



Superior Clamping and Gripping



## Product Information

Compact linear module ELP

# ELP

Compact linear module

## Easy. Fast. Reliable.

### ELP compact linear module

Electric linear module with direct drive and integrated controller, free of play with pre-loaded roller guidance.

#### Field of application

For use in clean environments, such as assembly and testing systems. Optimal standard solution for high-precision applications.



#### Advantages – Your benefits

**Control via digital I/O** for easy commissioning and rapid integration into existing systems

**10 independent extension and retraction speeds** for high flexibility in cycle times

**Linear direct drive** for almost wear-free use and a long service life

**Robust bearing guidance** for high load capacities and end-position accuracy in all installation positions

**Maintenance-free** for high machine uptime and low operating costs

**Compact dimensions** for less interfering contours

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



Sizes  
Quantity: 3



Weight  
1.8 .. 8.3 kg



max. driving force  
17 .. 104 N



max. stroke  
30 .. 200 mm

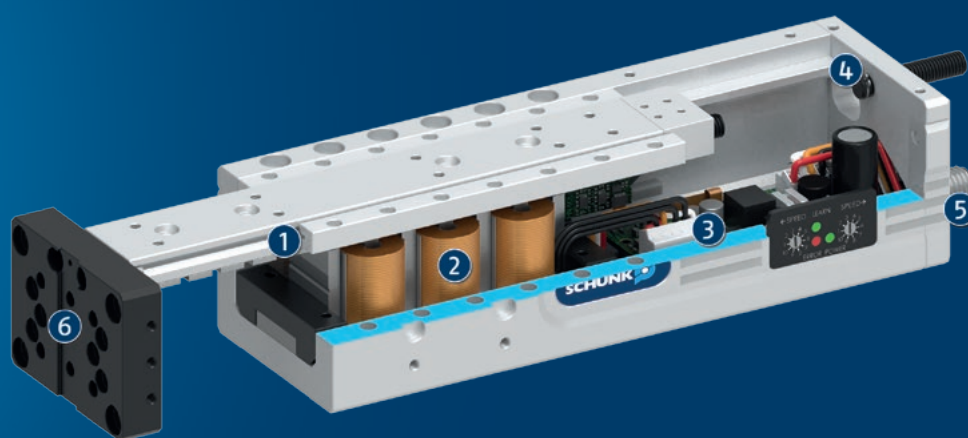


Repeat accuracy  
 $\pm 0.01$  mm

## Functional description

The electric drive consists of a primary part (motor coil) and a secondary part (permanent magnets). Inside the controller the phase and amplitude of the applied electric

current are controlled. This sets the profile, which is fitted with magnets, in motion.



① **Roller guide**  
For maximum positioning accuracy and moment loads

② **Drive**  
Linear direct drive

③ **Control electronics**  
adaptive control technology with integrated control and power electronics

④ **End position adjustability**  
mechanical adjustment of the end positions via stop screws

⑤ **Connectors**  
standard connectors for quick connection to sensor and power distributors

⑥ **Mounting pattern**  
Completely integrated in the module system

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

## General notes about the series

**Housing material:** Aluminum alloy, DNC coating

**Guidance:** Backlash-free, pre-loaded roller guides

**Drive:** Linear direct drive

**Scope of delivery:** Accessory pack with centering sleeves and assembly and operating manual with declaration of incorporation

**Warranty:** 24 months

**Safety notes:** Caution: Magnetic field! This particularly applies for persons with implanted medical devices, such as pacemakers, hearing aids, etc.

**Stroke:** is the maximum nominal stroke of the unit. It can be reduced on both sides by end stops.

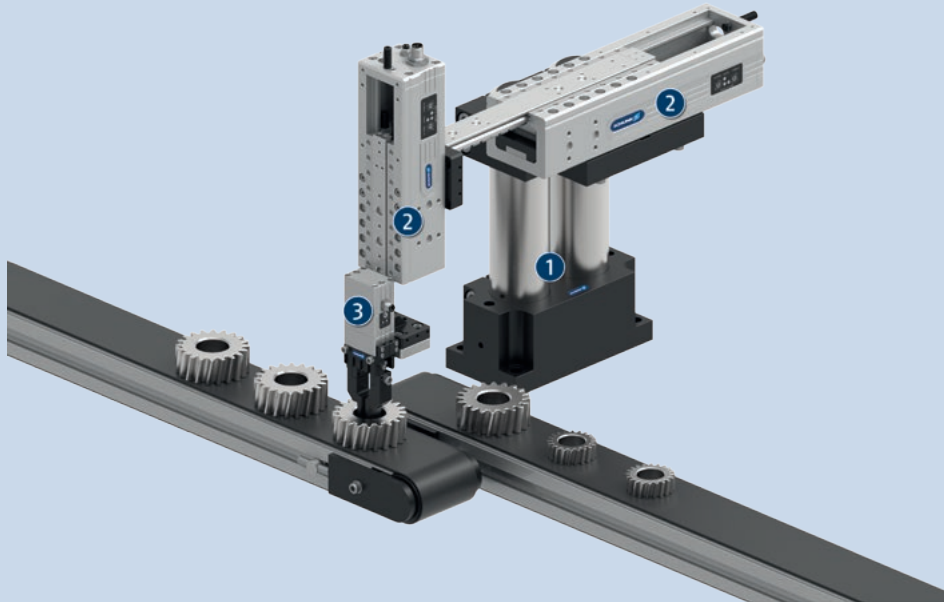
**Repeat accuracy:** is defined as the distribution of the end positions for 100 consecutive cycles.

**Travel times:** are pure movement times of the slide. PLC reaction times are not included and have to be considered when the cycle times are determined.

**Payload:** the weight of the total load which is attached to the cantilever arm. Please consider that the service life will be shortened if the maximum payload is exceeded. SCHUNK cannot assume any warranty for this.

**Layout or control calculation:** Verifying the sizing of the selected unit is absolutely necessary, since otherwise overloading can result. Please contact us for assistance.

**Ambient conditions:** The modules are mainly designed for the use in clean ambient conditions. Please note that the life time of the modules can shorten if they are used in harsh ambient conditions, and that SCHUNK cannot assume liability in such cases. Please contact us for assistance.



## Application example

Pick & Place unit driven by linear motor for dynamic movements

- ❶ Pillar assembly system
- ❷ ELP electric linear module

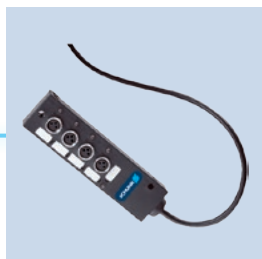
- ❸ EGP electric 2-finger parallel gripper

## SCHUNK offers more ...

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



Connection cable



Sensor distributor



Inductive proximity switches



Magnetic switches



EGP electric 2-finger parallel gripper



Centering sleeves



Adapter plates



Pillar assembly systems



EGS electric gripper swivel module

① Additional information regarding the products can be found on the following product pages or at [www.schunk.com](http://www.schunk.com). Please contact us for further information: SCHUNK technical hotline +49-7133-103-2696

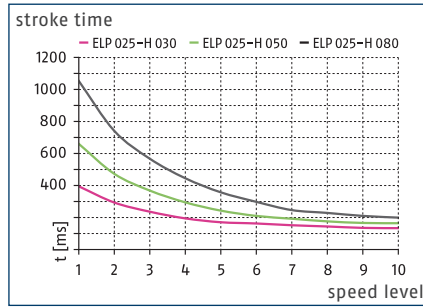
## Options and special information

**Manually adjustable speed:** The extension and retraction speeds can be adjusted independently using two integrated rotary switches.

**Load compensation:** A load compensation device can be mounted parallel to the module. This is implemented via a MagSpring®. The magnetic spring compensates the weight of the payload during vertical movements. This can be applied to prevent the payload from sinking when the linear module is turned off.

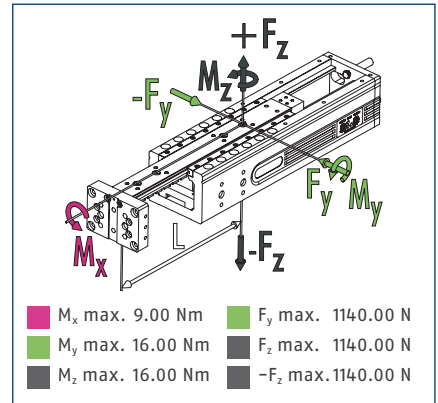


### Travel time (horizontal)



① The diagram shows the average stroke time in horizontal installation position, with maximum stroke, and constant maximum payload. We will gladly support you in designing further applications.

### Forces and moments

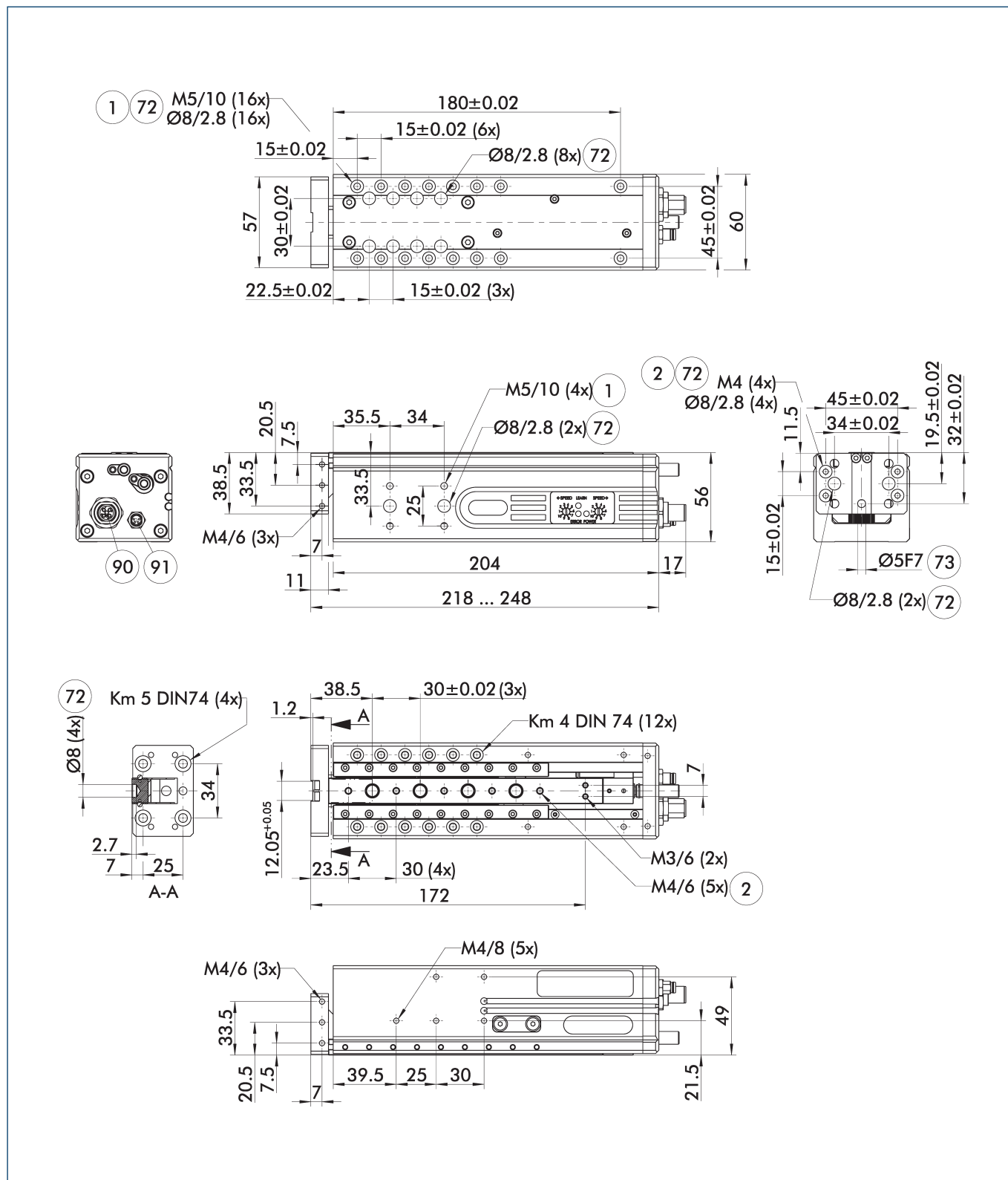


① The forces and moments shown here are maximum values for individual loading. If several forces and/or torques are applied at the same time, the maximum permissible individual values will be lower.

### Technische Daten

Description		ELP 025-H030	ELP 025-H050	ELP 025-H080
ID		0315700	0315708	0315716
<b>General operating data</b>				
Drive concept		Linear direct drive	Linear direct drive	Linear direct drive
max. stroke	[mm]	30	50	80
Nominal force	[N]	17	17	17
max. payload (horizontal)	[kg]	0.7	0.7	0.7
max. payload (vertical)	[kg]	0.5	0.5	0.5
Repeat accuracy	[mm]	± 0.01	± 0.01	± 0.01
Weight	[kg]	1.8	1.8	2
Weight of slide	[kg]	0.3	0.3	0.34
min./max. ambient temperature	[°C]	5/55	5/55	5/55
Protection class IP		20	20	20
Noise emission	[dB(A)]	52	52	52
L (for moment load)	[mm]	89	109	139
<b>Electrical operating data</b>				
Nominal voltage	[V]	24	24	24
Nominal current	[A]	0.64	0.64	0.64
max. current	[A]	2	2	2
Controller electronics		integrated	integrated	integrated
Communication interface		Digital Inputs	Digital Inputs	Digital Inputs
Number of digital inputs/outputs		2/-	2/-	2/-
max. logic current	[A]	0.04	0.04	0.04

Main view ELP 025-H030



The drawing shows the basic version of the linear module with retracted slide and without dimensional consideration of the options described below.

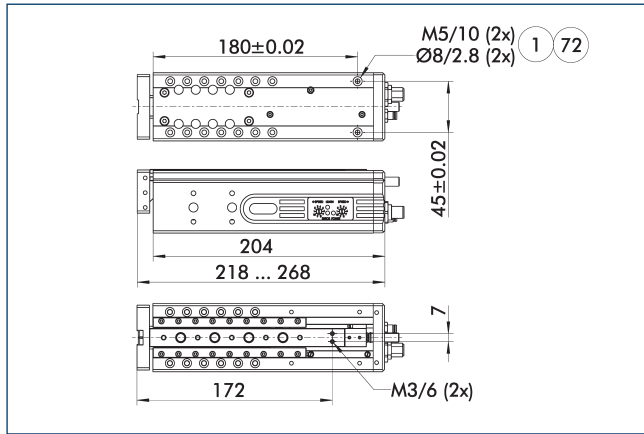
- ① Connection linear unit
- ② Attachment connection
- ⑦③ Fit for centering pins
- ⑨⑩ M12 T-coded (power supply)
- ⑦② Fit for centering sleeves
- ⑨① M8, 4-pole (control)



# ELP 25

Compact linear module

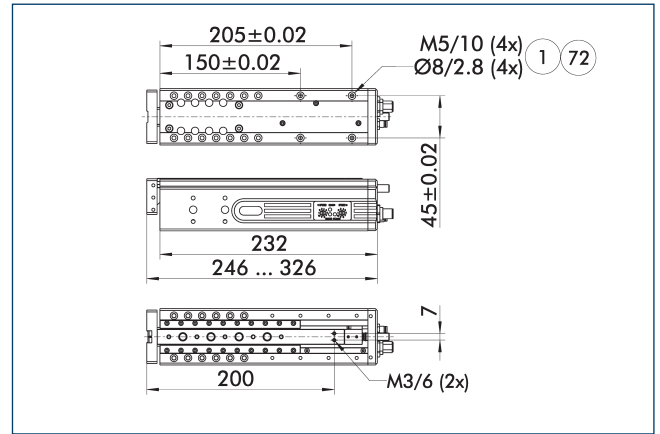
## Stroke variant ELP 025-H050



- ① Connection linear unit
- ⑦② Fit for centering sleeves

The drawing shows changes in dimensions of the version with a different stroke compared to the version shown in the main view.

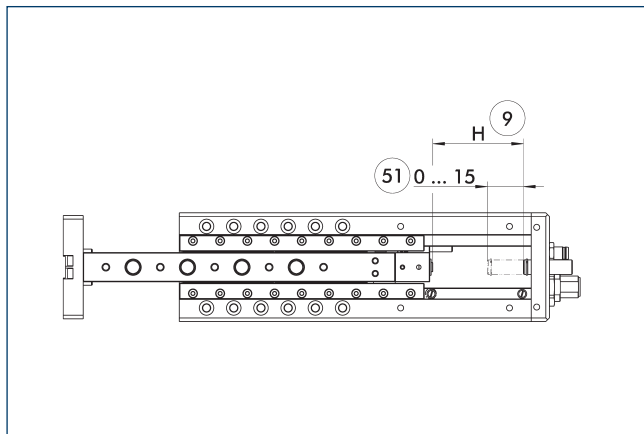
## Stroke variant ELP 025-H080



- ① Connection linear unit
- ⑦② Fit for centering sleeves

The drawing shows changes in dimensions of the version with a different stroke compared to the version shown in the main view.

## Fine adjustment of retracted position

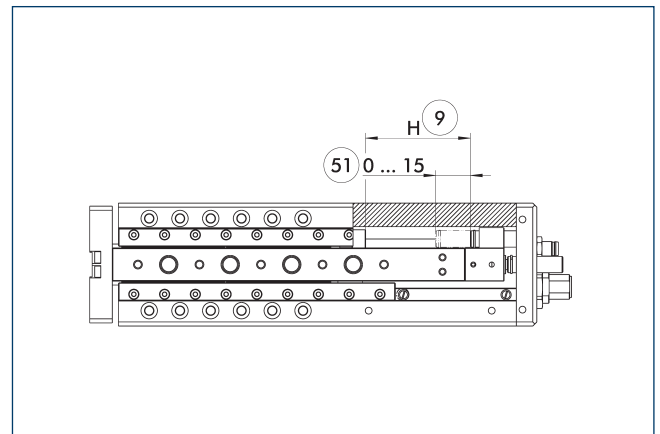


- ⑨ Nominal stroke
- ⑤① Stroke adjustment range

This illustration shows the possible fine adjustment of the retracted position.

ⓘ Please note that a minimum stroke of 5 mm has to be observed.

## Fine adjustment of extended position



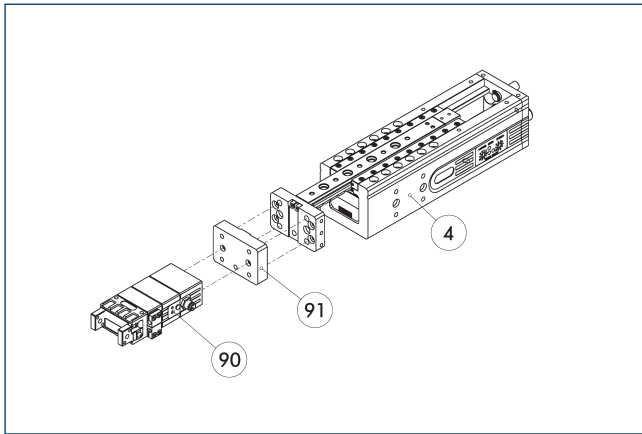
- ⑨ Nominal stroke
- ⑤① Stroke adjustment range

This illustration shows the possible fine adjustment of the extended position.

ⓘ Please note that a minimum stroke of 5 mm has to be observed.



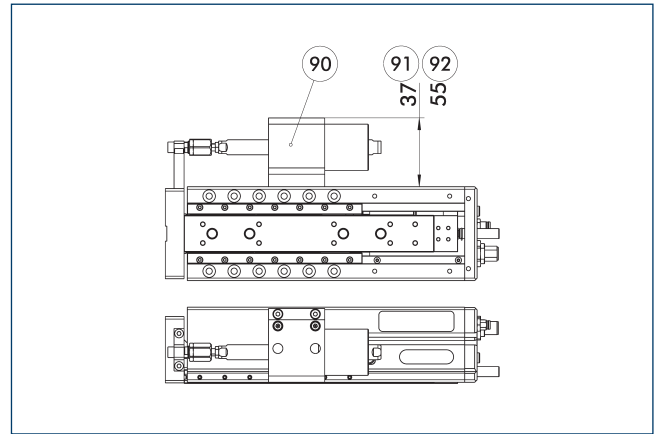
**Modular Assembly Automation**



- ④ Linear unit
- ⑨① ASG adapter plate
- ⑨① Grippers

Gripping and linear modules can be combined with standard adapters from the modular assembly system. For more information see our main catalog „Modular Assembly Automation“.

**Attachment kit for load compensation**



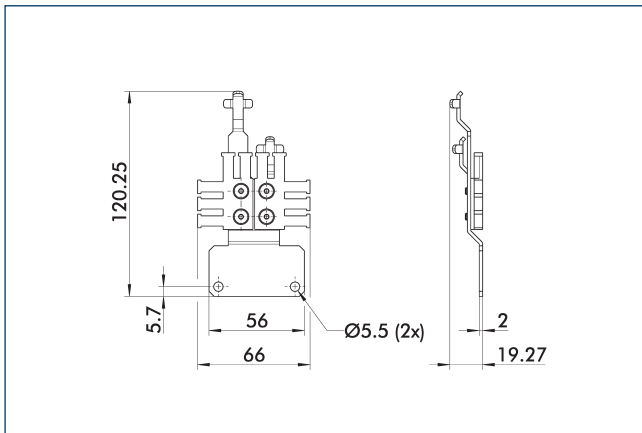
- ⑨① MagSpring
- ⑨① MS01-20
- ⑨② MS01-37

With its constant force over the complete stroke, the MagSpring® is the perfect load compensation. It ideally supports the linear motor in vertical applications.

Description	ID
Attachment kit for magnetic spring	
AS-ELP-MS01-20	0315900

① The matching MagSpring® has to be ordered separately. Please contact us.

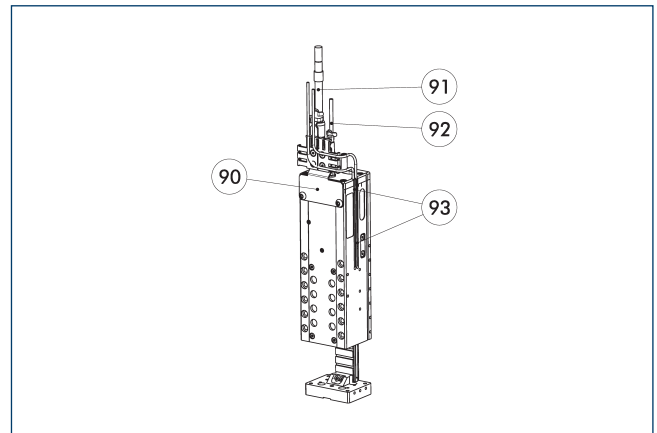
**Strain relief**



The strain relief protects the electric lines from mechanical load. In addition to lines for power supply and logic, sensor cables can also be fastened.

Description	ID
Strain relief	
ZE-ELP 025	0315905

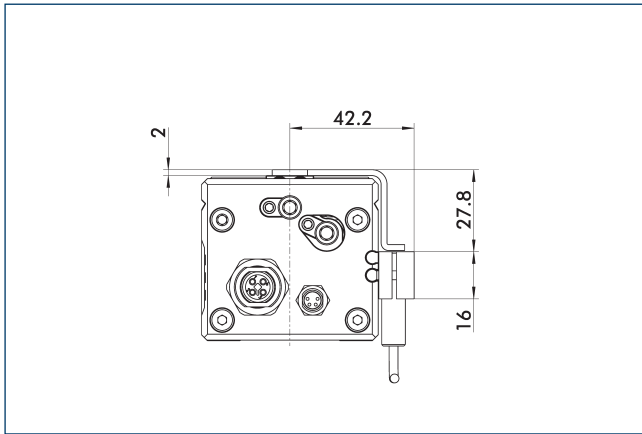
**Attachment of strain relief**



- ⑨① Strain relief
- ⑨① M12 T-coded (power supply)
- ⑨② M8, 4-pole (control)
- ⑨③ Sensor MMS 22..

Description	ID
Strain relief	
ZE-ELP 025	0315905

## Attachment kit for proximity switch IN 80

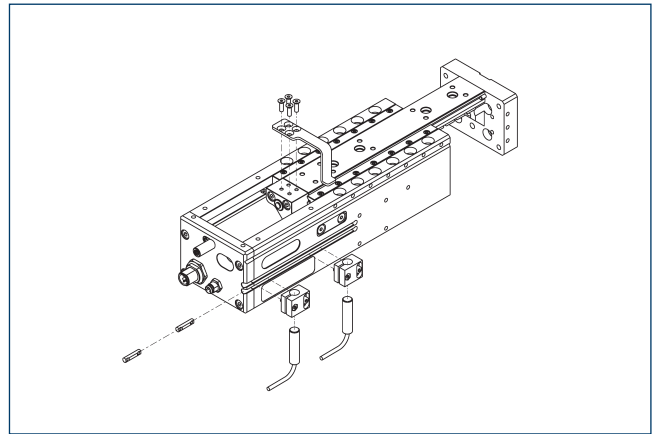


End position monitoring can be mounted with an attachment kit.

Description	ID
Attachment kit for proximity switch	
AS-ELP 025-IN80	0315902

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

## IN 80 inductive proximity switches

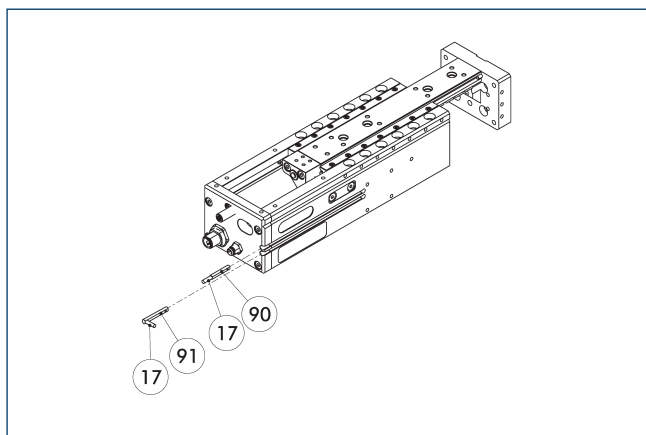


End position monitoring can be mounted with an attachment kit.

Description	ID	Often combined
Attachment kit for proximity switch		
AS-ELP 025-IN80	0315902	
Inductive proximity switches		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
INK 80-S	0301550	
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.

## MMS electronic magnetic switches



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

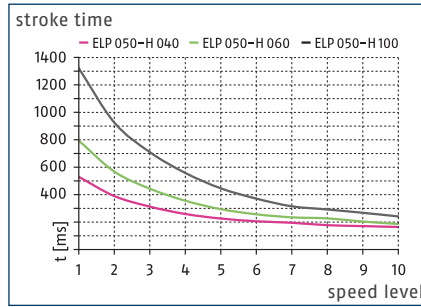
End position monitoring for mounting in the C-slot.

Description	ID	Often combined
Electronic magnetic switches MMS with lateral cable outlet		
MMS 22-S-M8-PNP-SA	0301042	
MMSK 22-S-PNP-SA	0301044	
MMS electronic magnetic switches		
MMS 22-S-M8-PNP	0301032	
MMSK 22-S-PNP	0301034	
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 cable		
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	

- ① 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.

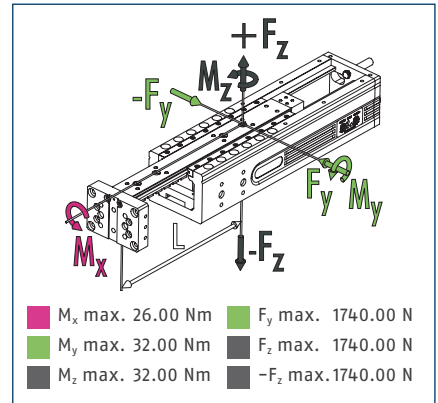


### Travel time (horizontal)



① The diagram shows the average stroke time in horizontal installation position, with maximum stroke, and constant maximum payload. We will gladly support you in designing further applications.

### Forces and moments

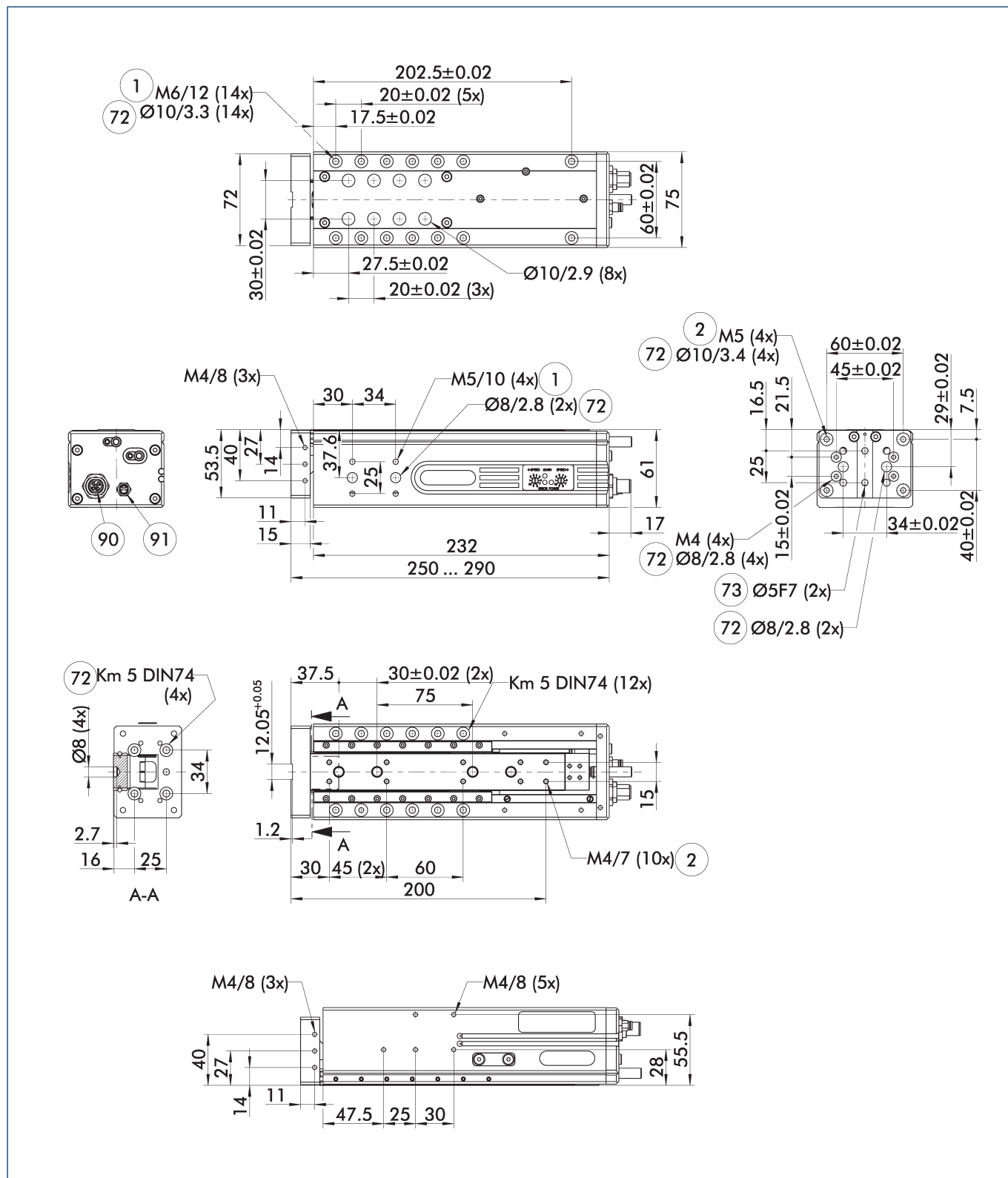


① The forces and moments shown here are maximum values for individual loading. If several forces and/or torques are applied at the same time, the maximum permissible individual values will be lower.

### Technische Daten

Description		ELP 050-H040	ELP 050-H060	ELP 050-H100
ID		0315724	0315732	0315740
<b>General operating data</b>				
Drive concept		Linear direct drive	Linear direct drive	Linear direct drive
max. stroke	[mm]	40	60	100
Nominal force	[N]	45	45	45
max. payload (horizontal)	[kg]	3	3	3
max. payload (vertical)	[kg]	1.5	1.5	1.5
Repeat accuracy	[mm]	± 0.01	± 0.01	± 0.01
Weight	[kg]	3	3	3.4
Weight of slide	[kg]	0.7	0.7	0.82
min./max. ambient temperature	[°C]	5/55	5/55	5/55
Protection class IP		20	20	20
Noise emission	[dB(A)]	58	58	58
L (for moment load)	[mm]	106	126	166
<b>Electrical operating data</b>				
Nominal voltage	[V]	24	24	24
Nominal current	[A]	1	1	1
max. current	[A]	2.1	2.1	2.1
Controller electronics		integrated	integrated	integrated
Communication interface		Digital Inputs	Digital Inputs	Digital Inputs
Number of digital inputs/outputs		2/-	2/-	2/-
max. logic current	[A]	0.04	0.04	0.04

Main view ELP 025-H080



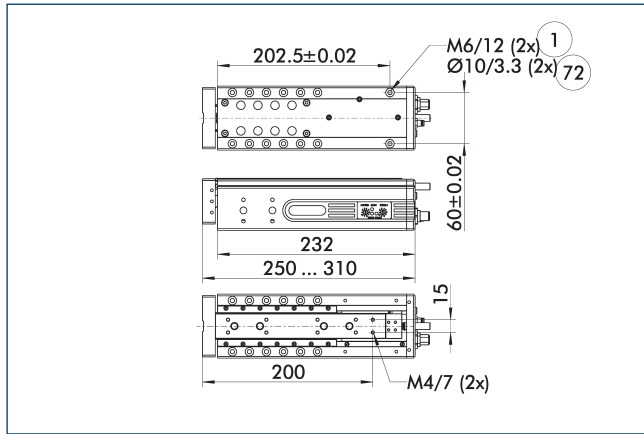
The drawing shows the basic version of the linear module with retracted slide and without dimensional consideration of the options described below.

- ① Connection linear unit
- ② Attachment connection
- ⑦③ Fit for centering pins
- ⑨⑩ M12 T-coded (power supply)
- ⑦② Fit for centering sleeves
- ⑨① M8, 4-pole (control)

# ELP 50

Compact linear module

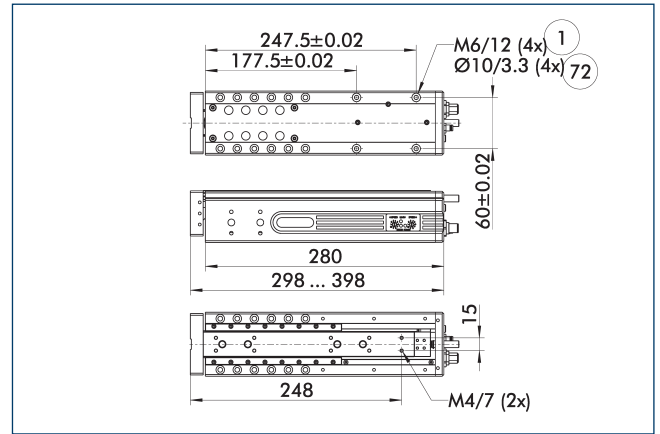
## Stroke variant ELP 050-H060



- ① Connection linear unit
- ⑦② Fit for centering sleeves

The drawing shows changes in dimensions of the version with a different stroke compared to the version shown in the main view.

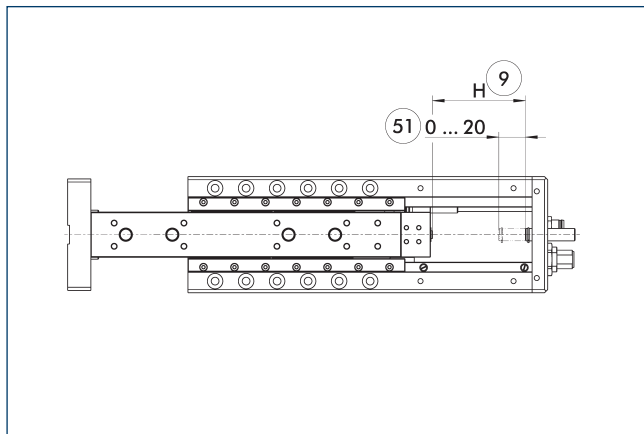
## Stroke variant ELP 050-H100



- ① Connection linear unit
- ⑦② Fit for centering sleeves

The drawing shows changes in dimensions of the version with a different stroke compared to the version shown in the main view.

## Fine adjustment of retracted position

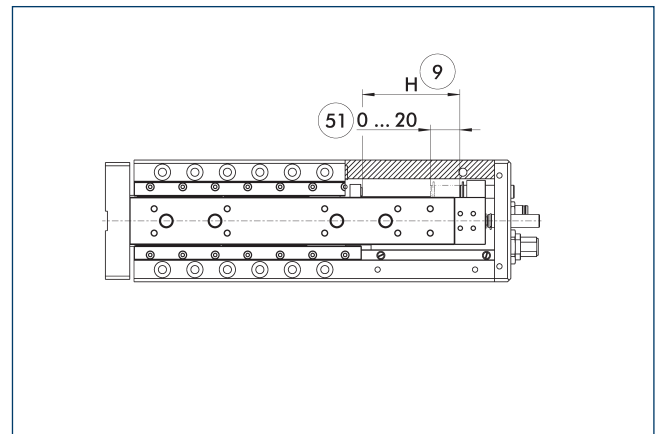


- ⑨ Nominal stroke
- ⑤① Stroke adjustment range

This illustration shows the possible fine adjustment of the retracted position.

ⓘ Please note that a minimum stroke of 5 mm has to be observed.

## Fine adjustment of extended position

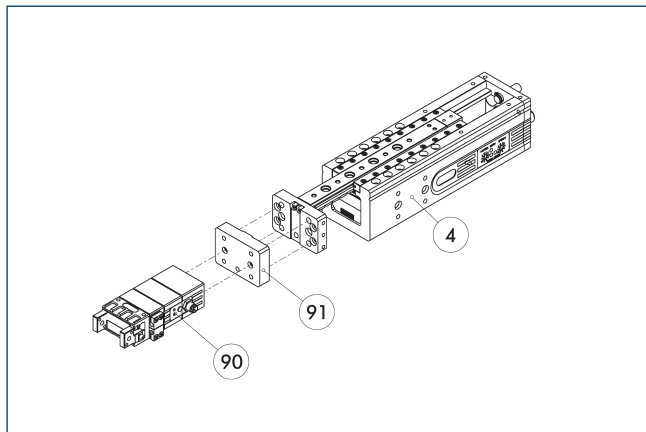


- ⑨ Nominal stroke
- ⑤① Stroke adjustment range

This illustration shows the possible fine adjustment of the extended position.

ⓘ Please note that a minimum stroke of 5 mm has to be observed.

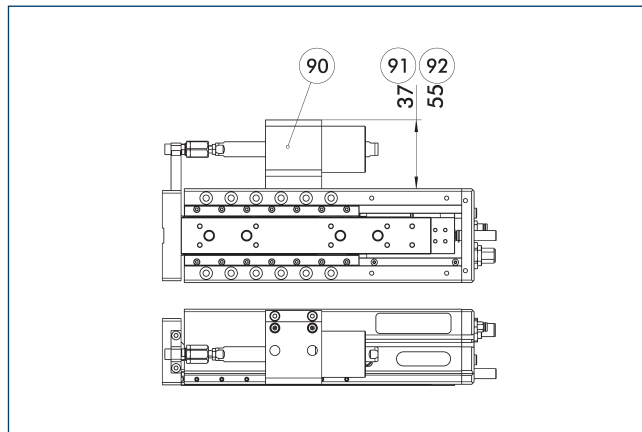
### Modular Assembly Automation



- ④ Linear unit
- ⑨① ASG adapter plate
- ⑨① Grippers

Gripping and linear modules can be combined with standard adapters from the modular assembly system. For more information see our main catalog „Modular Assembly Automation“.

### Attachment kit for load compensation



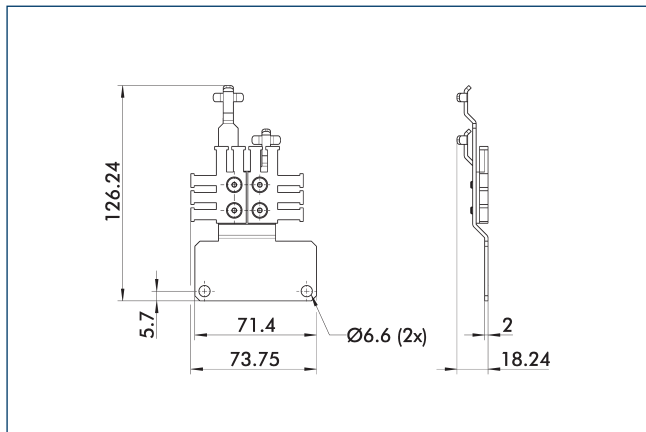
- ⑨① MagSpring
- ⑨② MS01-37
- ⑨① MS01-20

With its constant force over the complete stroke, the MagSpring® is the perfect load compensation. It ideally supports the linear motor in vertical applications.

Description	ID
Attachment kit for magnetic spring	
AS-ELP-MS01-20	0315900
AS-ELP-MS01-37	0315901

① The matching MagSpring® has to be ordered separately. Please contact us.

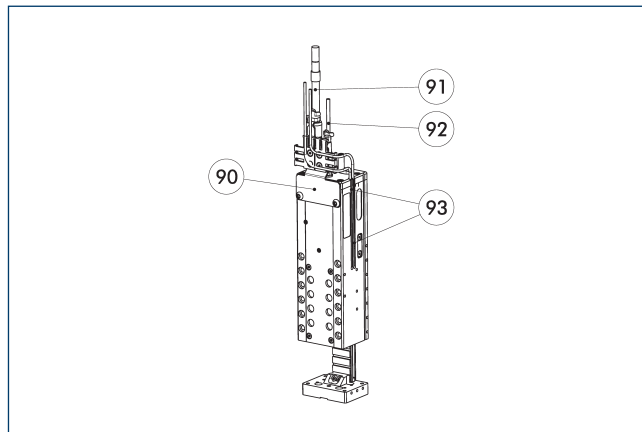
### Strain relief



The strain relief protects the electric lines from mechanical load. In addition to lines for power supply and logic, sensor cables can also be fastened.

Description	ID
Strain relief	
ZE-ELP 050	0315906

### Attachment of strain relief

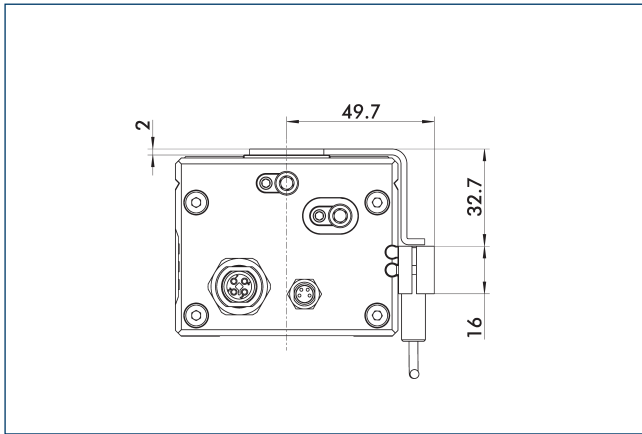


- ⑨① Strain relief
- ⑨② M8, 4-pole (control)
- ⑨① M12 T-coded (power supply)
- ⑨③ Sensor MMS 22..

Description	ID
Strain relief	
ZE-ELP 050	0315906



## Attachment kit for proximity switch IN 80

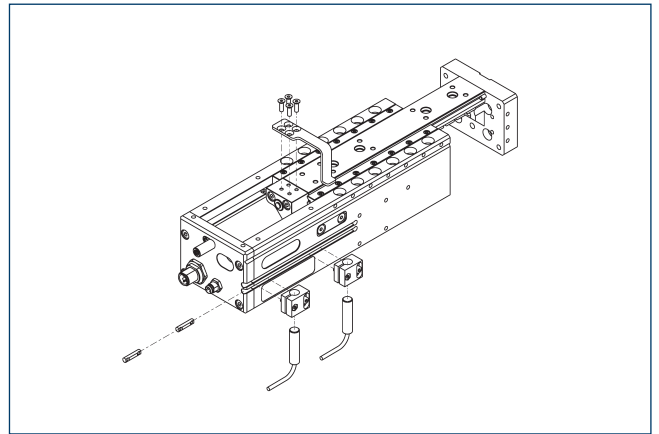


End position monitoring can be mounted with an attachment kit.

Description	ID
Attachment kit for proximity switch	
AS-ELP 050-IN80	0315903

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

## IN 80 inductive proximity switches

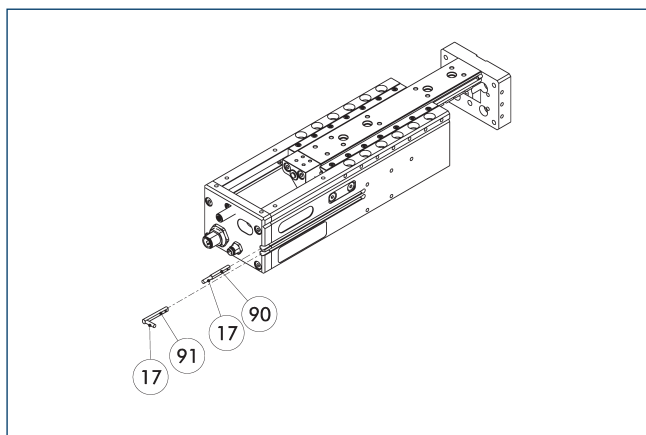


End position monitoring can be mounted with an attachment kit.

Description	ID	Often combined
Attachment kit for proximity switch		
AS-ELP 050-IN80	0315903	
Inductive proximity switches		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
INK 80-S	0301550	
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.

## MMS electronic magnetic switches



- ① Cable outlet                      ⑨ Sensor MMS 22...-SA  
 ⑨ Sensor MMS 22..

End position monitoring for mounting in the C-slot.

Description	ID	Often combined
Electronic magnetic switches MMS with lateral cable outlet		
MMS 22-S-M8-PNP-SA	0301042	
MMSK 22-S-PNP-SA	0301044	
MMS electronic magnetic switches		
MMS 22-S-M8-PNP	0301032	
MMSK 22-S-PNP	0301034	
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 cable		
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	

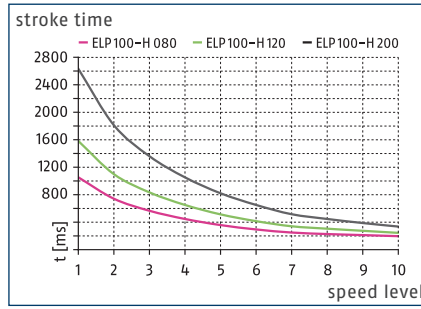
- ① Two sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

# ELP 100

Compact linear module

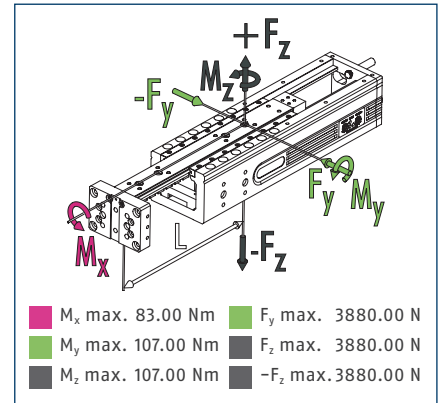


## Travel time (horizontal)



① The diagram shows the average stroke time in horizontal installation position, with maximum stroke, and constant maximum payload. We will gladly support you in designing further applications.

## Forces and moments



① The forces and moments shown here are maximum values for individual loading. If several forces and/or torques are applied at the same time, the maximum permissible individual values will be lower.

## Technische Daten

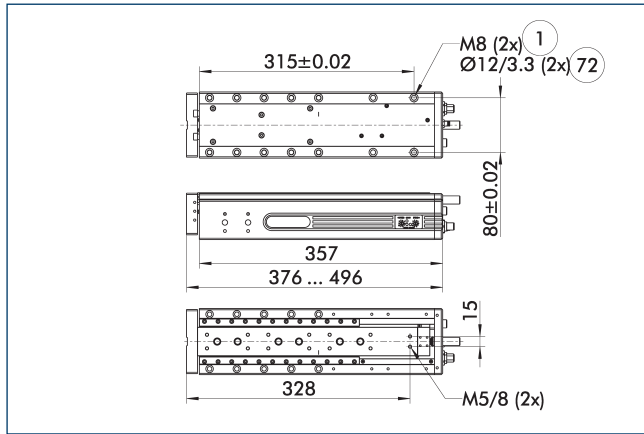
Description		ELP 100-H080	ELP 100-H120	ELP 100-H200
ID		0315748	0315756	0315764
<b>General operating data</b>				
Drive concept		Linear direct drive	Linear direct drive	Linear direct drive
max. stroke	[mm]	80	120	200
Nominal force	[N]	104	104	104
max. payload (horizontal)	[kg]	4	4	4
max. payload (vertical)	[kg]	4	4	4
Repeat accuracy	[mm]	± 0.01	± 0.01	± 0.01
Weight	[kg]	6.6	7.2	8.3
Weight of slide	[kg]	1.78	1.98	2.4
min./max. ambient temperature	[°C]	5/55	5/55	5/55
Protection class IP		20	20	20
Noise emission	[dB(A)]	68	68	68
L (for moment load)	[mm]	179	219	299
<b>Electrical operating data</b>				
Nominal voltage	[V]	24	24	24
Nominal current	[A]	1.6	1.6	1.6
max. current	[A]	5.9	5.9	5.9
Controller electronics		integrated	integrated	integrated
Communication interface		Digital Inputs	Digital Inputs	Digital Inputs
Number of digital inputs/outputs		2/-	2/-	2/-
max. logic current	[A]	0.06	0.06	0.06



# ELP 100

Compact linear module

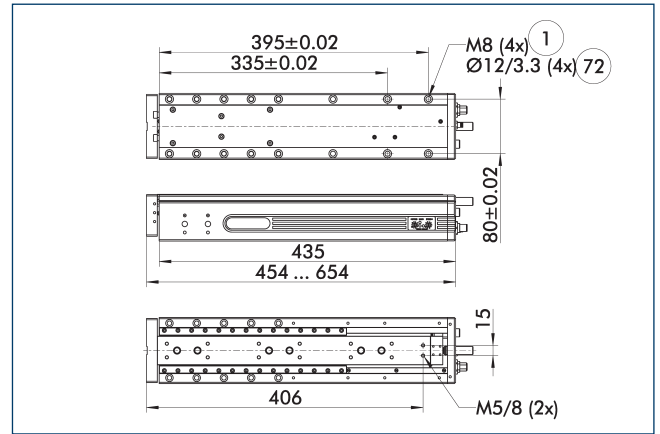
## Stroke variant ELP 100-H120



- ① Connection linear unit
- ⑦② Fit for centering sleeves

The drawing shows changes in dimensions of the version with a different stroke compared to the version shown in the main view.

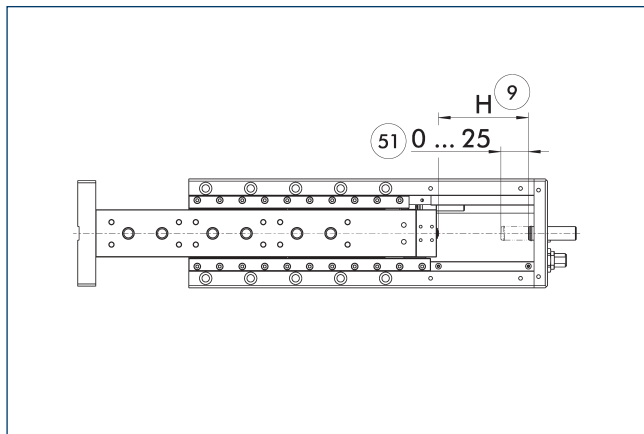
## Stroke variant ELP 100-H200



- ① Connection linear unit
- ⑦② Fit for centering sleeves

The drawing shows changes in dimensions of the version with a different stroke compared to the version shown in the main view.

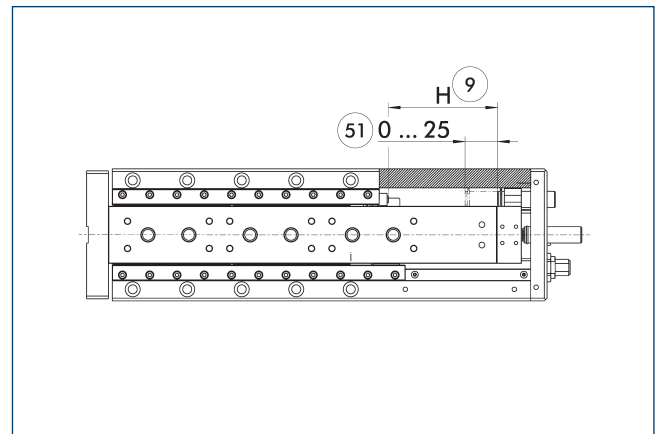
## Fine adjustment of retracted position



- ⑨ Nominal stroke
- ⑤① Stroke adjustment range

This illustration shows the possible fine adjustment of the retracted position.

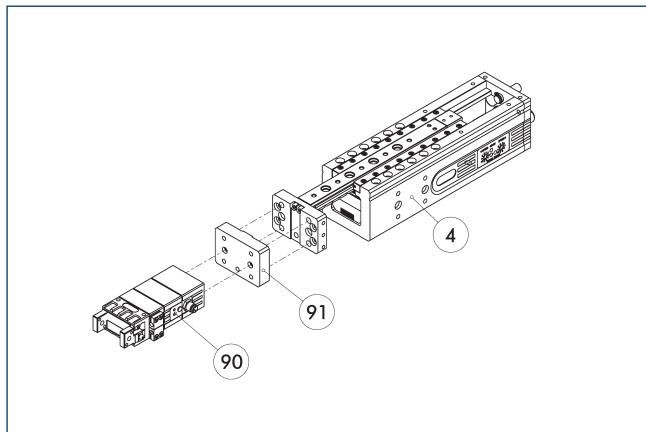
## Fine adjustment of extended position



- ⑨ Nominal stroke
- ⑤① Stroke adjustment range

This illustration shows the possible fine adjustment of the extended position.

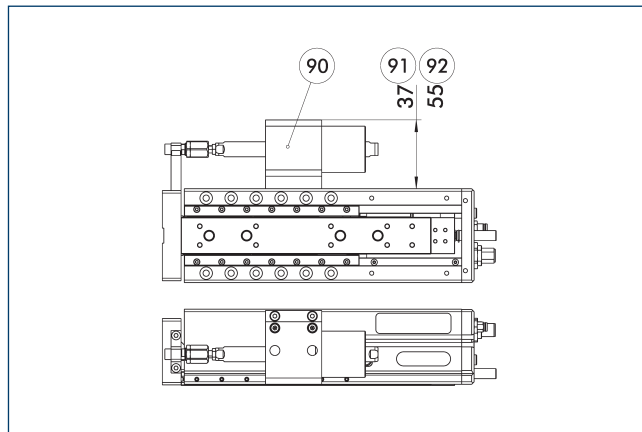
Modular Assembly Automation



- ④ Linear unit
- ⑨① ASG adapter plate
- ⑨① Grippers

Gripping and linear modules can be combined with standard adapters from the modular assembly system. For more information see our main catalog „Modular Assembly Automation“.

Attachment kit for load compensation



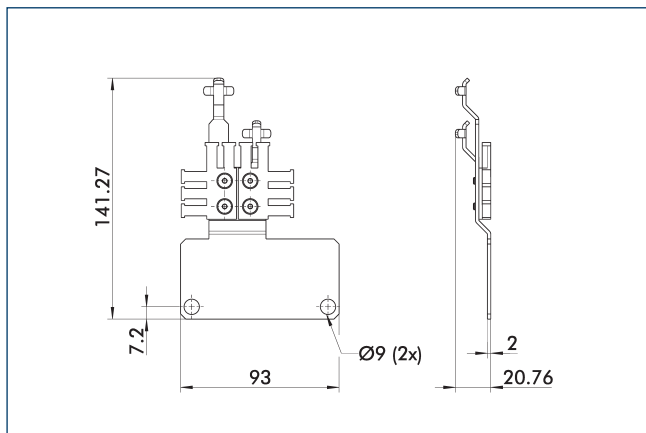
- ⑨① MagSpring
- ⑨② MS01-37
- ⑨① MS01-20

With its constant force over the complete stroke, the MagSpring® is the perfect load compensation. It ideally supports the linear motor in vertical applications.

Description	ID
Attachment kit for magnetic spring	
AS-ELP-MS01-37	0315901

① The matching MagSpring® has to be ordered separately. Please contact us.

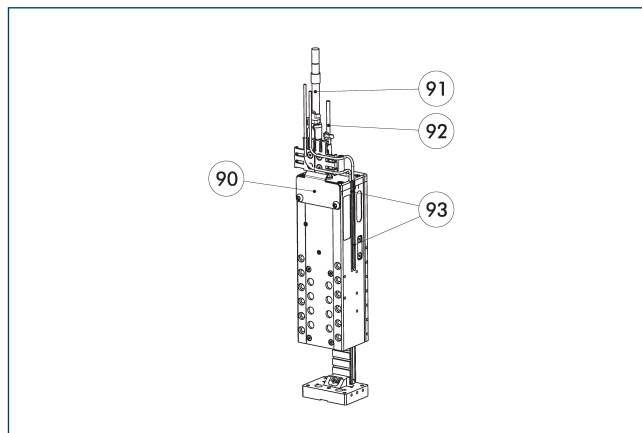
Strain relief



The strain relief protects the electric lines from mechanical load. In addition to lines for power supply and logic, sensor cables can also be fastened.

Description	ID
Strain relief	
ZE-ELP 100	0315907

Attachment of strain relief



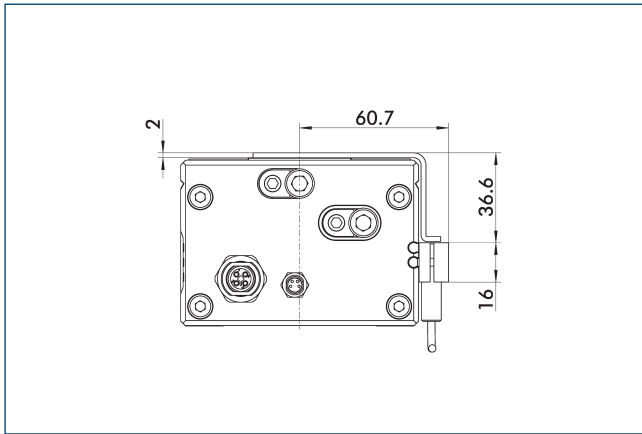
- ⑨① Strain relief
- ⑨② M8, 4-pole (control)
- ⑨① M12 T-coded (power supply)
- ⑨③ Sensor MMS 22..

Description	ID
Strain relief	
ZE-ELP 100	0315907

# ELP 100

Compact linear module

## Attachment kit for proximity switch IN 80

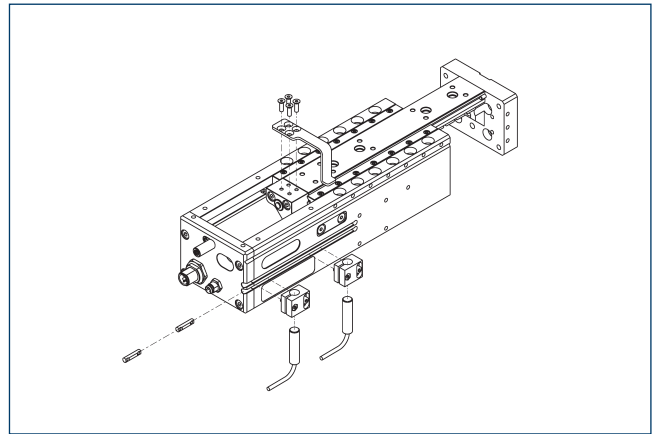


End position monitoring can be mounted with an attachment kit.

Description	ID
Attachment kit for proximity switch	
AS-ELP 100-IN80	0315904

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

## IN 80 inductive proximity switches



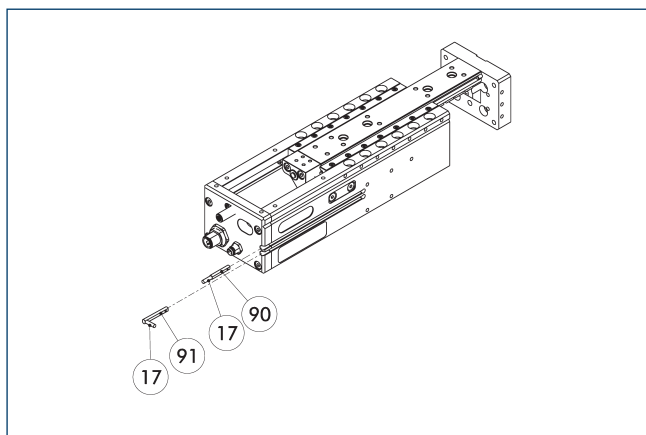
End position monitoring can be mounted with an attachment kit.

Description	ID	Often combined
Attachment kit for proximity switch		
AS-ELP 100-IN80	0315904	
Inductive proximity switches		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
INK 80-S	0301550	
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.



## MMS electronic magnetic switches



- ① Cable outlet                      ⑨ Sensor MMS 22...-SA  
 ⑨ Sensor MMS 22..




End position monitoring for mounting in the C-slot.

Description	ID	Often combined
Electronic magnetic switches MMS with lateral cable outlet		
MMS 22-S-M8-PNP-SA	0301042	
MMSK 22-S-PNP-SA	0301044	
MMS electronic magnetic switches		
MMS 22-S-M8-PNP	0301032	
MMSK 22-S-PNP	0301034	
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 cable		
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	

- ① 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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*J. Lehmann*

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