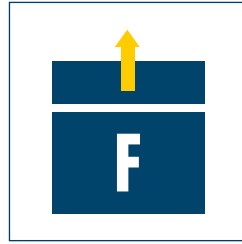




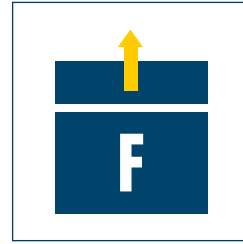
**Sizes**  
64 .. 100



**Weight**  
1.25 kg .. 4.9 kg



**Piston force (extending)**  
130 N .. 430 N

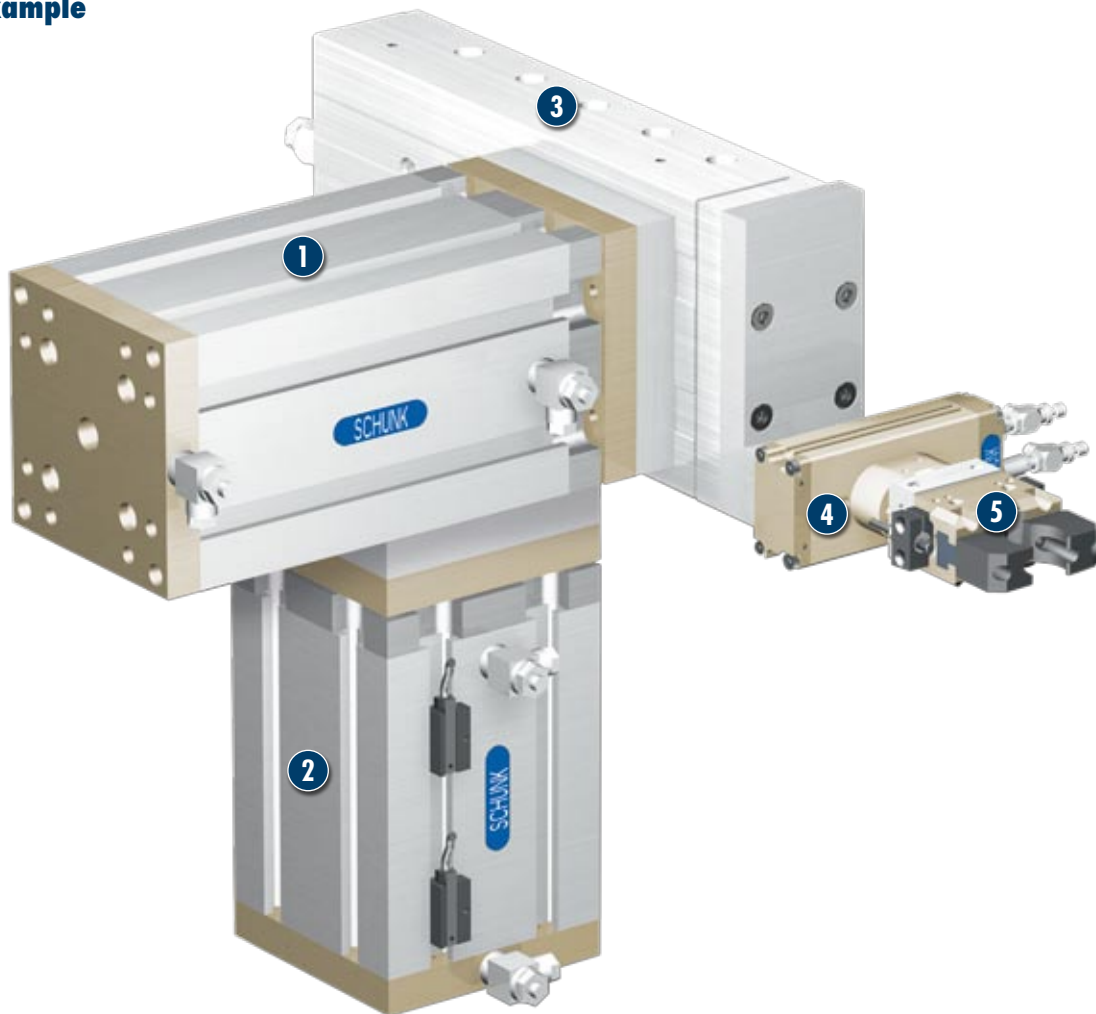


**Piston force (retracting)**  
100 N .. 310 N



**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

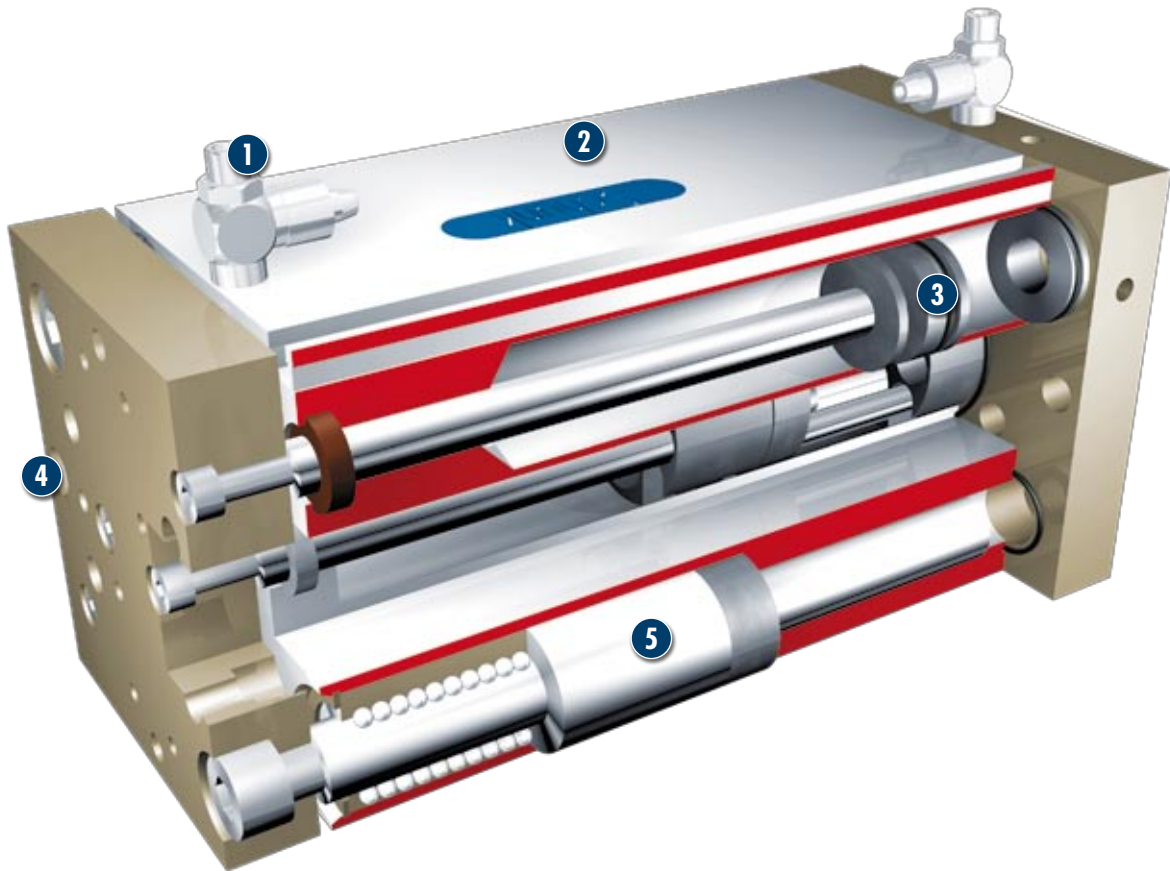
Pneumatic, using filtered compressed air (10 µm): dry, lubricated, or non-lubricated  
Pressurizing medium: requirements for compressed air quality class according to DIN ISO 8573-1: Quality class 4

### 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

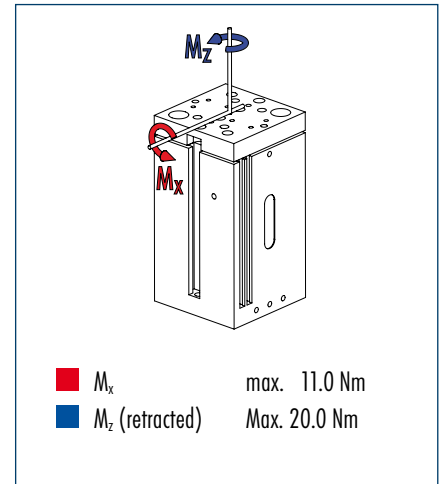
This is defined as the distribution of the end positions of 100 successive strokes.

#### Standard adapter plates

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



### Moment load

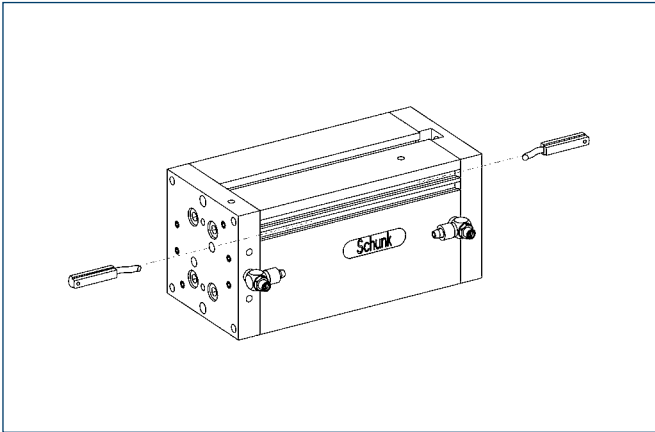


### Technical data

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 <sup>3</sup> ]	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



### 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

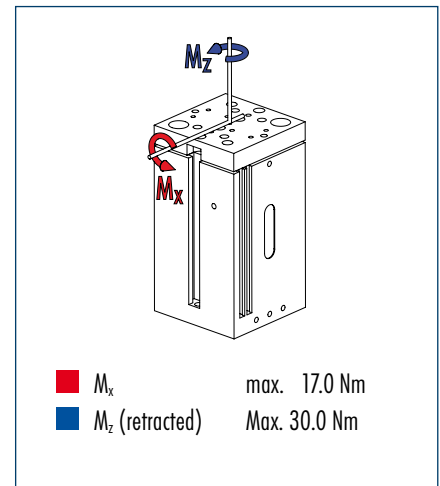
KV = Cable extension, KA = Cable connection, G = Straight plug, W = Right-angle plug,  
L = Wire strands, S = Plug, B = Socket, 4P = 4 pins

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

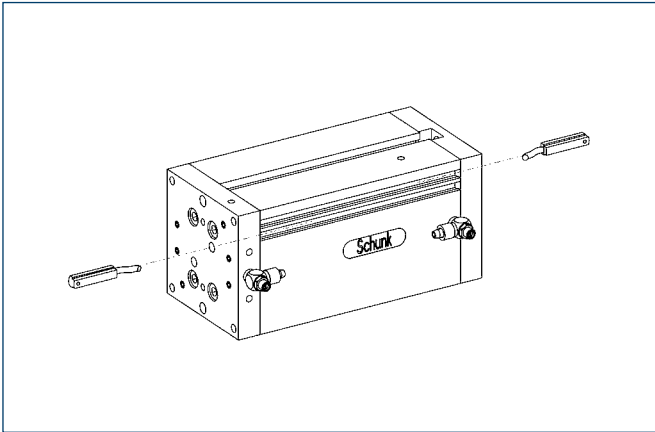


### Technical data

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 <sup>3</sup> ]	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



### 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	

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### 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
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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

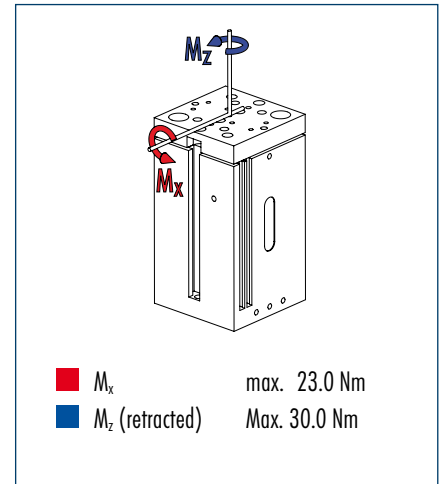
KV = Cable extension, KA = Cable connection, G = Straight plug, W = Right-angle plug,  
L = Wire strands, S = Plug, B = Socket, 4P = 4 pins

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

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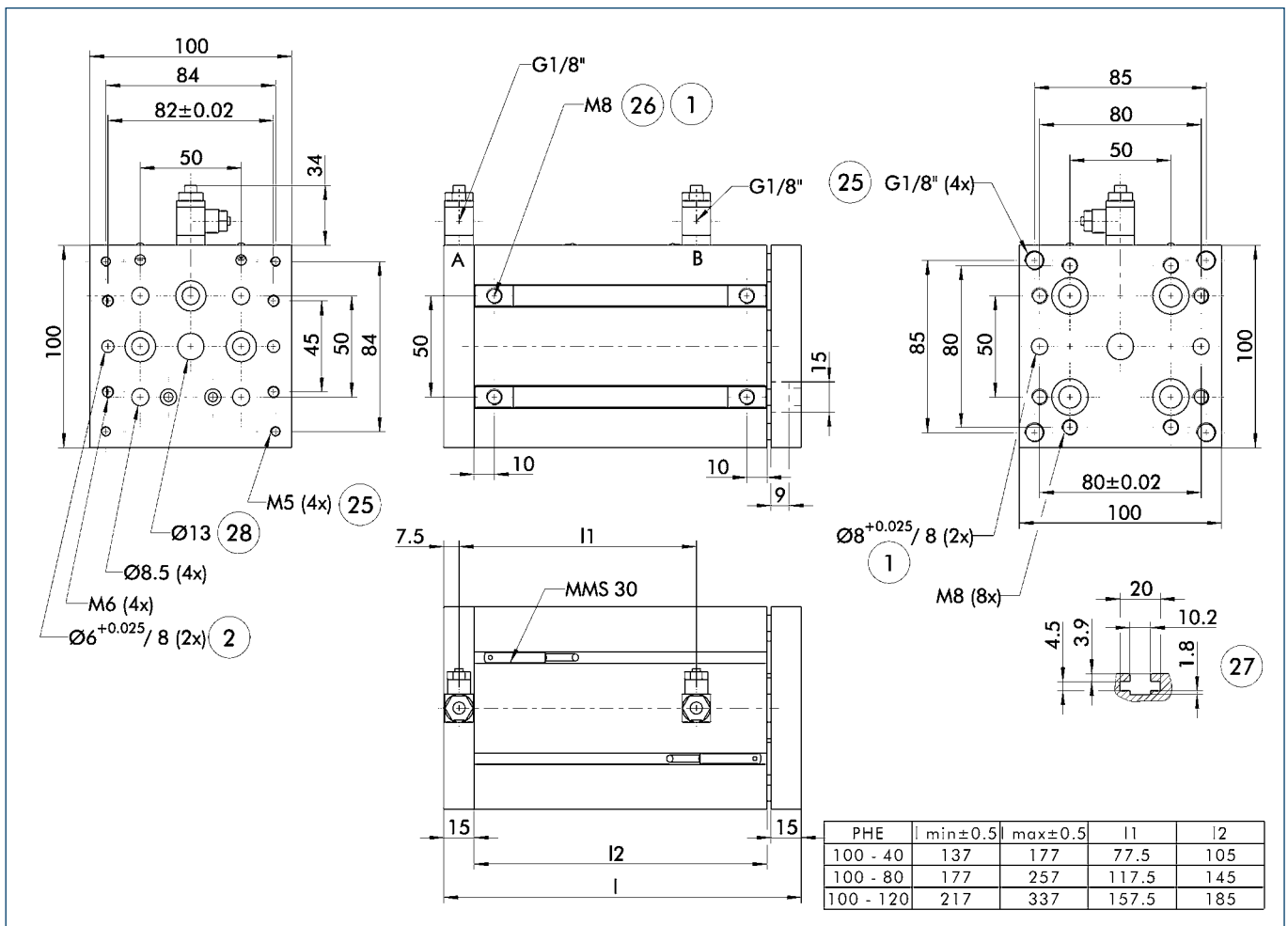
### Moment load



### 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 <sup>3</sup> ]	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

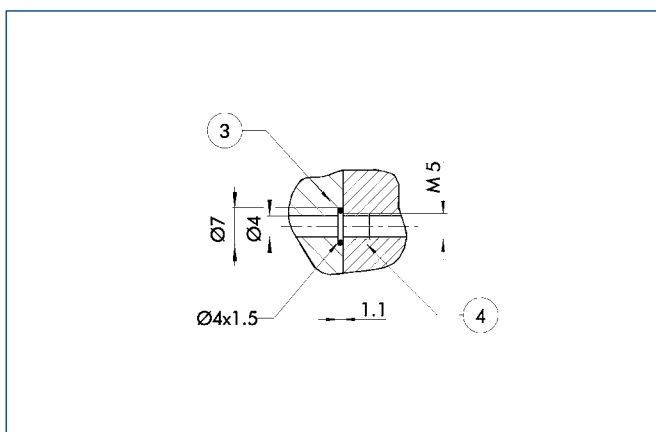


① The SDV-P pressure maintenance valve can be used to hold the position in case of a loss of pressure (see "Accessories" section of catalog).

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

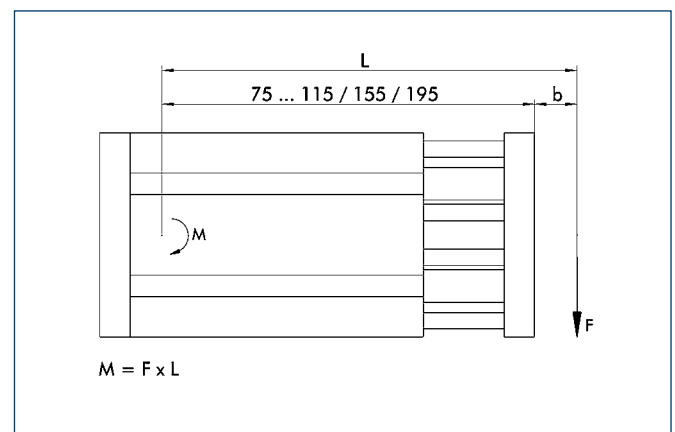
① Linear unit connection  
 ② Assembly connection  
 25 Air feed-through  
 26 T-nut  
 27 Mounting groove for T-nuts  
 28 Through-bore

### Hose-free direct connection



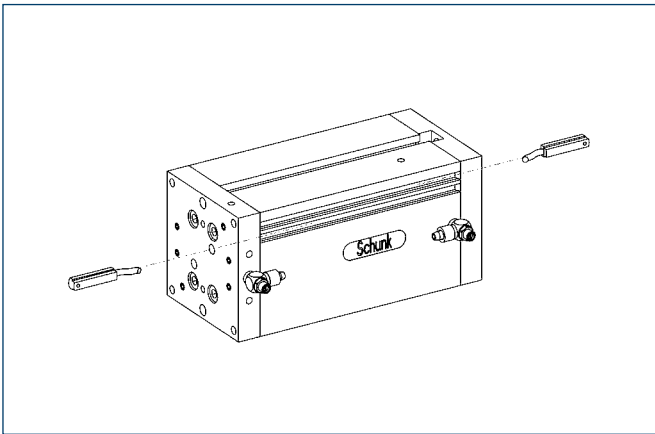
③ Adapter  
 ④ Linear unit

### 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:

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MMS 30-S-M8-PNP	0301471	•
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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,  
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These are generally 35 mm.

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