



Superior Clamping and Gripping



Product Information

Gantry axis PMP

Loadable. Modular. Precise.

Gantry axis PMP

Linear axis with integrated pneumatic drive cylinder and pretensioned recirculating ball-bearing guides, free from play

Field of application

For economic, robust, and precise gantry systems with a long stroke range. Use in dirty environments is also possible due to the "bellow" option. Standardized connecting elements enable numerous combinations with other system components of the modular assembly automation product line.



Advantages – Your benefits

High moment load capacity due to the use of high-performance profiled rail guides

High degree of rigidity due to special extruded profile geometry

A ground serration ensures high precision and surface quality of the base jaws as well as an increased service life through machined locating surfaces for the guide

Efficient complete solutions due to numerous axis combination possibilities

Manifold options (cable drag chain, bellow, intermediate position, etc.) for special optimization to fit your particular application

Standardized mounting bores for numerous combinations with other components from the modular system



Sizes
Quantity: 2



Nominal stroke
800 .. 3700 mm



Driving force
100 .. 250 N



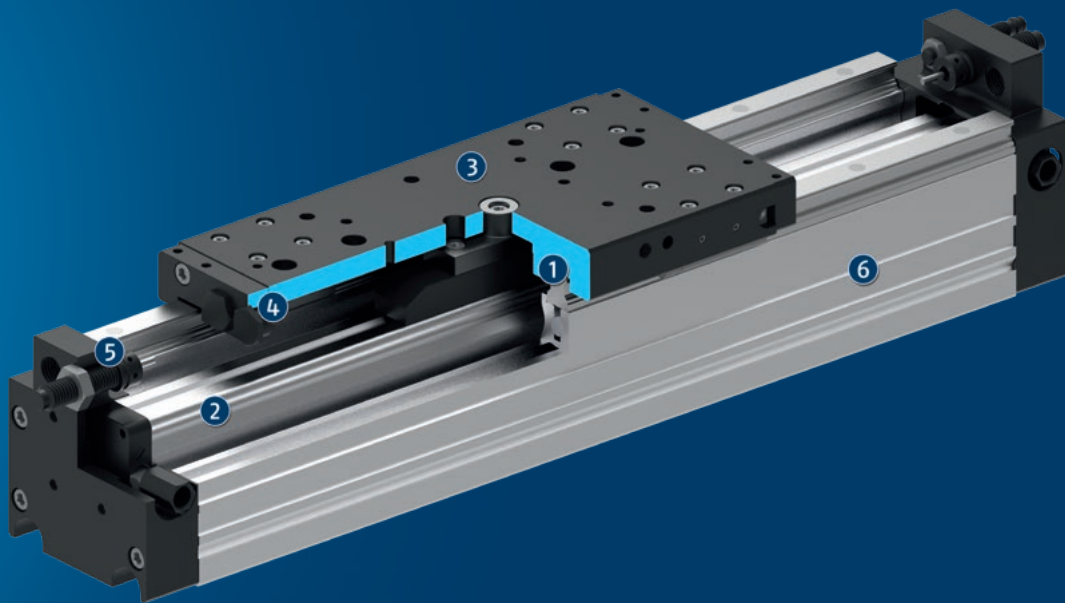
Moment loading
300 .. 500 Nm



Repeat accuracy
0.04 mm

Functional description

The axis carriage is driven by a rodless pneumatic cylinder and precisely guided profiled rail guides.



- ① **Profiled rail guide**
for maximum positioning accuracy and moment loads
- ② **Drive**
Rodless cylinder; easy and yet reliable
- ③ **Mounting pattern**
Completely integrated in the module system
- ④ **Damping adjustment**
Adjustment of the damping characteristics
- ⑤ **End position adjustability**
Convenient adjustment using the shock absorber threads
- ⑥ **Profile**
Self-supporting and robust

General notes about the series

Housing material: Extruded aluminum profile; hardened steel functional components

Guidance: Recirculating ball bearing guide

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

Warranty: 24 months

Service life characteristics: on request

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

Stroke: is the maximum nominal stroke of the unit. It can be shortened on both sides by the shock absorbers.

Layout or control calculation: For configuration or control calculation of the units, we recommend to use our Toolbox software, which is available online. A control calculation for the selected unit must be carried out to prevent overloading.

Ambient conditions: The modules are particularly designed for the use in clean ambient conditions. If other ambient conditions should be given, SCHUNK offers various options to protect the units. Please contact us for assistance.



Application example

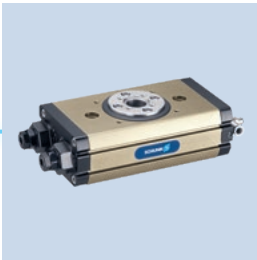
Pneumatic cross gantry with intermediate position for converting medium-sized components.

- ① Gantry module PMP
- ② Linear module LM

- ③ 3-finger centric gripper PZN-plus
- ④ Pillar assembly system

SCHUNK offers more ...

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



Universal swivel unit



Universal gripper



Angular gripper



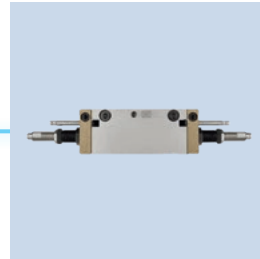
Line gantry



Drag chain



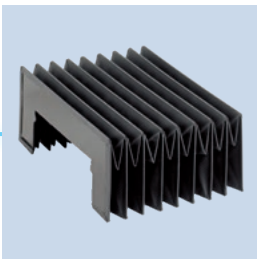
Pressure maintenance valve



Intermediate stop



Pillar assembly system



Bellows cover



Inductive proximity switches

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

Options and special information

Bellow version: Increased degree of protection against penetrating materials; for use in dirty environments.

As standard, this module can be combined with numerous components from the modular system. We would be happy to assist you.

Ordering example

PMP - S - 25 - 0600 - 0 - 0 - 00 - 000

Bellow

S = without

F = with

Size

16

25

Nominal stroke

Shock absorber

0 = without shock absorber

1 = with 1 shock absorber per end position

2 = with 2 pieces shock absorbers per end position (only size 25)

Number of proximity switches

Drag chain

0 = without drag chain

1 = KSV, vertical slide

2 = KSH, horizontal slide

Attachment variant, drag chain

1 = variant 1

Intermediate positions

0 = without intermediate position

1 = with AS 25-1 stop slide

2 = with AS 25-2 stop slide

Attachment, stop slide

1 = on the air-connection side (only size 25)

2 = opposite to the air connection

3 = on both sides (only size 25)

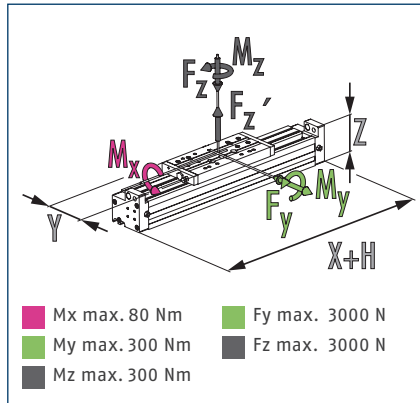
Number of intermediate stops

ⓘ Not all combinations of options are possible. Please contact us to find the right combination for your application.

PMP 16

Gantry axis

Dimensions and maximum loads



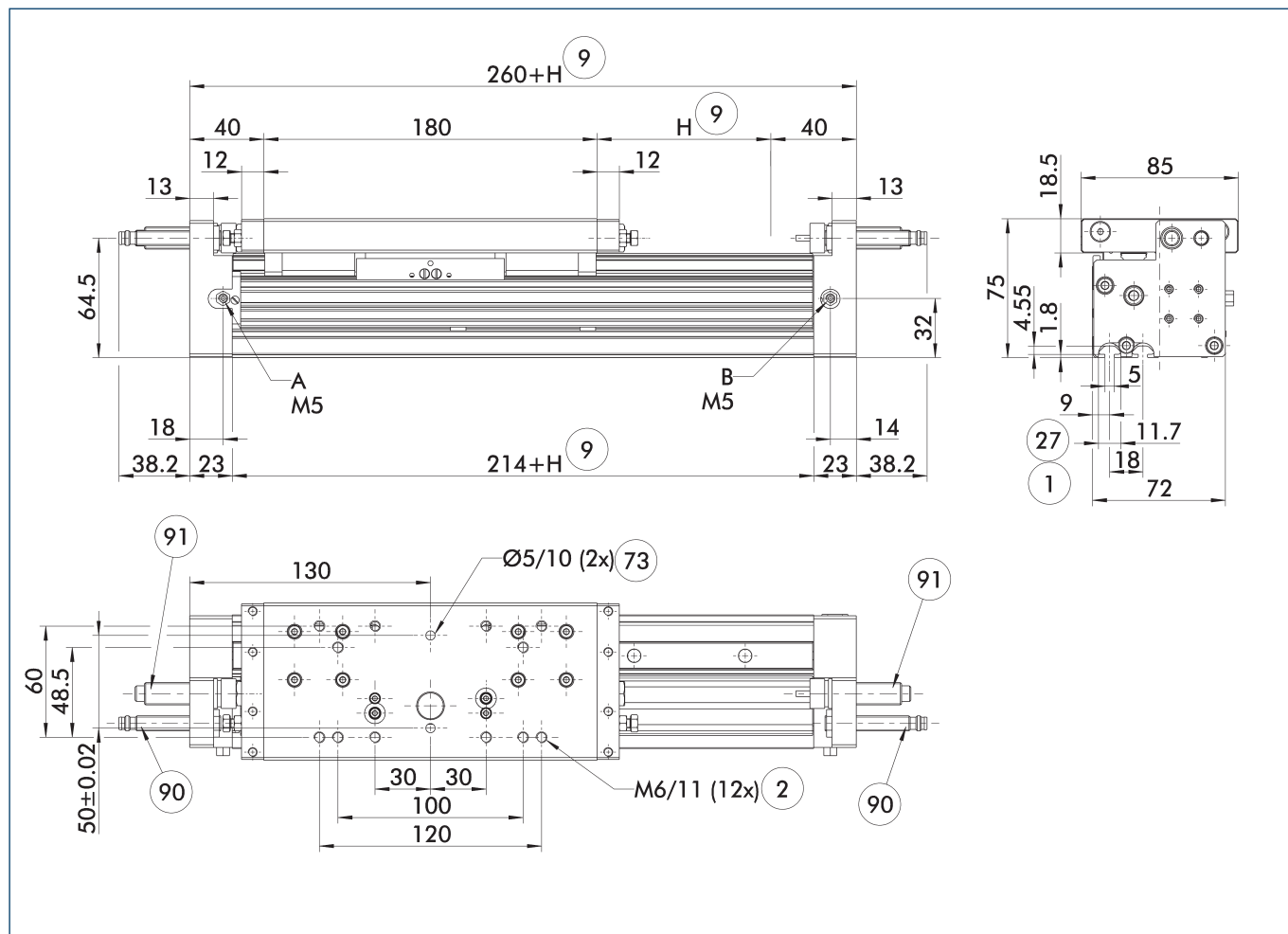
ⓘ Moments and forces may occur simultaneously.

Technical data

Description		PMP-S-16	PMP-F-16
Max. stroke H	[mm]	3700	800
Max. driving force	[N]	100	100
Repeat accuracy	[mm]	0.04	0.04
Piston diameter	[mm]	16	16
Min./nom./max. operating pressure	[bar]	3/6/8	3/6/8
Fluid consumption/10 mm stroke	[cm ³]	2	2
Min./max. ambient temperature	[°C]	5/60	5/60
Weight	[kg]	3	4
Weight per 1 mm stroke	[kg]	0.0065	0.0085
Drive concept		Rodless cylinder	Rodless cylinder
Dimensions X x Y x Z	[mm]	260 x 85 x 75	260 x 85 x 75

ⓘ The specified weight arises at 0 mm stroke. The weight of the module increases by the value specified in the table for each 1 mm stroke.

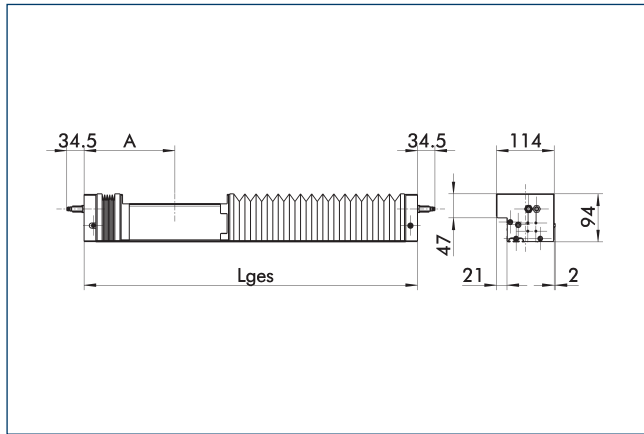
Main view



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

- | | | | |
|---|---|----|-----------------------------|
| A | Main connection - linear unit extended | 9 | Nominal stroke |
| B | Main connection - linear unit retracted | 27 | Fastening groove for T-nuts |
| ① | Connection linear unit | 73 | Fit for centering pins |
| ② | Attachment connection | 90 | NI 30-KT |
| | | 91 | LMST 101-KT |

Bellow



The "Bellow" option increases the degree of protection against penetrating materials. The variable dimensions are calculated as follows:

- ① $F^2 = \text{nominal stroke} \times 0.0375$ [rounded to the nearest whole number]; $FBB = F^2 \times 3.3$ [rounded to nearest whole number]; $L^{BES} = 278 + \text{nominal stroke} + 2 \times FBB$; $A = 139 + FBB$

Cable track KSH, horizontal slide

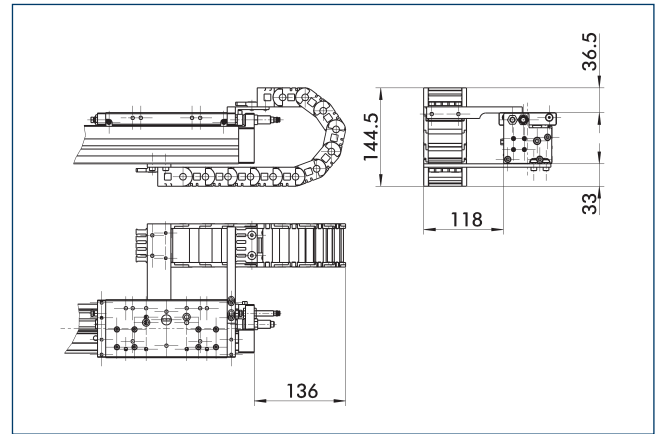


Illustration: Attachment variant 1. Other attachment variants are possible as standard. Please contact us for assistance.

Cable track KSV, vertical slide

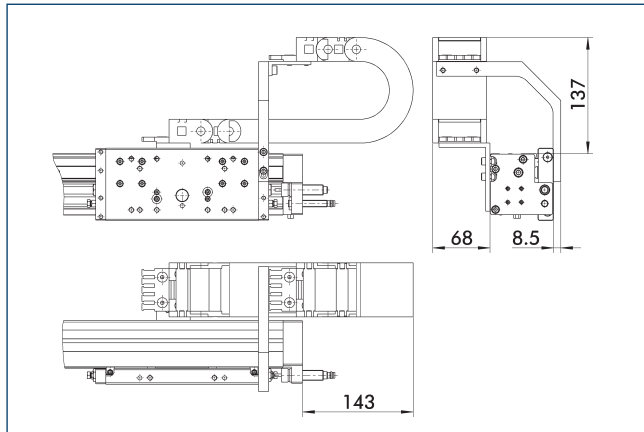
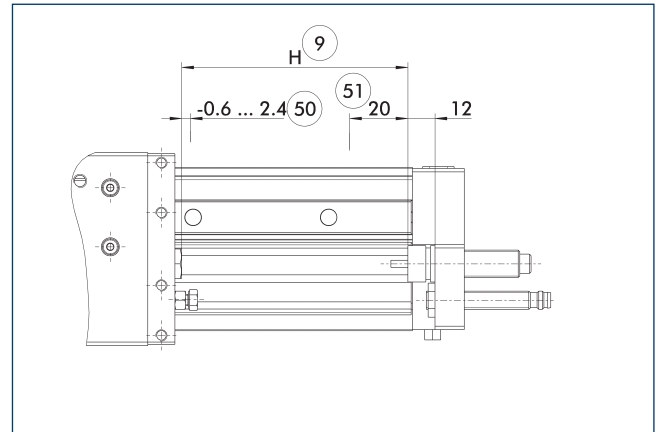


Illustration: Attachment variant 1. Other attachment variants are possible as standard. Please contact us for assistance.

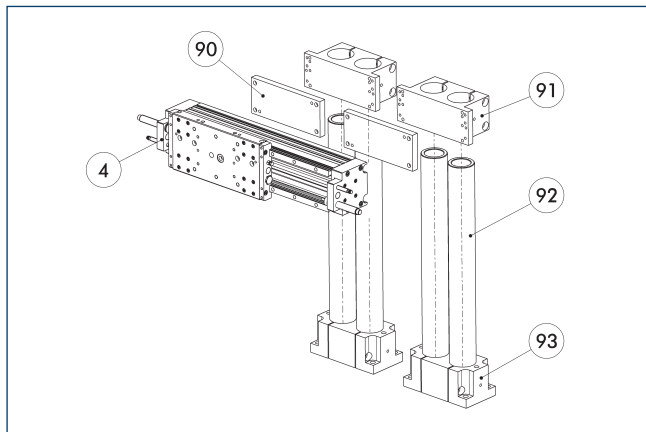
Stroke adjustment



- ⑨ Nominal stroke
- ⑤① Stroke adjustment range
- ⑤② Damping stroke adjustment range

The nominal stroke for each end position can be finely adjusted by screwing out the shock absorber.

Attachment to a pillar assembly system

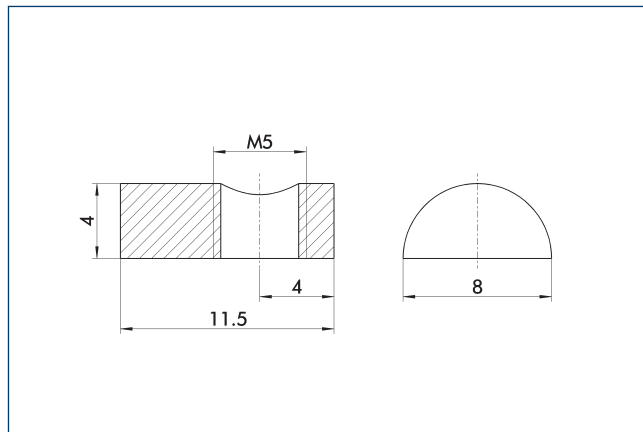


- ④ Linear unit
- ⑨② Pillars, hard-chromium plated, ground
- ⑨① Adapter plate AGH
- ⑨③ Double socket S0D
- ⑨① ADV mounting plate

This unit can be attached to the pillar assembly system as standard. See the Kombibox software, which can be found online, for the right arrangement for your application.

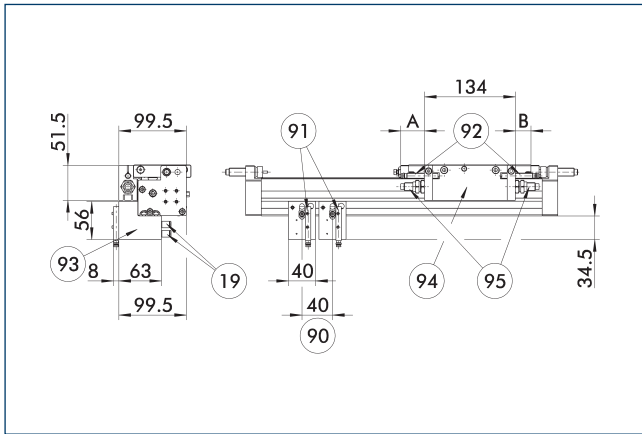
Description	ID	pillar diameter [mm]	Material
Pillar assembly system mounting plate			
ADV 55	0313517	55	Aluminum
AEV 55	0313516	55	Aluminum

Mounting



Description	ID	
T-nut		
NT-M5	0313607	

Stop slide

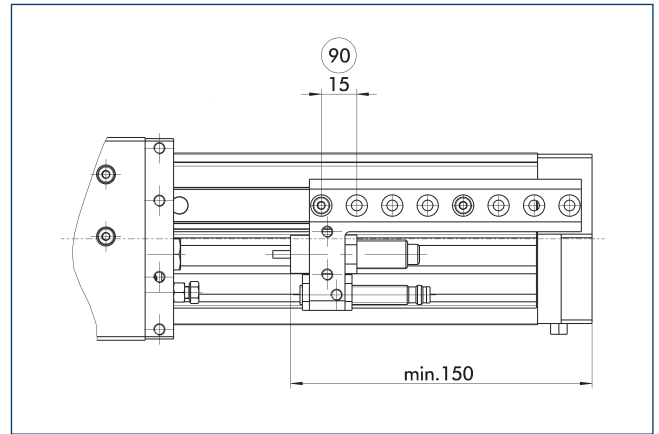


- ① Air connection
- ② NI 30-KT
- ③ Minimum distance between the intermediate stops, ZA
- ④ ZA 16
- ⑤ NI 40
- ⑥ AS 16
- ⑦ STD 1200

By assembling AS and ZA, several intermediate positions can be achieved. For the AS 16-1 stop slide, the intermediate position can only be approached from one side. For the AS 16-2 stop slide, the intermediate position can be approached from both sides. The first intermediate position minimum 30 mm after the start position.

Description	ID	A	B	Number of hydraulic shock absorber
		[mm]	[mm]	
Stop slide				
AS 16-1	0314145	5	35	1
AS 16-2	0314146	35	35	2
Intermediate stop				
ZA 16	0314143			

Variable end stop



- ⑧ Grid dimension, stroke adjustment

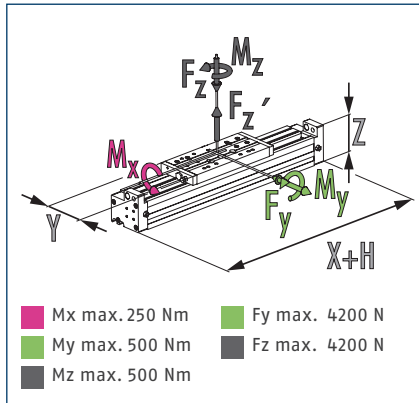
With the variable end stop, the end positions can be continuously adjusted over the whole length of the stroke, for example, for arranging the profile lengths independent from the actual used stroke. Additional carrier profiles are then no more needed.

Description	ID	
Variable end stop		
VEP-F 16	0313604	
VEP-S 16	0313603	

PMP 25

Gantry axis

Dimensions and maximum loads



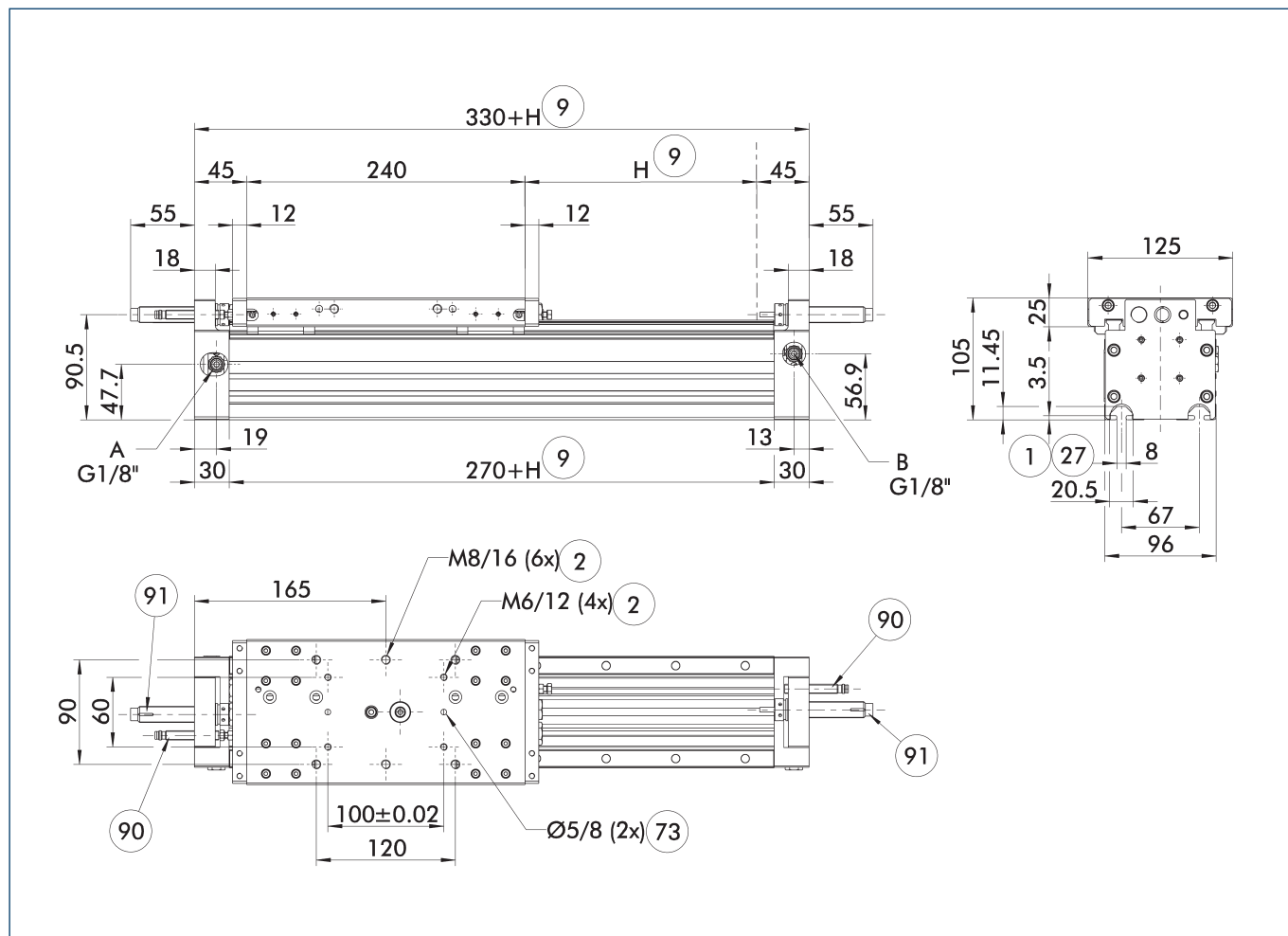
ⓘ Moments and forces may occur simultaneously.

Technical data

Description		PMP-S-25	PMP-F-25
Max. stroke H	[mm]	3700	1000
Max. driving force	[N]	250	250
Repeat accuracy	[mm]	0.04	0.04
Piston diameter	[mm]	25	25
Min./nom./max. operating pressure	[bar]	3/6/8	3/6/8
Fluid consumption/10 mm stroke	[cm ³]	4.9	4.9
Min./max. ambient temperature	[°C]	5/60	5/60
Weight	[kg]	6.8	8.8
Weight per 1 mm stroke	[kg]	0.0103	0.0134
Drive concept		Rodless cylinder	Rodless cylinder
Dimensions X x Y x Z	[mm]	330 x 125 x 105	330 x 125 x 105

ⓘ The specified weight arises at 0 mm stroke. The weight of the module increases by the value specified in the table for each 1 mm stroke.

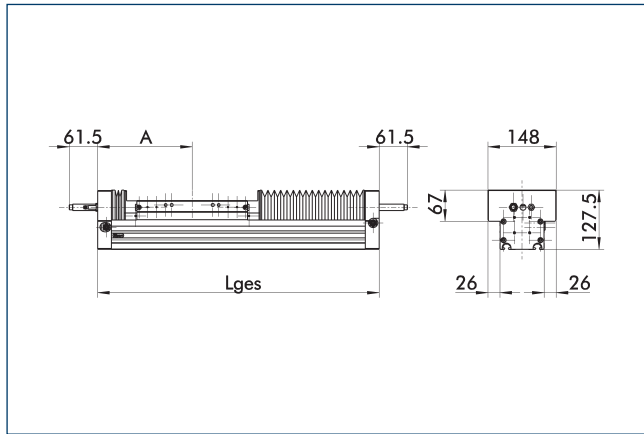
Main view



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

- | | | | |
|---|---|----|-----------------------------|
| A | Main connection - linear unit extended | 9 | Nominal stroke |
| B | Main connection - linear unit retracted | 27 | Fastening groove for T-nuts |
| 1 | Connection linear unit | 73 | Fit for centering pins |
| 2 | Attachment connection | 90 | NI 30-KT |
| | | 91 | LMST 200-KT |

Bellow



The "Bellow" option increases the degree of protection against penetrating materials. The variable dimensions are calculated as follows:

- ① "Fz = nominal stroke x 0.0288 [rounded to nearest whole number]; FBB = Fz x 3.3 [rounded to nearest whole number]; Lges = 370 + nominal stroke + 2 x FBB; A = 185 + FBB"

Cable track KSH, horizontal slide

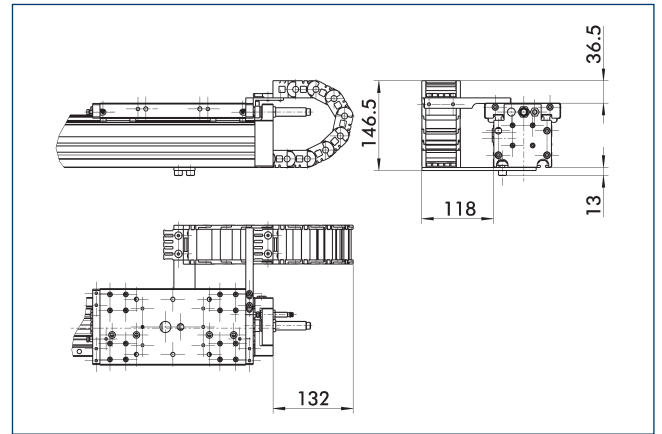


Illustration: Attachment variant 1. Other attachment variants are possible as standard. Please contact us for assistance.

Cable track KSV, vertical slide

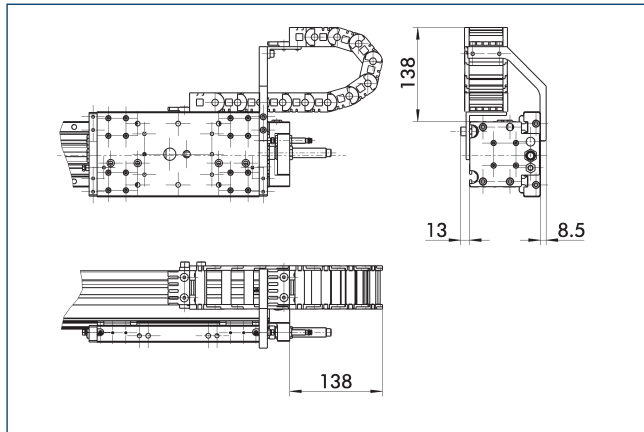
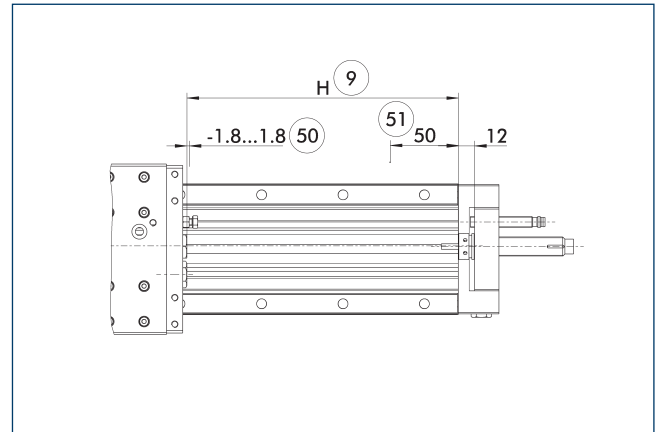


Illustration: Attachment variant 1. Other attachment variants are possible as standard. Please contact us for assistance.

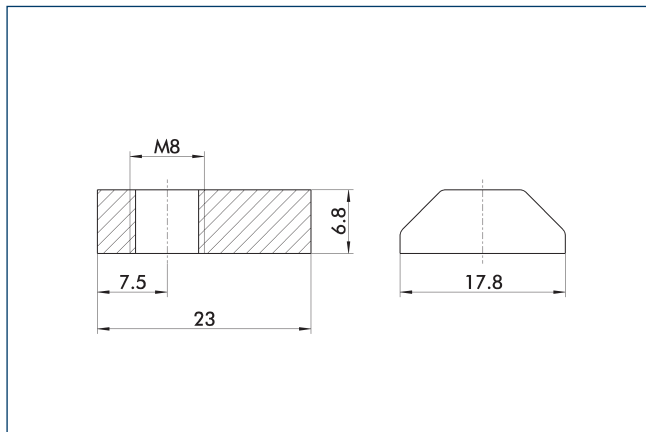
Stroke adjustment



- ⑨ Nominal stroke
- ⑤① Stroke adjustment range
- ⑤② Damping stroke adjustment range

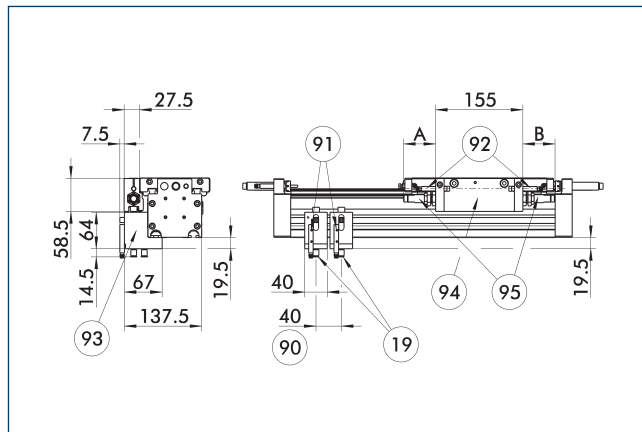
The nominal stroke for each end position can be finely adjusted by screwing out the shock absorber.

Mounting



Description	ID	
T-nut		
NT-M8	0313608	

Stop slide

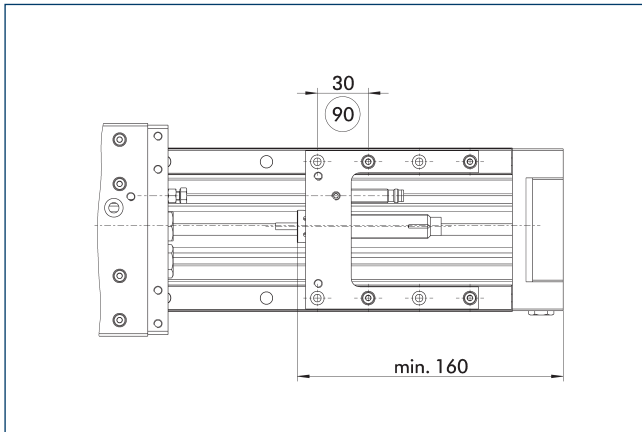


- ①⑨ Air connection
- ①⑩ Minimum distance between the intermediate stops, ZA
- ①⑪ NI 40
- ①⑫ NI 30-KT
- ①⑬ ZA 25
- ①⑭ AS 25
- ①⑮ STD 1403

By assembling AS and ZA, several intermediate positions can be achieved. For the AS 25-1 stop slide, the intermediate position can only be approached from one side. For the AS 25-2 stop slide, the intermediate position can be approached from both sides. It is also possible to attach two stop slides to the main slide. The first intermediate position minimum 30 mm after the start position.

Description	ID	A	B	Number of hydraulic shock absorber
		[mm]	[mm]	
Stop slide				
AS 25-1	0314147	6	57	1
AS 25-2	0314148	57	57	2
Intermediate stop				
ZA 25	0314144			

Variable end stop



⑨ Grid dimension, stroke adjustment

With the variable end stop, the end positions can be continuously adjusted over the whole length of the stroke, for example, for arranging the profile lengths independent from the actual used stroke. Additional carrier profiles are then no more needed.

Description	ID	
Variable end stop		
VEP-F 25	0313606	
VEP-S 25	0313605	



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