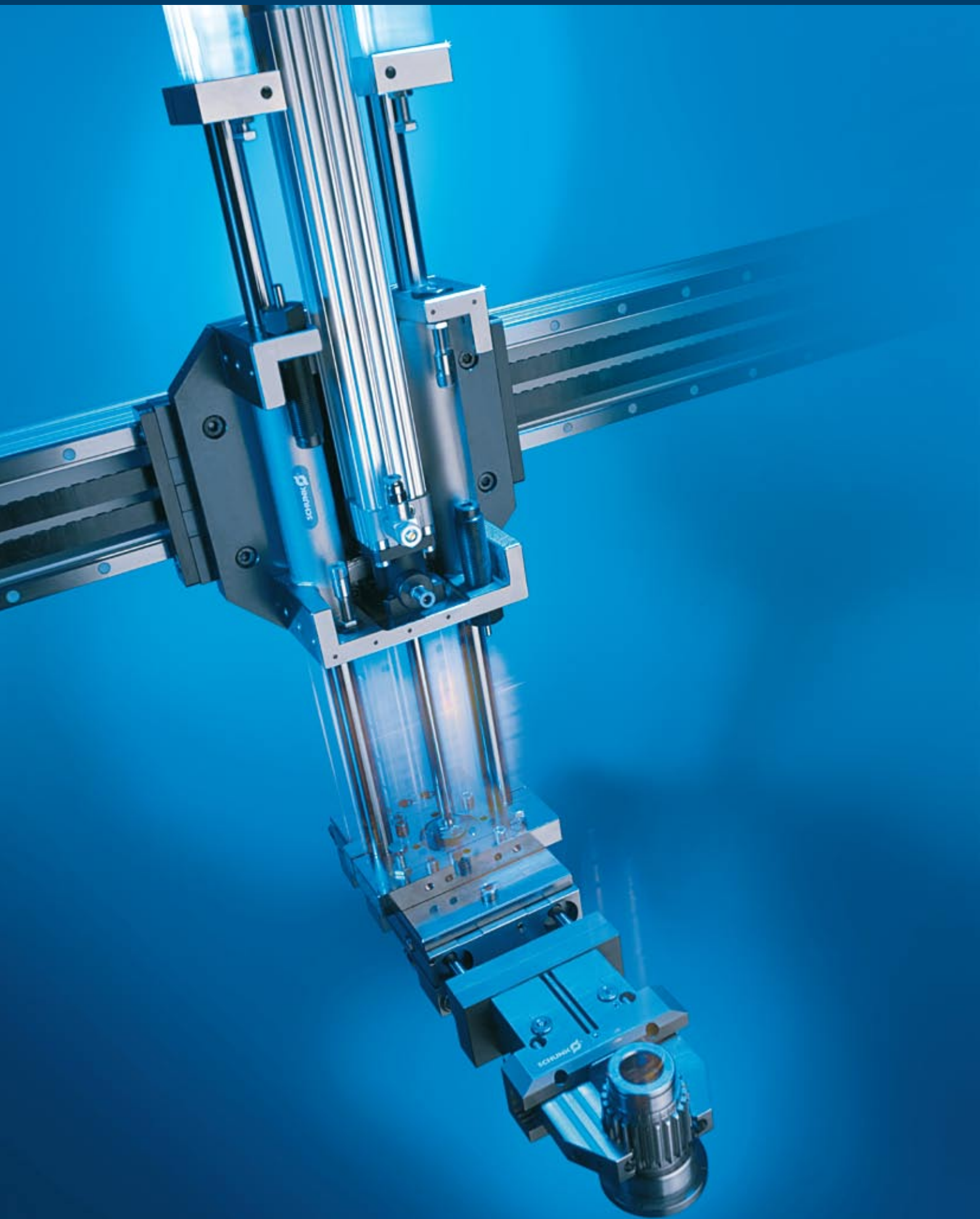


Stroke Modules



STROKE MODULES

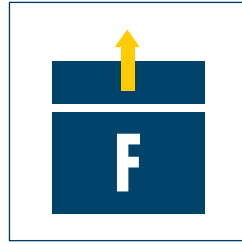
Series	Size	Page
Pneumatic Drive with Cylinder Piston Rods		
PHE		16
PHE	64	20
PHE	80	24
PHE	100	28
SLE		32
SLE	25	36
SLE	32	38
SLE	50	40



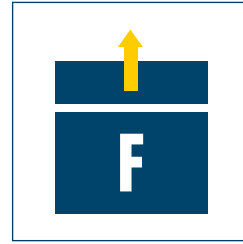
Sizes
64 .. 100



Weight
1.25 kg .. 4.9 kg



Piston force (extending)
130 N .. 430 N

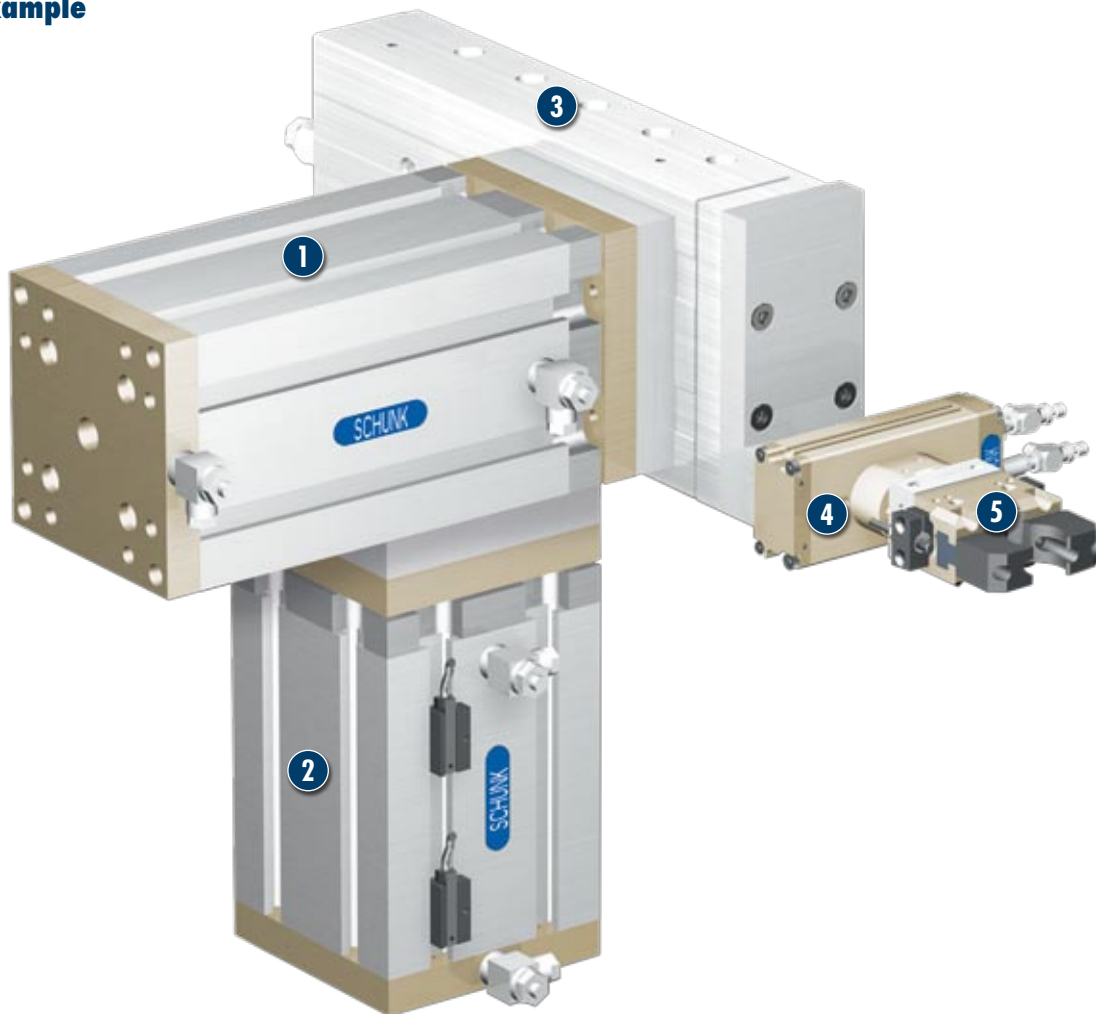


Piston force (retracting)
100 N .. 310 N



Bending moment
11 Nm .. 23 Nm

Application example



Triple-axis automatic insertion unit with additional rotational axis for rapid loading and unloading with workpiece rotation.

- 1 Linear unit PHE 100-120
- 2 Linear unit PHE 100-80
- 3 Mini-slide FST-S 25-120

- 4 Rotary actuator MRU 12.1-E-4
- 5 2-finger parallel gripper PGN 50-1

Stroke module

Linear unit with integrated air feed-through and high bearing load capacity in terms of bending and torsion moments.

Area of application

Any applications where a short linear stroke movement is required

Your advantages and benefits

Three different strokes per size

resulting in 9 different standard variations

Integrated hose-free air feed-through up to 8 bar

eliminating any unnecessary hoses

Ball bushing guide

Double ball bushing guide, with minimal play and low friction

Mounting, in addition to conventional screw-mounting, also possible using groove and T-nut

For universal assembly

Hose-free direct connection for air feed-through

for specific adaptation of the unit in all automation solutions.



General information about the series

Working principle

Pneumatic piston actuation, direct transmission, combined with ball bushing guide

Housing material

Aluminum, hard-anodized

Guide rods

Steel, ground

Actuation

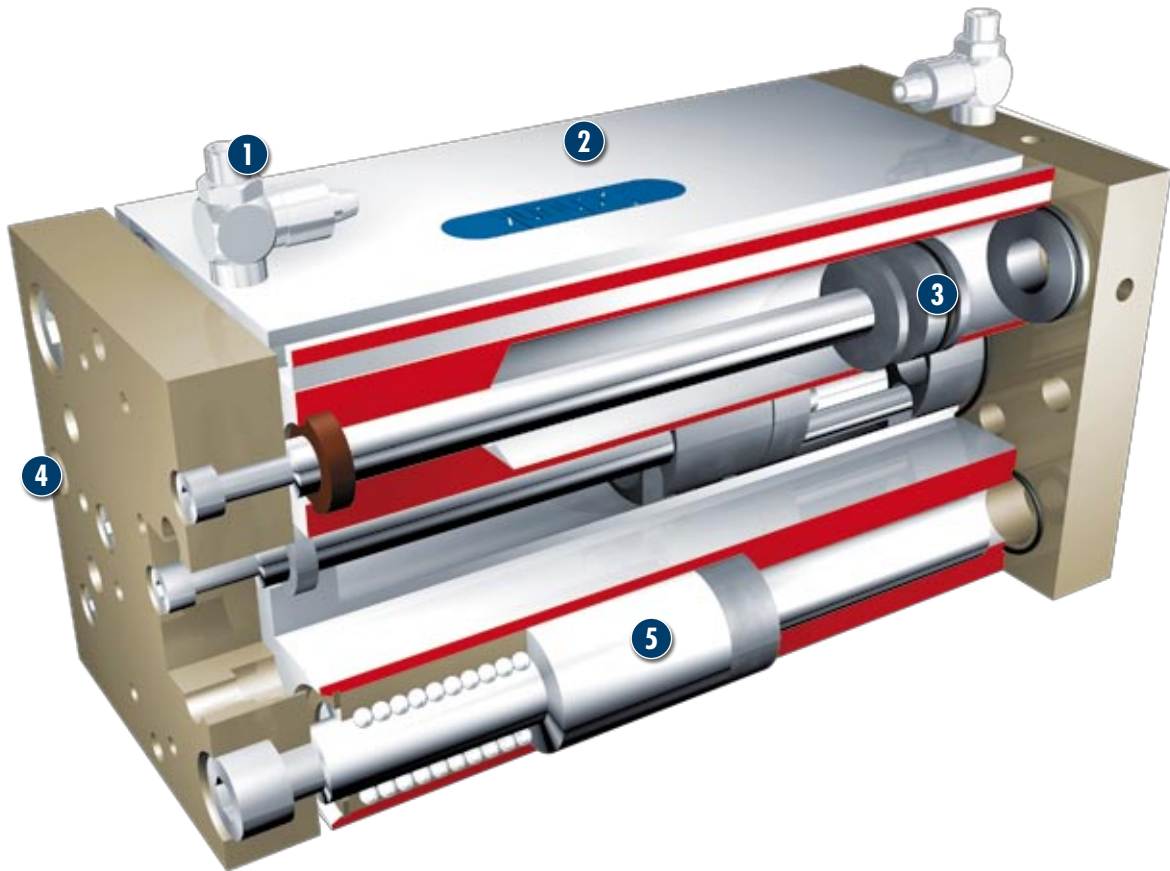
Pneumatic, using filtered compressed air (10 µm): dry, lubricated, or non-lubricated
Pressurizing medium: requirements for compressed air quality class according to DIN ISO 8573-1: Quality class 4

Scope of delivery

Includes flow control couplings, T-nuts, O-rings for direct connection, operating and assembly instructions with manufacturer's declaration

For production reasons, the colors may vary from those shown in the catalog.

Sectional diagram of function



- 1 Flow control couplings**
For adjusting the stroke speeds to ensure a long lifetime
- 3 Drive**
Powerful cylinder piston rods
- 5 Ball bushing guide**
Double ball bushing guide, with minimal play and low friction
- 2 Housing**
Weight-reduced through the use of a hard-anodized, high-strength aluminum alloy
- 4 Centering and mounting options**
For universal assembly

Description of function

The linear unit is powered by pneumatic pistons and guided by two opposite guide rods. The two rods move in low-friction ball bushings. The telescopic moving air feed-throughs are fitted inside the unit and provide the connection between the housing and the face plate including media connection.

Options and special information

The PHE series is available with special strokes on request.

Accessories

Accessories from SCHUNK
- the suitable companion
for the best functionality,
reliability, and controlled pro-
duction for all automation
components.

Fittings



MMS magnetic switch



KA/KV sensor cable



V sensor distributor



SDV-P pressure maintenance valves



① Please see the side views at the end of the respective size for information concerning specific sizes, availability, designation, and ID numbers. You can find more information about our accessories range in the "Accessories" section of the catalog.

General information about the series

Repeat accuracy

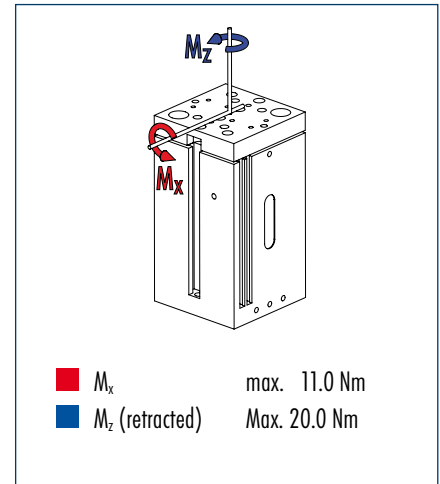
This is defined as the distribution of the end positions of 100 successive strokes.

Standard adapter plates

Standard adapter plates for direct mounting of the MPG-40 are available on request.



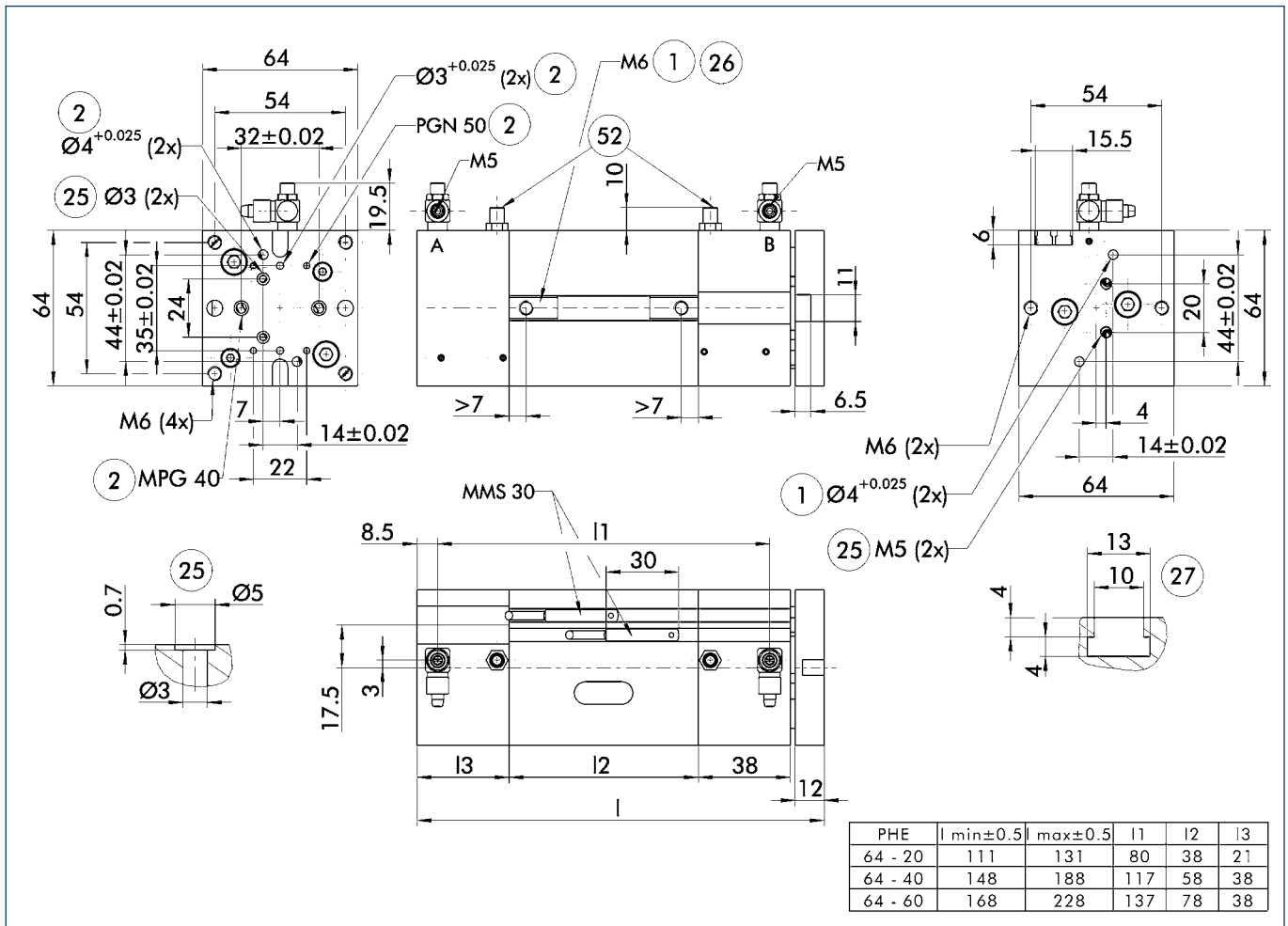
Moment load



Technical data

Designation		PHE 64-20	PHE 64-40	PHE 64-60
	ID no.	0300974	0300975	0300976
Piston force	[N]	130.0	130.0	130.0
Retraction force	[N]	100.0	100.0	100.0
Stroke	[mm]	20.0	40.0	60.0
Mass	[kg]	1.25	1.6	1.8
Max. permissible torsion moment (extended)	[Nm]	10.0	6.0	4.0
Fluid consumption for double stroke	[cm ³]	15.0	30.0	35.0
Nominal operating pressure	[bar]	6.0	6.0	6.0
Max. permissible operating pressure	[bar]	8.0	8.0	8.0
Stroke time (extending)	[s]	0.2	0.2	0.25
IP rating		42	42	42
Min. operating temperature	[°C]	5.0	5.0	5.0
Max. operating temperature	[°C]	60.0	60.0	60.0
Number of air feed-throughs		2	2	2
Max. permissible pressure in air feed-through	[bar]	8.0	8.0	8.0
Repeat accuracy	[mm]	0.1	0.1	0.1

Main views

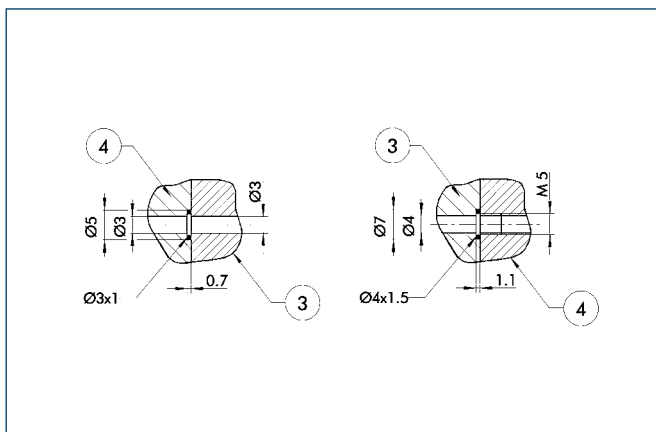


① The SDV-P pressure maintenance valve can be used to hold the position in case of a loss of pressure (see "Accessories" section of catalog).

A,a Main and direct connection, extend linear unit
B,b Main and direct connection, retract linear unit

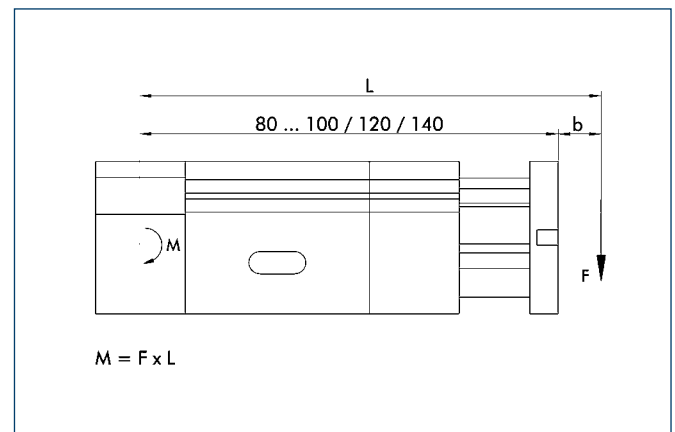
① Linear unit connection
② Assembly connection
⑲ Air feed-through
⑳ T-nut
㉑ Mounting groove for T-nuts
㉒ End position damping set screw

Hose-free direct connection



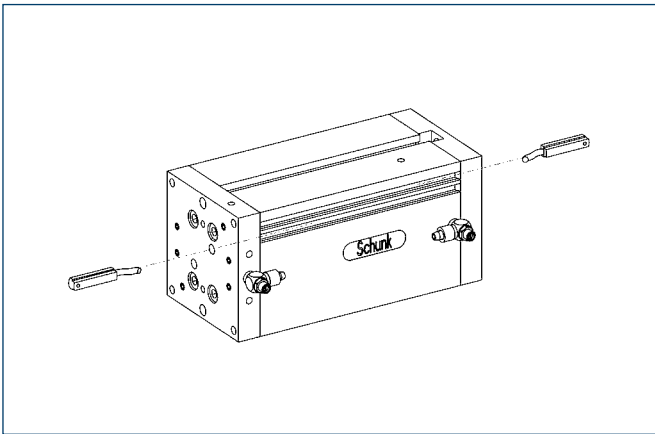
③ Adapter
④ Linear unit

Bending moment



The drawing shows which rotating point of the lever arm is used as a reference for calculating the bending moment.

Sensor systems



End position monitoring:

Electronic magnetic switch, to be installed in C-slot.

Designation	ID no.	Recommended product
MMS 30-S-M12-PNP	0301571	
MMS 30-S-M8-PNP	0301471	•
MMSK 30-S-PNP	0301563	

① Two sensors (closer/S) are required for each linear unit, as well as an optional extension cable.

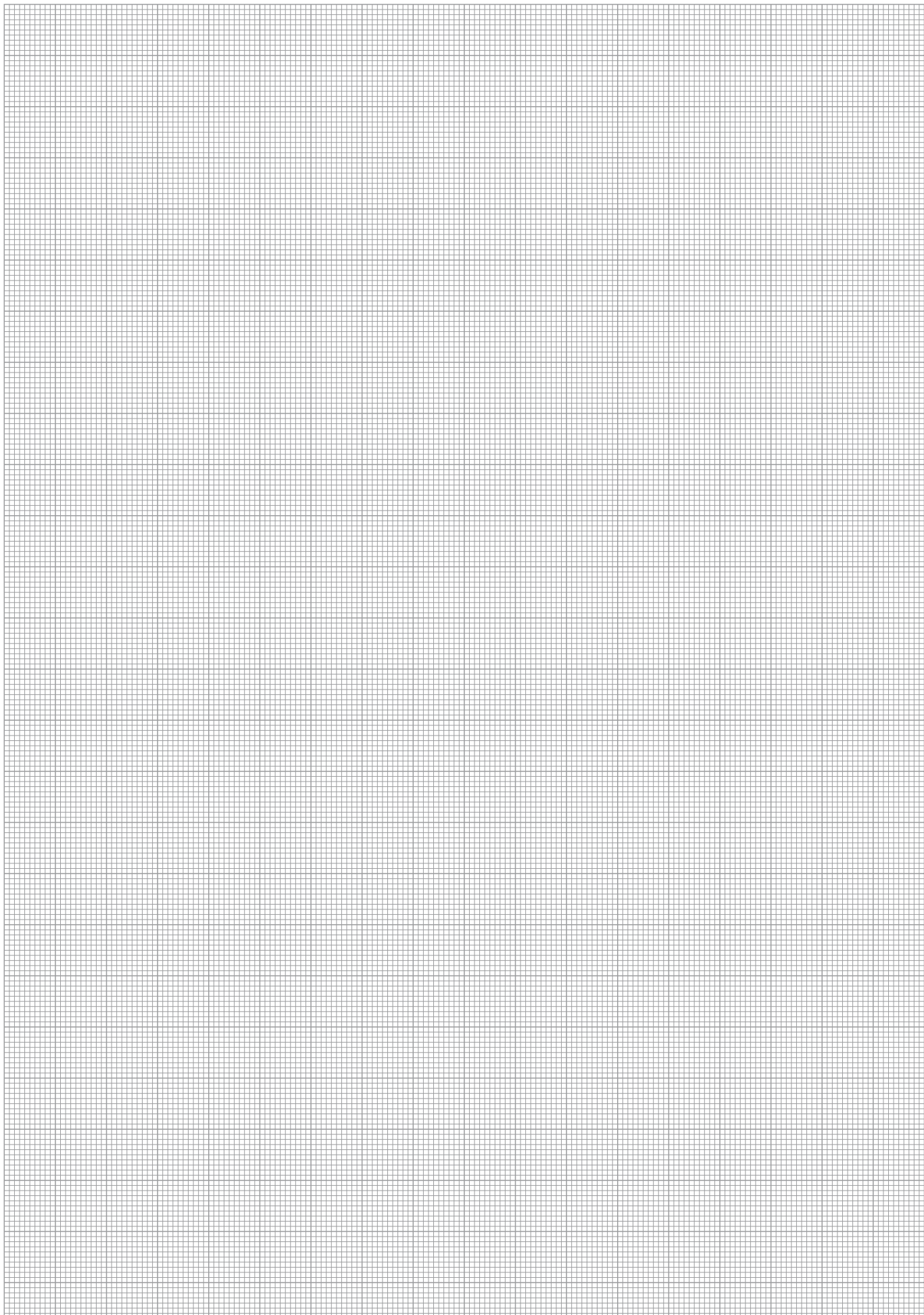
Extension cable for proximity switch / magnetic switch

Designation	ID no.
KA BG08-L 3P-0300-PNP	0301622
KV BW12-SG12 3P-0100-PNP	0301596
KV BW08-SG08 3P-0100-PNP	0301496
KV BW12-SG12 3P-0200-PNP	0301597
KV BW08-SG08 3P-0200-PNP	0301497
KV BW12-SG12 3P-0030-PNP	0301595
KV BW08-SG08 3P-0030-PNP	0301495
KA BW08-L 3P-0300-PNP	0301594
KA BW08-L 3P-0500-PNP	0301502

KV = Cable extension, KA = Cable connection, G = Straight plug, W = Right-angle plug,
L = Wire strands, S = Plug, B = Socket, 4P = 4 pins

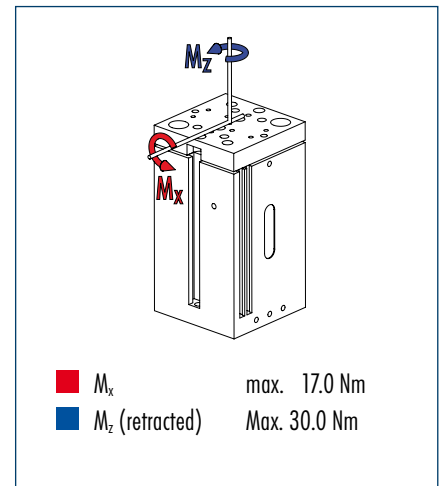
① For sensor cables, note the minimum permissible bending radii.
These are generally 35 mm.

 You can find further information and components for the accessories mentioned here in the "Accessories" section of the catalog.





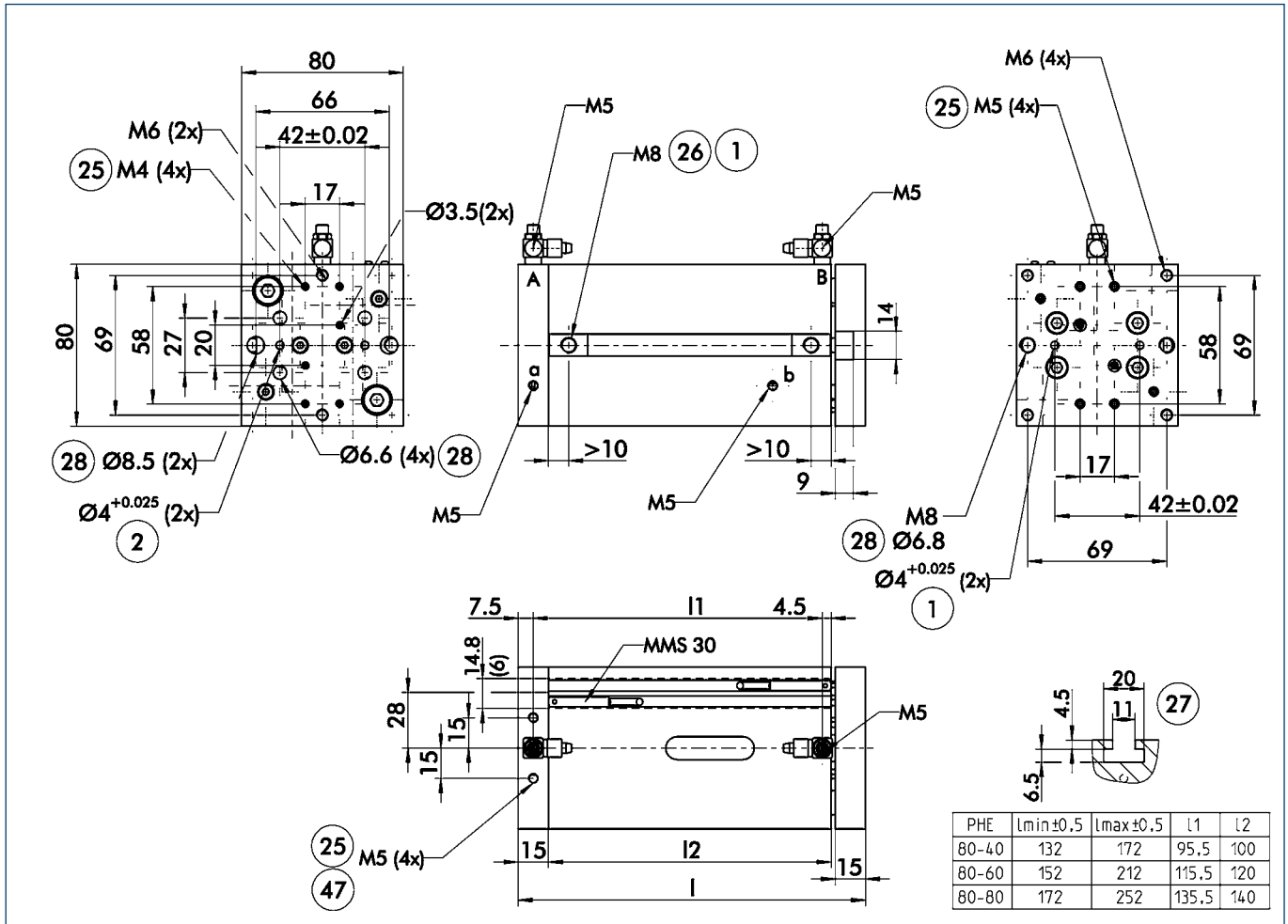
Moment load



Technical data

Designation		PHE 80-40	PHE 80-60	PHE 80-80
	ID no.	0300977	0300978	0300979
Piston force	[N]	250.0	250.0	250.0
Retraction force	[N]	200.0	200.0	200.0
Stroke	[mm]	40.0	60.0	80.0
Weight	[kg]	2.3	2.55	2.8
Max. permissible torsion moment (extended)	[Nm]	7.0	4.0	3.0
Fluid consumption for double stroke	[cm ³]	46.0	69.0	92.0
Nominal operating pressure	[bar]	6.0	6.0	6.0
Max. permissible operating pressure	[bar]	8.0	8.0	8.0
Stroke time (extending)	[s]	0.3	0.35	0.4
IP rating		42	42	42
Min. ambient temperature	[°C]	5.0	5.0	5.0
Max. ambient temperature	[°C]	60.0	60.0	60.0
Number of air feed-throughs		4	4	4
Max. permissible pressure in air feed-through	[bar]	8.0	8.0	8.0
Repeat accuracy	[mm]	0.1	0.1	0.1

Main views

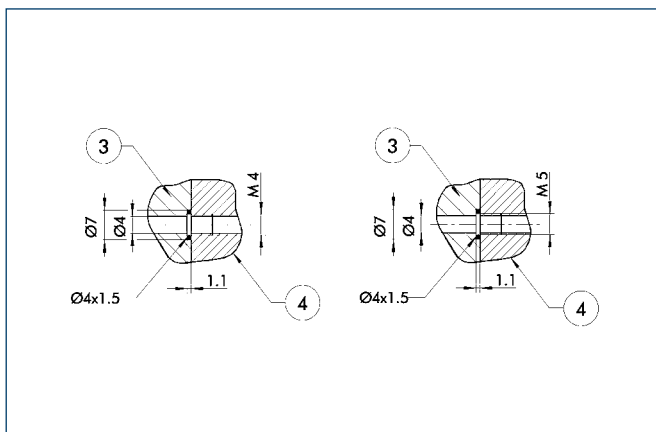


① The SDV-P pressure maintenance valve can be used to hold the position in case of a loss of pressure (see "Accessories" section of catalog).

A,a Main and direct connection, extend linear unit
 B,b Main and direct connection, retract linear unit

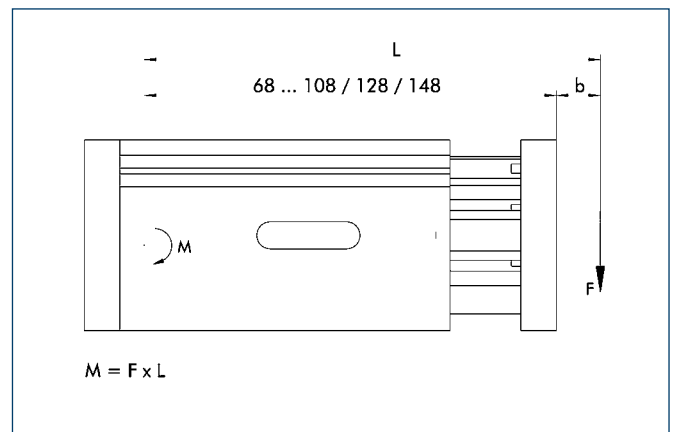
① Linear unit connection
 ② Assembly connection
 25 Air feed-through
 26 T-nut
 27 Mounting groove for T-nuts
 28 Through-bore
 47 On both sides

Hose-free direct connection



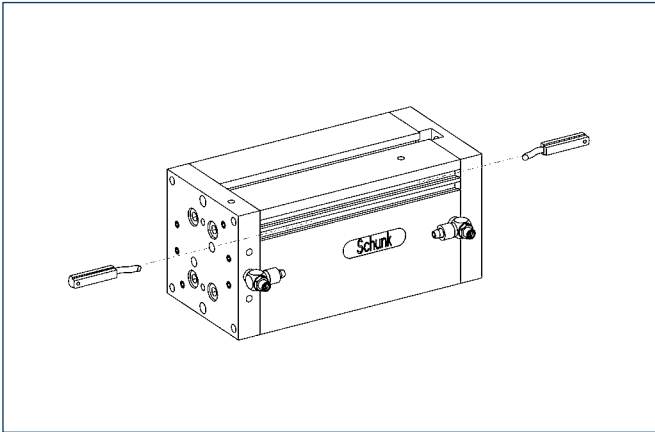
③ Adapter
 ④ Linear unit

Bending moment



The drawing shows which rotating point of the lever arm is used as a reference for calculating the bending moment.

Sensor systems



End position monitoring:

Electronic magnetic switch, to be installed in C-slot.

Designation	ID no.	Recommended product
MMS 30-S-M12-PNP	0301571	
MMS 30-S-M8-PNP	0301471	•
MMSK 30-S-PNP	0301563	

① Two sensors (closer/S) are required for each linear unit, as well as an optional extension cable.

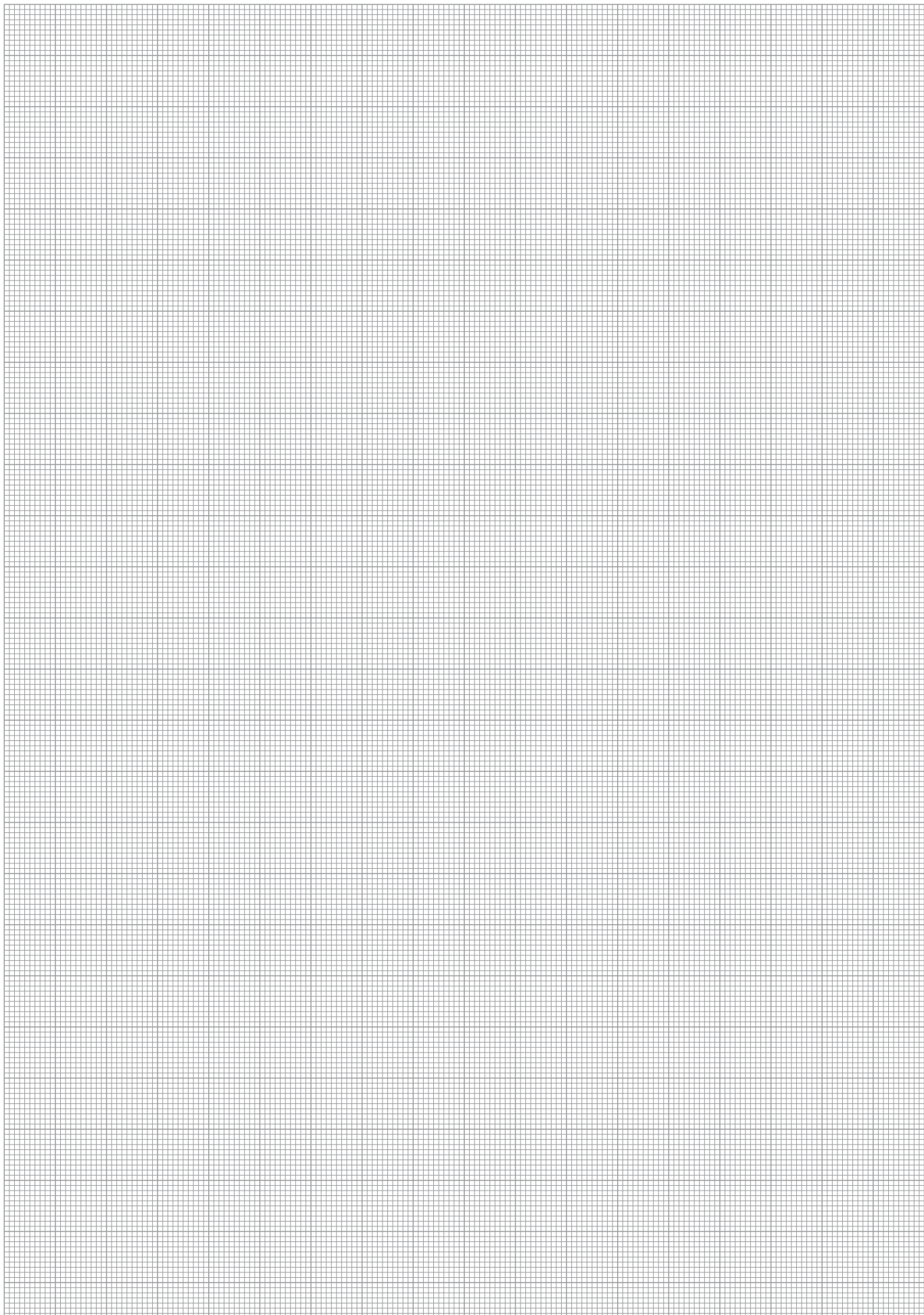
Extension cable for proximity switch / magnetic switch

Designation	ID no.
KA BG08-L 3P-0300-PNP	0301622
KV BW12-SG12 3P-0100-PNP	0301596
KV BW08-SG08 3P-0100-PNP	0301496
KV BW12-SG12 3P-0200-PNP	0301597
KV BW08-SG08 3P-0200-PNP	0301497
KV BW12-SG12 3P-0030-PNP	0301595
KV BW08-SG08 3P-0030-PNP	0301495
KA BW08-L 3P-0300-PNP	0301594
KA BW08-L 3P-0500-PNP	0301502

KV = Cable extension, KA = Cable connection, G = Straight plug, W = Right-angle plug,
L = Wire strands, S = Plug, B = Socket, 4P = 4 pins

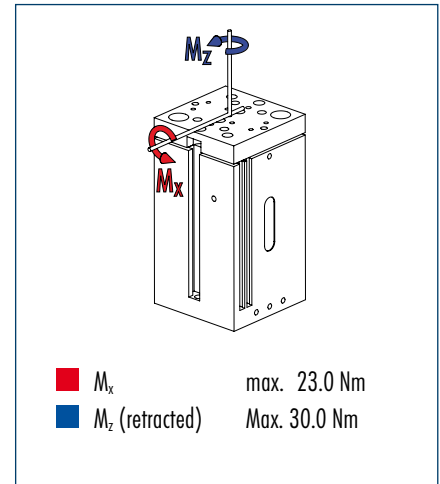
① For sensor cables, note the minimum permissible bending radii.
These are generally 35 mm.

 You can find further information and components for the accessories mentioned here in the "Accessories" section of the catalog.





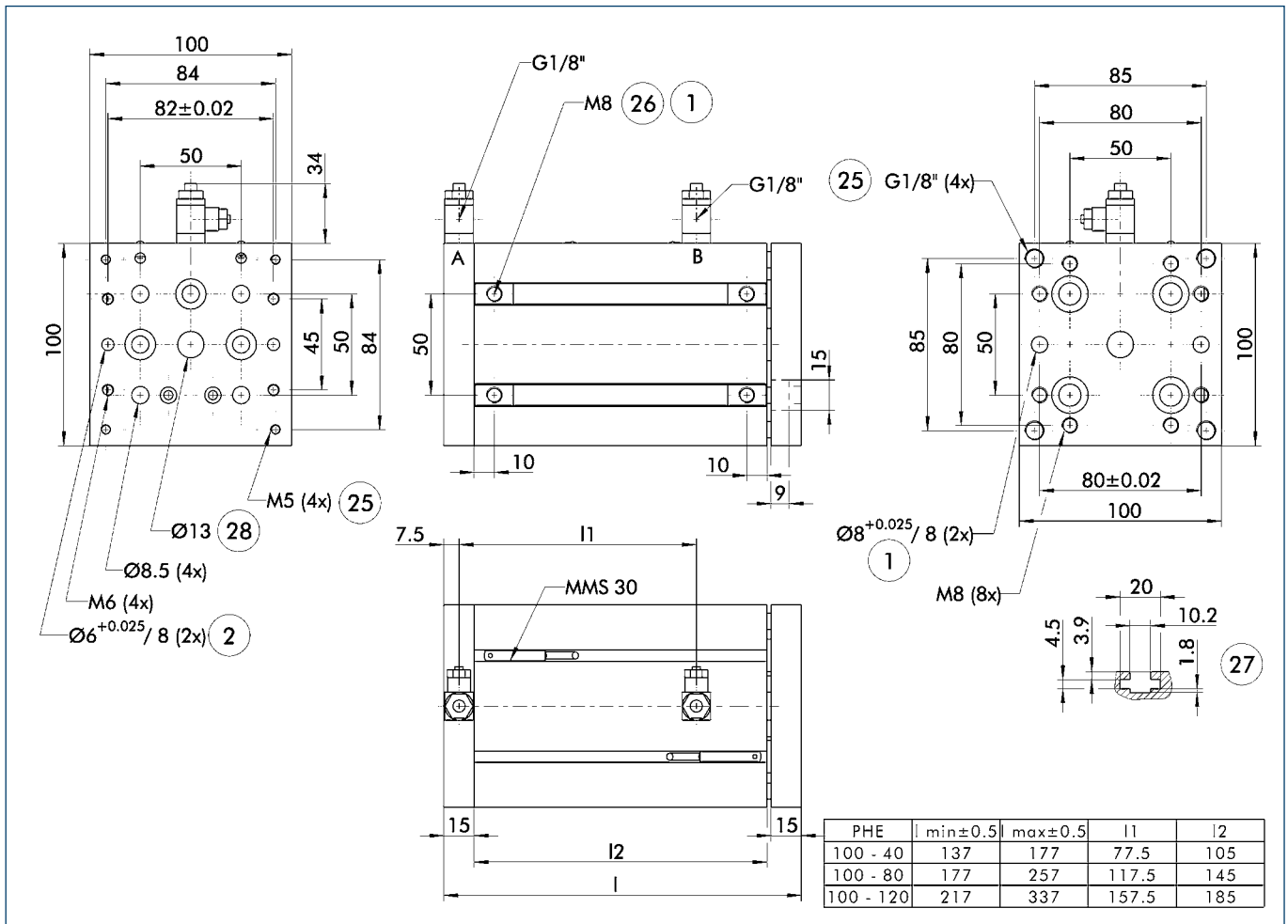
Moment load



Technical data

Designation		PHE 100-40	PHE 100-80	PHE 100-120
	ID no.	0300980	0300985	0300990
Piston force	[N]	430.0	430.0	430.0
Retraction force	[N]	310.0	310.0	310.0
Stroke	[mm]	40.0	80.0	120.0
Weight	[kg]	3.5	4.2	4.9
Max. permissible torsion moment (extended)	[Nm]	7.0	4.0	3.0
Fluid consumption for double stroke	[cm ³]	58.0	116.5	175.0
Nominal operating pressure	[bar]	6.0	6.0	6.0
Max. permissible operating pressure	[bar]	8.0	8.0	8.0
Stroke time (extending)	[s]	0.15	0.25	0.8
IP rating		42	42	42
Min. ambient temperature	[°C]	5.0	5.0	5.0
Max. ambient temperature	[°C]	60.0	60.0	60.0
Number of air feed-throughs		4	4	4
Max. permissible pressure in air feed-through	[bar]	8.0	8.0	8.0
Repeat accuracy	[mm]	0.1	0.1	0.1

Main views

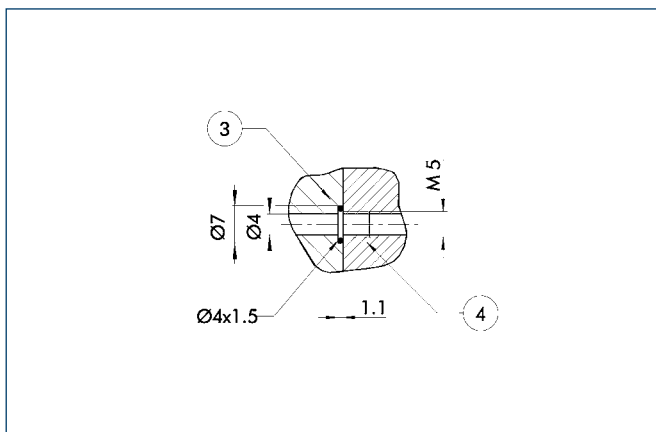


① The SDV-P pressure maintenance valve can be used to hold the position in case of a loss of pressure (see "Accessories" section of catalog).

A,a Main and direct connection, extend linear unit
 B,b Main and direct connection, retract linear unit

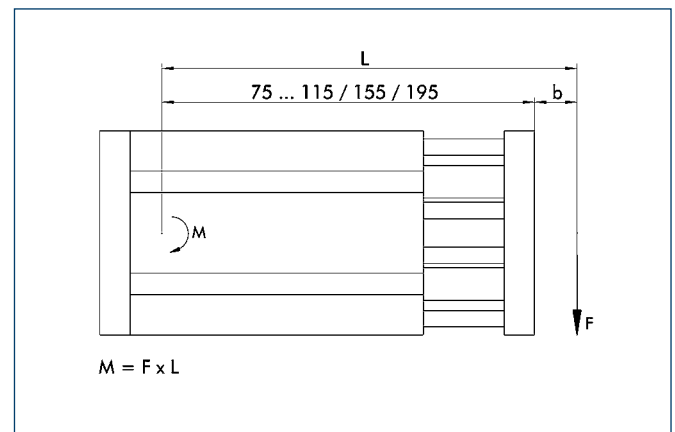
① Linear unit connection
 ② Assembly connection
 25 Air feed-through
 26 T-nut
 27 Mounting groove for T-nuts
 28 Through-bore

Hose-free direct connection



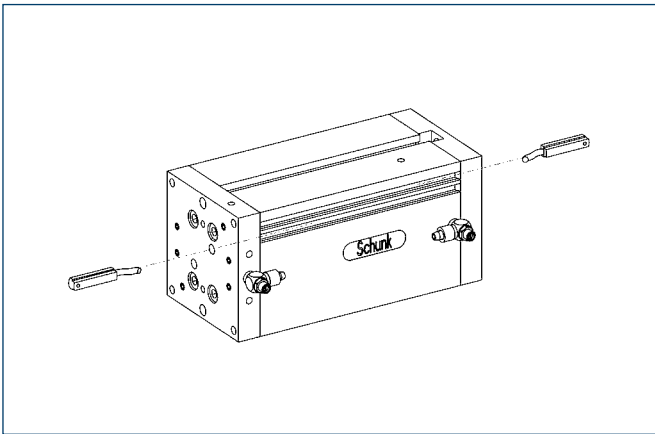
③ Adapter
 ④ Linear unit

Bending moment



The drawing shows which rotating point of the lever arm is used as a reference for calculating the bending moment.

Sensor systems



End position monitoring:

Electronic magnetic switch, to be installed in C-slot.

Designation	ID no.	Recommended product
MMS 30-S-M12-PNP	0301571	
MMS 30-S-M8-PNP	0301471	•
MMSK 30-S-PNP	0301563	

① Two sensors (closer/S) are required for each linear unit, as well as an optional extension cable.

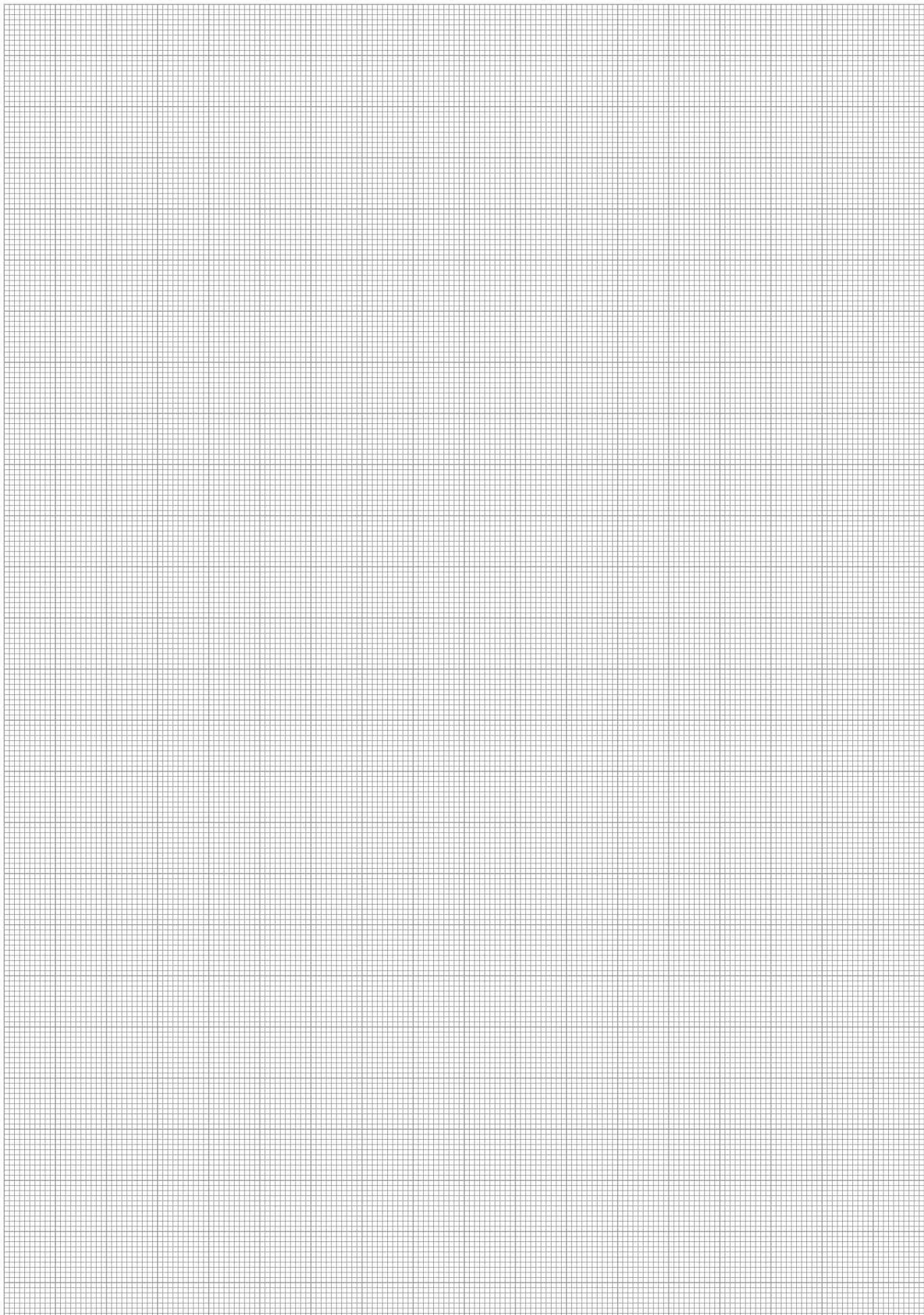
Extension cable for proximity switch / magnetic switch

Designation	ID no.
KA BG08-L 3P-0300-PNP	0301622
KV BW12-SG12 3P-0100-PNP	0301596
KV BW08-SG08 3P-0100-PNP	0301496
KV BW12-SG12 3P-0200-PNP	0301597
KV BW08-SG08 3P-0200-PNP	0301497
KV BW12-SG12 3P-0030-PNP	0301595
KV BW08-SG08 3P-0030-PNP	0301495
KA BW08-L 3P-0300-PNP	0301594
KA BW08-L 3P-0500-PNP	0301502

KV = Cable extension, KA = Cable connection, G = Straight plug, W = Right-angle plug,
L = Wire strands, S = Plug, B = Socket, 4P = 4 pins

① For sensor cables, note the minimum permissible bending radii.
These are generally 35 mm.

 You can find further information and components for the accessories mentioned here in the "Accessories" section of the catalog.

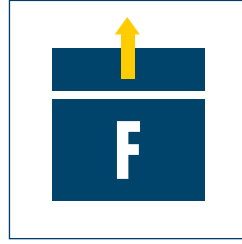




Sizes
25 .. 50



Weight
3.4 kg .. 14.6 kg



Driving force
259 N .. 1,135 N

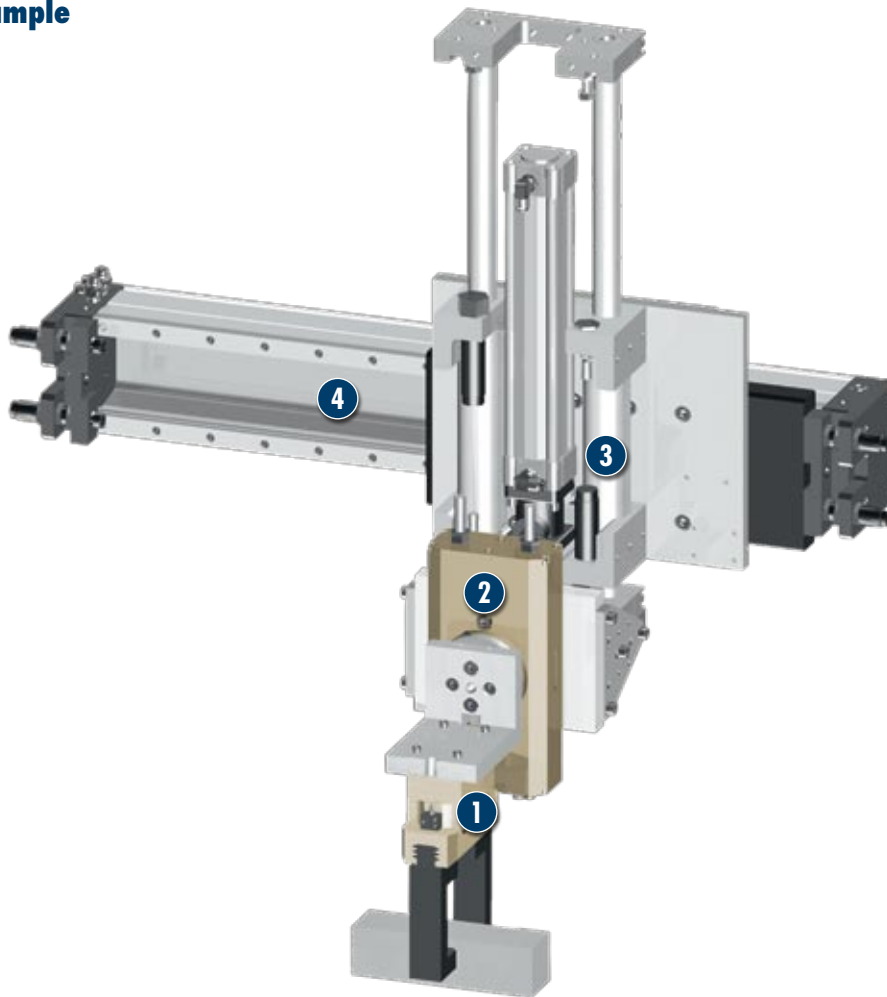


Stroke
40 mm .. 250 mm



Payload
to 60 kg

Application example



Placement unit for medium-weight components

- 1** 2-finger parallel gripper, PGN plus 160 with workpiece-specific gripper fingers
- 2** Rotary actuator SRU 63
- 3** Short stroke module with rod lock SLE 50 K
- 4** Linear axis SLF 03-P

Stroke module

With pneumatic drive and ball bushing guide

Area of application

Simple economical linear movements or, in combination, also as multi-axis positioning systems for assembly and handling technology

Your advantages and benefits

Stable ball bushing guide

for maximum positioning accuracy and moment loads

Powerful cylinder piston rods

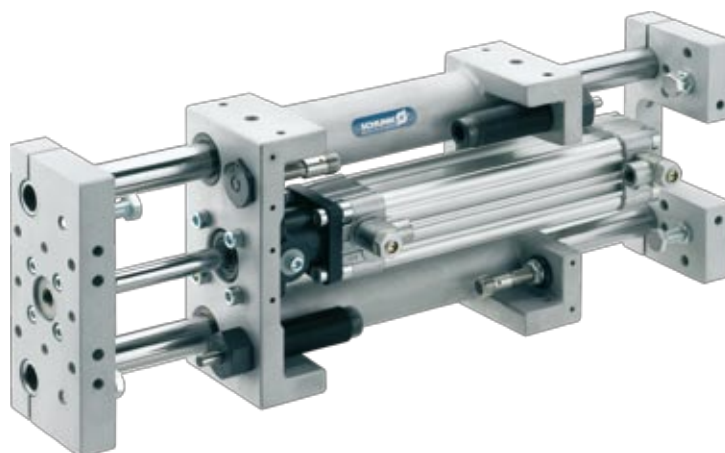
as a strong and economical drive solution

Open design concept

offers ideal accessibility for sensor systems, hydraulic shock absorbers, and end position fine adjustment

Wide range of mounting and attachment options

for universal use and multi-axis arrangements



General information about the series

Guide

Ball bushings on steel shafts

Material

Aluminum, hard-anodized

Drive

Cylinder piston rods (choice of 25, 32, and 50 mm)

Actuation

using filtered compressed air (10 µm): dry and oiled
Ambient temperature range 5 °C to 60 °C

Operating pressure range

2 bar to 8 bar

Stroke lengths

40, 80, 125, 160, 200 and 250 mm with end position fine adjustment (longer strokes on request)

Useful loads

to 60 kg

Scope of delivery

Includes cylinder, proximity switch and hydraulic shock absorbers

Option

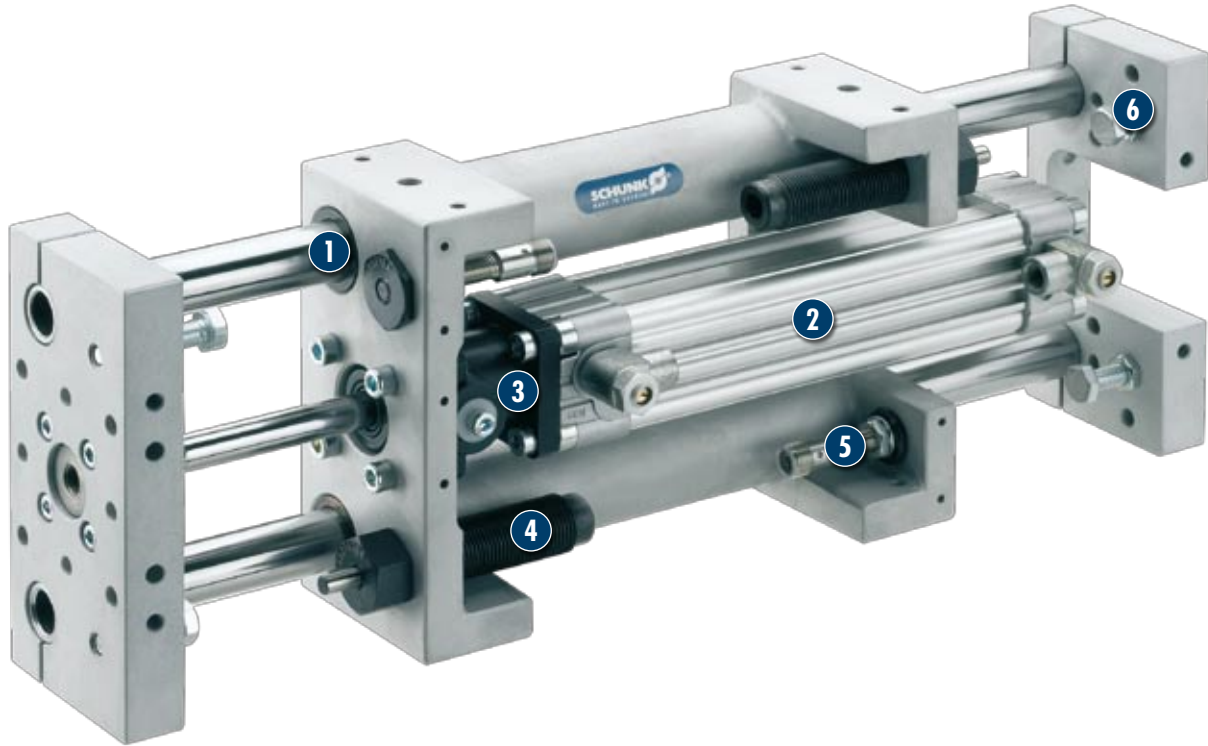
Clamping element, e.g. for vertical use

Warranty

24 months

For production reasons, the colors may vary from those shown in the catalog.

Sectional diagram of function



- 1** Ball bushing guide
- 3** Rod lock
- 5** Inductive proximity switch
- 2** Cylinder Piston Rod
- 4** Hydraulic shock absorbers
- 6** End position fine adjustment

Description of function

The stroke module is powered by a standard cylinder piston rod and guided with protection against over rotation by two opposite guide rods.

Options and special information

Sizes 32 and 50 are also available with a pneumatic rod lock.

Accessories

Accessories from SCHUNK - the suitable companion for the best functionality, reliability, and controlled production for all automation components.

Inductive proximity switch



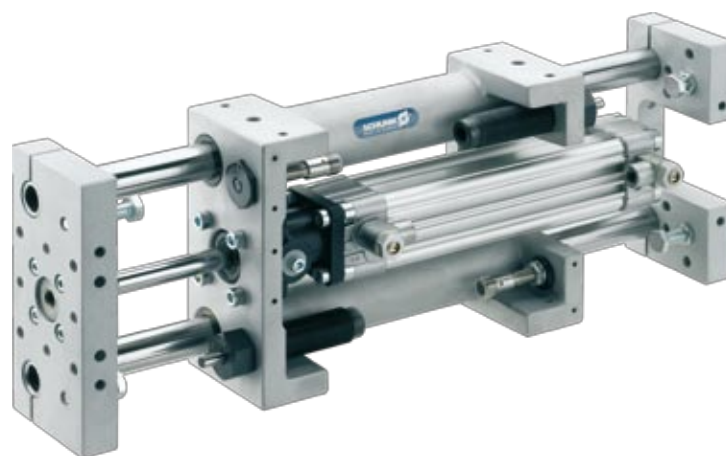
Connection cable for proximity switch



V sensor distributor



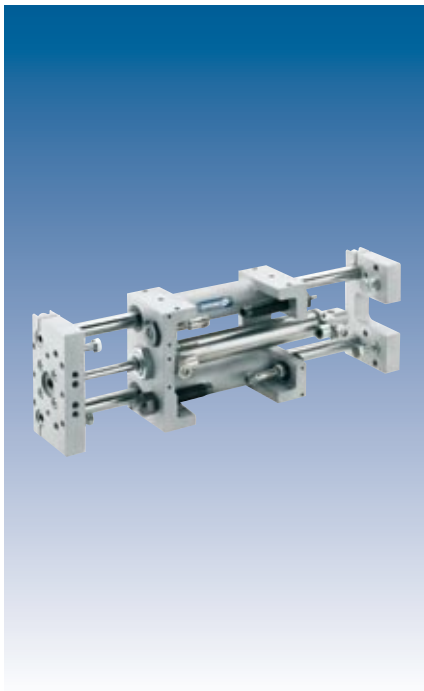
SDV-P pressure maintenance valve



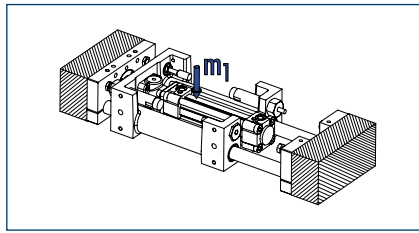
Fittings



ⓘ Please see the side views at the end of the respective size for information concerning specific sizes, availability, designation, and ID numbers. You can find more information about our accessories range in the "Accessories" section of the catalog.

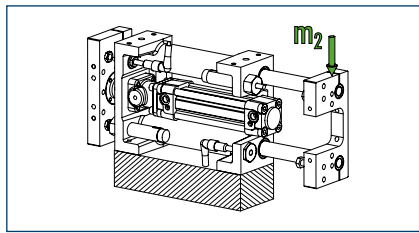


Type of load m_1



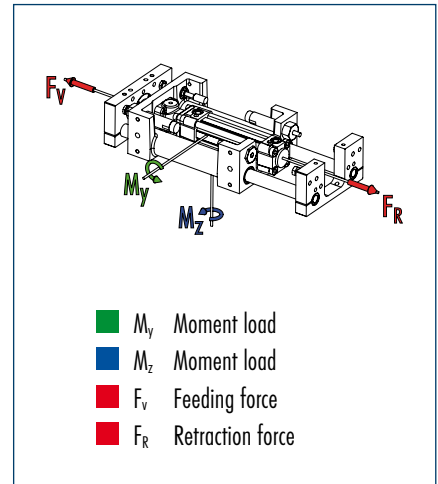
- m_1 Max. 15 kg
- Unit secured at end plates

Type of load m_2



- m_2 Max. 10 kg
- Unit secured at base body

Moment load



- M_y Moment load
- M_z Moment load
- F_v Feeding force
- F_R Retraction force

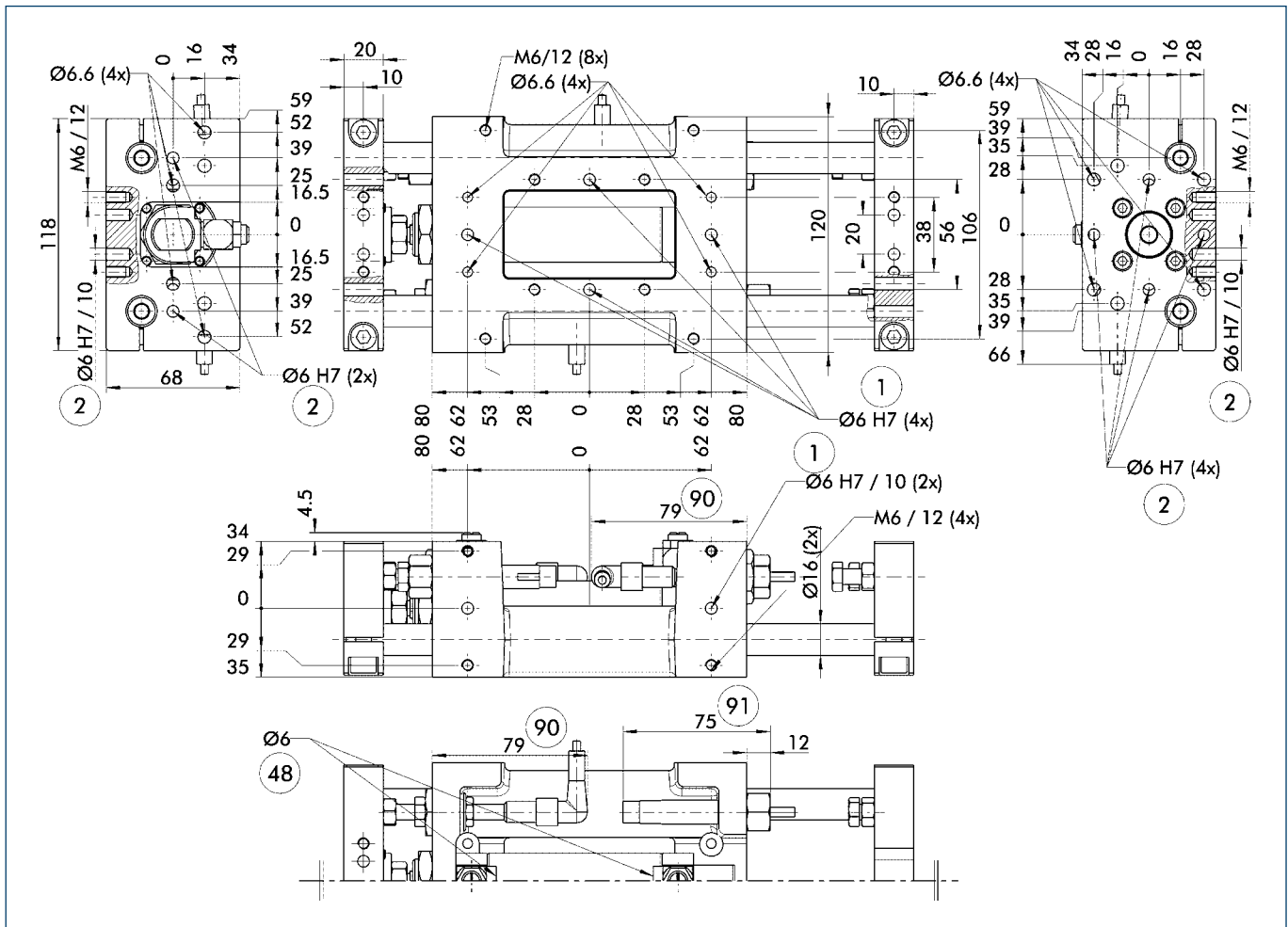
① Specific values for individual stroke variations can be found in the technical data table.

Technical data

Designation		SLE 25-40	SLE 25-80	SLE 25-125	SLE 25-160	SLE 25-200
	ID no.	0331900	0331901	0331902	0331903	0331904
Piston diameter	[mm]	25	25	25	25	25
Stroke length	[mm]	40	80	125	160	200
Overall length	[mm]	290	330	375	410	450
Feeding force [F_v] at 6 bar	[N]	259	259	259	259	259
Retraction force [F_R] at 6 bar	[N]	216	216	216	216	216
Max. moment load M_y	[Nm]	90	80	60	45	33
Max. moment load M_z	[Nm]	100	100	100	100	100
Weight	[kg]	3.4	3.6	3.7	3.8	3.95
Pneumatic cylinder		Bosch MNI	Bosch MNI	Bosch MNI	Bosch MNI	Bosch MNI
Hydraulic end position dampers		ACE MC 150 M	ACE MC 150 M	ACE MC 150 M	ACE MC 150 M	ACE MC 150 M

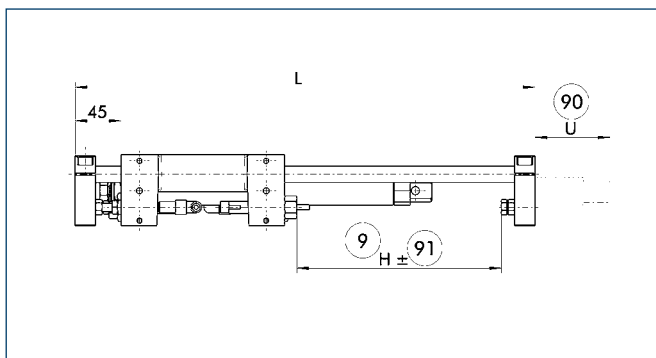
① Stroke lengths with cylinder tolerance ± 1.5 mm

Main views



- ① Unit connection
- ② Assembly connection
- ⑨ Sensor plug projection
- ⑨1 Hydraulic shock absorber projection

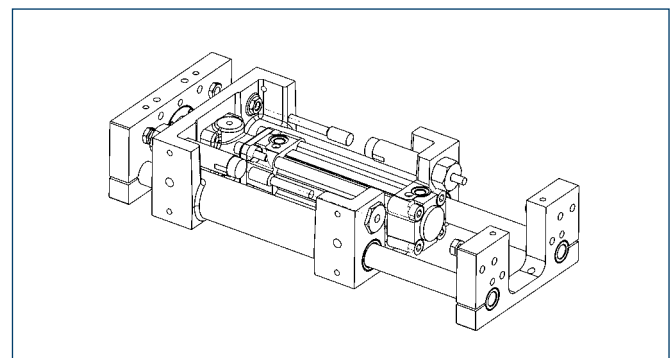
Cylinder projection / stroke increments



- ⑨ Useful stroke
- ⑨1 End position adjustment per side +1 mm, -9 mm

SLE	L [mm]	H [mm]	U [mm]
25 - 40	290	40	0
25 - 80	330	80	0
25 - 125	375	125	24
25 - 160	410	160	59
25 - 200	450	200	99

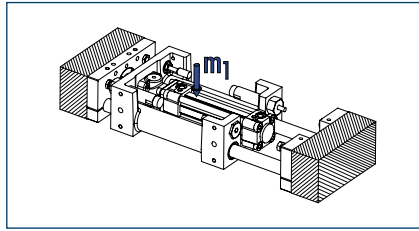
Attachment of inductive proximity switches



Designation	ID no.
IN-B 80/S-M12 PNP (closer)	0301479
(two included in scope of delivery)	
connection cable	ID no.
KA BW12-L 3P-0300-PNP	0301503
Length 3 m with right-angle plug	

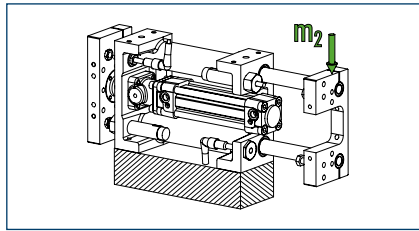


Type of load m_1



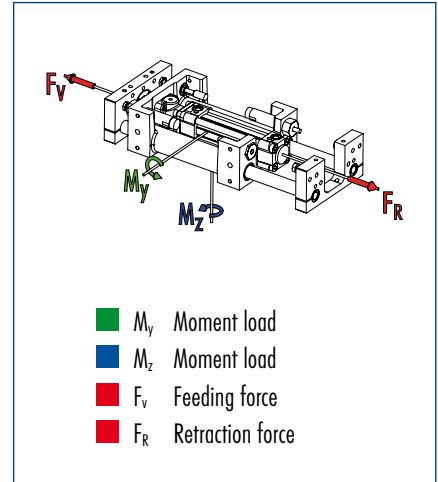
- m_1 Max. 25 kg
- Unit secured at end plates

Type of load m_2



- m_2 Max. 16 kg
- Unit secured at base body

Moment load



- M_y Moment load
- M_z Moment load
- F_v Feeding force
- F_R Retraction force

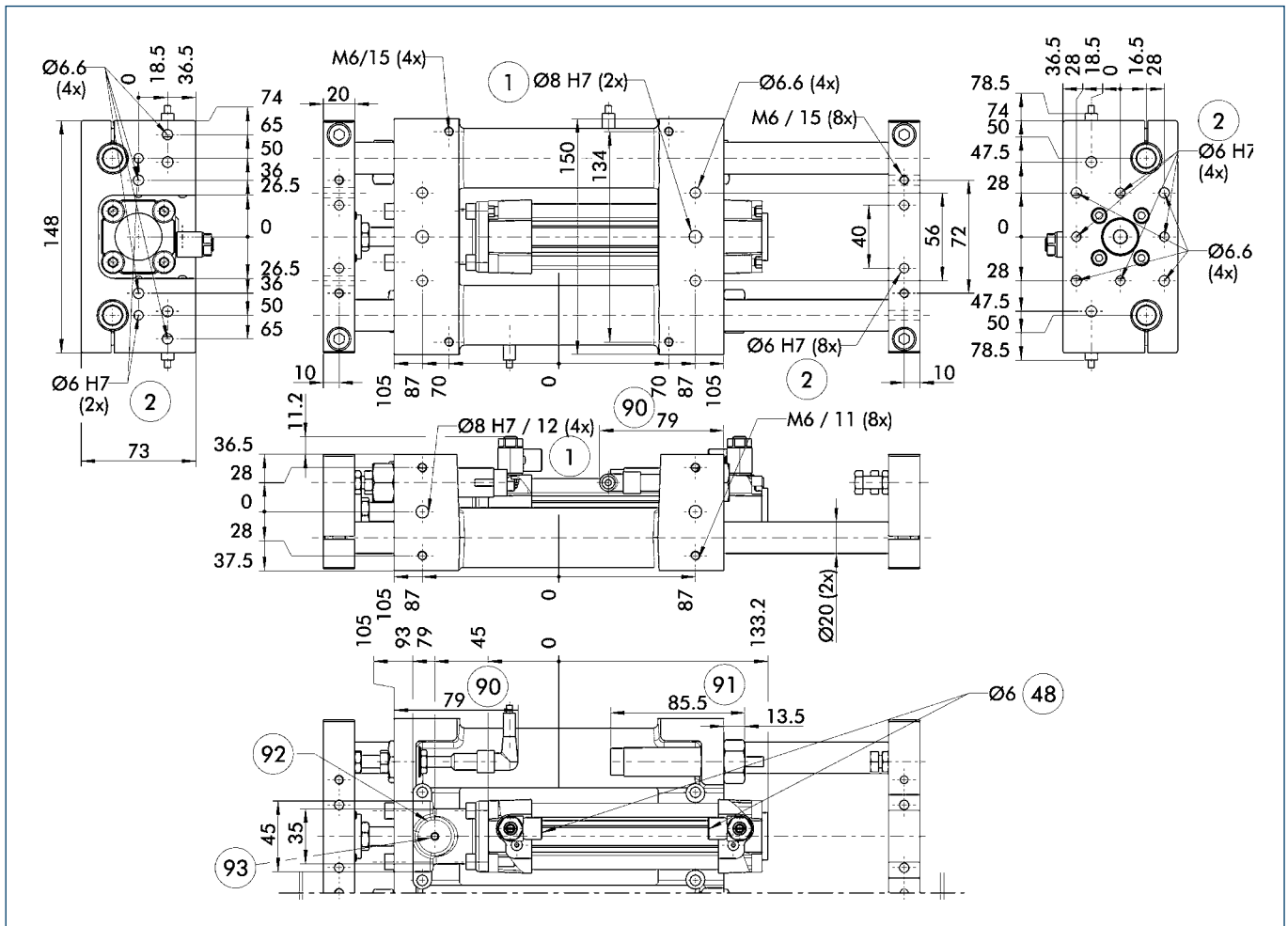
① Specific values for individual stroke variations can be found in the technical data table.

Technical data

Designation		SLE 32-80	SLE 32-125	SLE 32-160	SLE 32-200	SLE 32-250
Without rod lock	ID no.	0331905	0331906	0331907	0331908	0331909
With rod lock	ID no.	0331920	0331921	0331922	0331923	0331924
Piston diameter	[mm]	32	32	32	32	32
Stroke length	[mm]	80	125	160	200	250
Overall length	[mm]	380	425	460	500	550
Feeding force [F_v] at 6 bar	[N]	422	422	422	422	422
Retraction force [F_R] at 6 bar	[N]	364	364	364	364	364
Max. moment load M_y	[Nm]	140	130	95	70	50
Max. moment load M_z	[Nm]	140	140	140	140	140
Weight with rod lock	[kg]	5.1	5.3	5.5	5.7	6.2
Weight without rod lock	[kg]	4.8	5.0	5.2	5.4	5.9
Pneumatic cylinder		Bosch PRA	Bosch PRA	Bosch PRA	Bosch PRA	Bosch PRA
Hydraulic end position dampers		ACE MC 225 M	ACE MC 225 M	ACE MC 225 M	ACE MC 225 M	ACE MC 225 M

① Stroke lengths with cylinder tolerance ± 1.5 mm

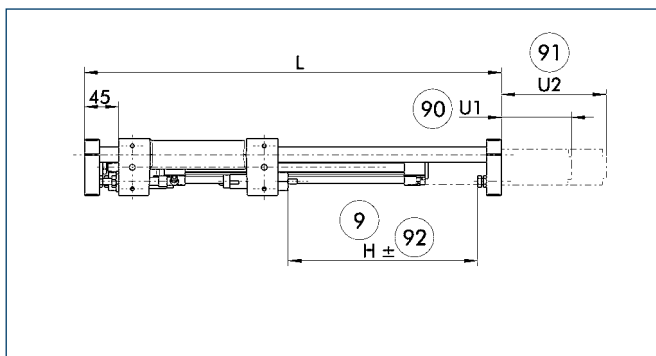
Main views



- ① Unit connection
- ② Assembly connection

- ⑨ Sensor plug projection
- ⑩ Hydraulic shock absorber projection
- ⑪ With optional clamping element
- ⑫ Air connection thread M5

Cylinder projection / stroke increments

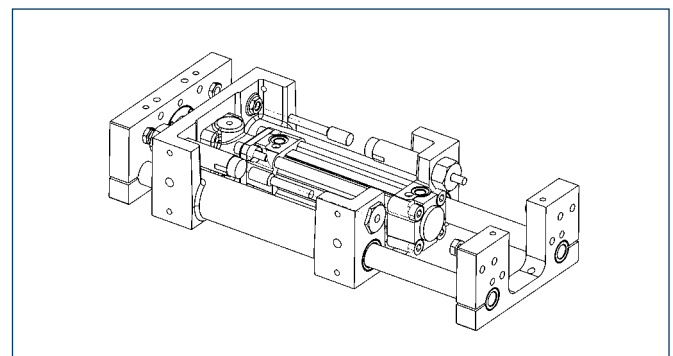


- ⑨ Useful stroke
- ⑩ Cylinder projection with unit extended

- ⑪ Cylinder projection with unit extended with clamping element
- ⑫ End position adjustment per side +2 mm, -21 mm

SLE	L [mm]	H [mm]	U1 [mm]	U2 [mm]
32 - 80	380	0	0	0
32 - 125	425	125	26	0
32 - 160	460	160	15.2	63.2
32 - 200	500	200	55.2	103.2
32 - 250	550	250	105.2	153.2

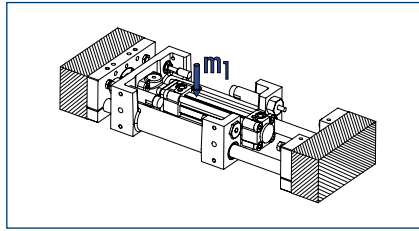
Attachment of inductive proximity switches



Designation	ID no.
IN-B 80/S-M12 PNP (closer) (two included in scope of delivery)	0301479
connection cable	ID no.
KA BW12-L 3P-0300-PPNP Length 3 m with right-angle plug	0301503

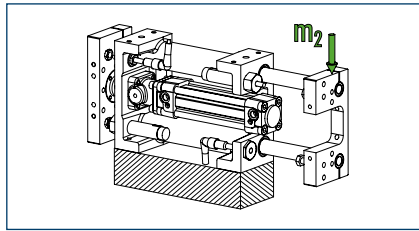


Type of load m_1



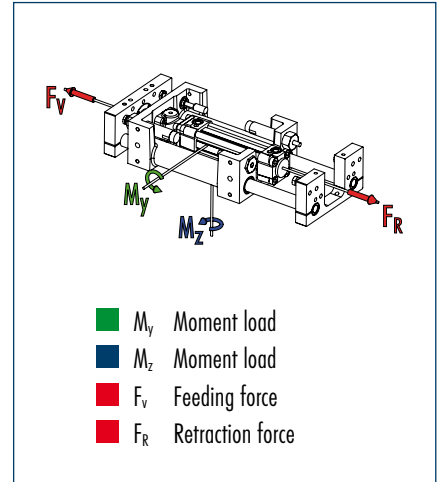
- m_1 Max. 60 kg
- Unit secured at end plates

Type of load m_2



- m_2 Max. 40 kg
- Unit secured at base body

Moment load



- M_y Moment load
- M_z Moment load
- F_v Feeding force
- F_R Retraction force

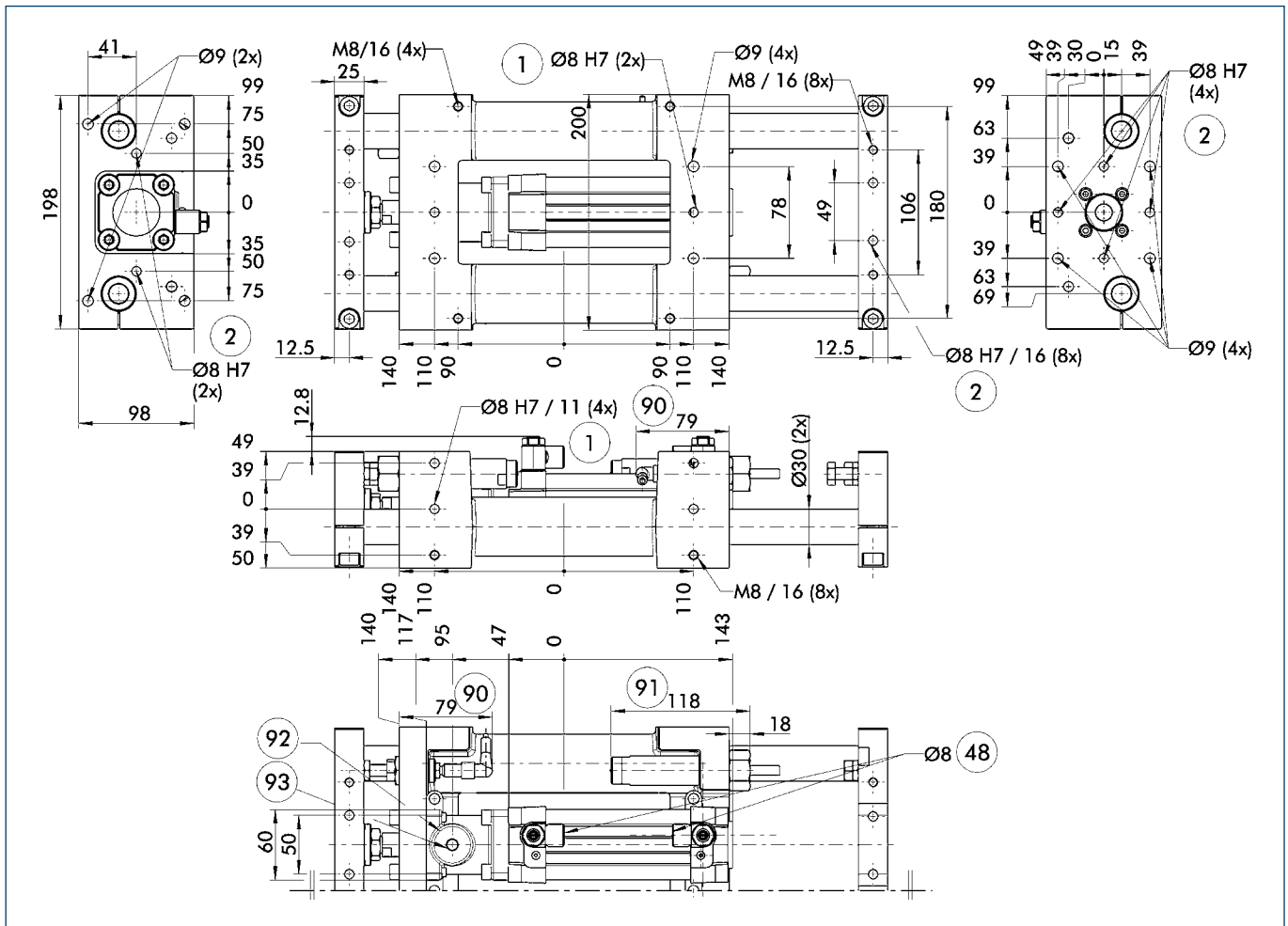
① Specific values for individual stroke variations can be found in the technical data table.

Technical data

Designation		SLE 50-80	SLE 50-125	SLE 50-160	SLE 50-200	SLE 50-250
Without rod lock	ID no.	0331910	0331911	0331912	0331913	0331914
With rod lock	ID no.	0331925	0331926	0331927	0331928	0331929
Piston diameter	[mm]	50	50	50	50	50
Stroke length	[mm]	80	125	160	200	250
Overall length	[mm]	470	515	550	590	640
Feeding force [F_v] at 6 bar	[N]	1135	1135	1135	1135	1135
Retraction force [F_R] at 6 bar	[N]	871	871	871	871	871
Max. moment load M_y	[Nm]	300	300	230	170	130
Max. moment load M_z	[Nm]	300	300	300	300	300
Weight with rod lock	[kg]	12.7	13.2	13.7	14.1	14.6
Weight without rod lock	[kg]	12.3	12.8	13.3	13.7	14.2
Pneumatic cylinder		Bosch PRA	Bosch PRA	Bosch PRA	Bosch PRA	Bosch PRA
Hydraulic end position dampers		ACE MC 600 M	ACE MC 600 M	ACE MC 600 M	ACE MC 600 M	ACE MC 600 M

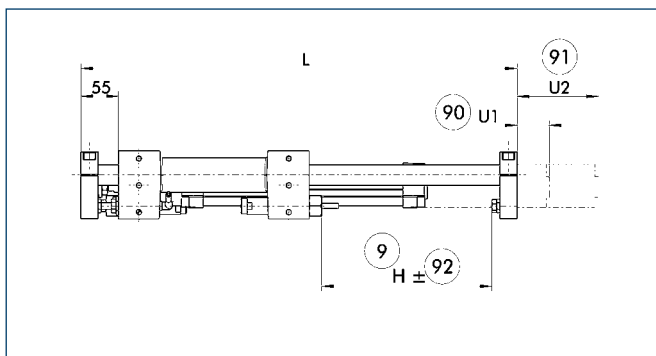
① Stroke lengths with cylinder tolerance ± 1.5 mm

Main views



- ① Unit connection
- ② Assembly connection
- ⑨ Sensor plug projection
- ⑩ Hydraulic shock absorber projection
- ⑪ With optional clamping element
- ⑫ Air connection thread G $\frac{1}{8}$ "

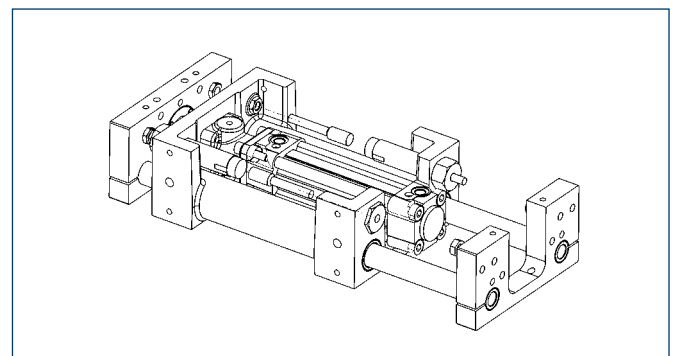
Cylinder projection / stroke increments



- ⑨ Useful stroke
- ⑩ Cylinder projection with unit extended
- ⑪ Cylinder projection with unit extended with clamping element
- ⑫ End position adjustment per side +2 mm, -21 mm

SLE	L [mm]	H [mm]	U1 [mm]	U2 [mm]
50 - 80	470	80	0	0
50 - 125	515	125	26	0
50 - 160	550	160	28	0
50 - 200	590	200	68	0
50 - 250	640	250	48	118

Attachment of inductive proximity switches



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connection cable	ID no.
KA BW12-L 3P-0300-PNP Length 3 m with right-angle plug	0301503