



Superior Clamping and Gripping



Product data sheet

Stroke module HLM

Modular. Compact. Loadable.

HLM stroke module

Stroke module with optimized length, with pneumatic drive and pre-loaded crossed roller bearings, free from play

Field of application

For lifting of workpieces in clean environments, such as assembly, testing, laboratory and pharmaceutical industry.

Advantages – Your benefits

Crossed roller guide design and solid design ensured high load bearing capacities and end position accuracy in all installation positions

Pretensioned junction rollers That means absolutely scope-free

High basic load ratings in all load directions

Standardized fixing bores and connection dimensions identical for LM series for numerous combinations with other components from the modular system

Shock absorbers and proximity switches integrated in the projecting surfaces for vibration-free movements and end position monitoring

Rod lock by means of clamping cartridge for safety in case of emergency stops



Sizes
Quantity: 4



Weight
0.5 .. 5.64 kg



Driving force
67 .. 482 N



Stroke
25 .. 150 mm



Repeat accuracy
0.01 .. 0.02 mm

Functional description

The linear sliding movement is facilitated by a drive piston that is actuated with compressed air.



- ① **Cross roller guidance**
Pretensioned and scope-free
- ② **Drive**
Powerful piston rod cylinders
- ③ **Mounting pattern**
Completely integrated in the module system
- ④ **Damping adjustment**
Adjustment of the damping characteristics
- ⑤ **Module fastening**
Comfortable mounting from the top

General notes about the series

Housing material: Aluminum alloy, anodized

Guidance: Backlash-free, pre-loaded cross roller guide

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

Scope of delivery: incl. shock absorbers

Warranty: 24 months

Service life characteristics: on request

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

Travel times: are pure movement times of the slide or the base body. Valve switching times, hose filling times, or PLC reaction times are not a part of this and are to be considered when cycle times are calculated.

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

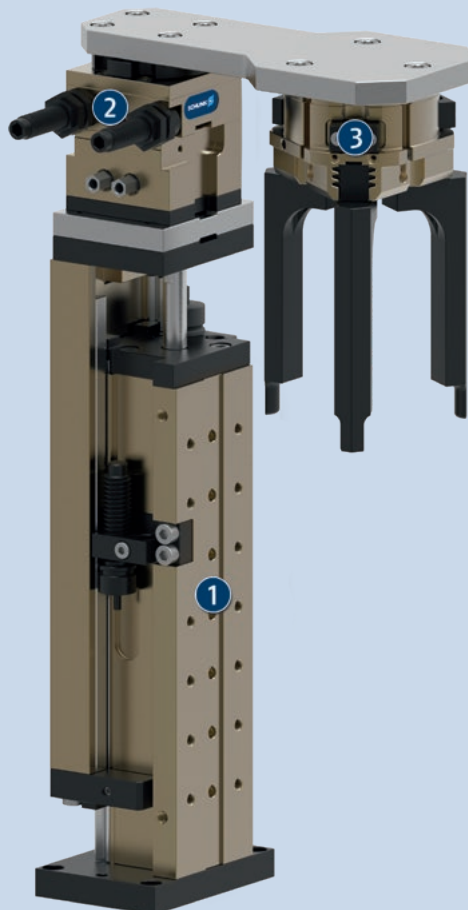
Layout or control calculation: For configuration or control calculation of the units, we recommend to use our Toolbox software, which is available online. A control calculation for the selected unit must be carried out to prevent overloading.

Ambient conditions: The modules are 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

Pneumatic lift/turn loader for loading rotary indexing tables.

- ① HLM stroke module
- ② Vane swivel unit RM
- ③ 3-finger centric gripper PZN-plus

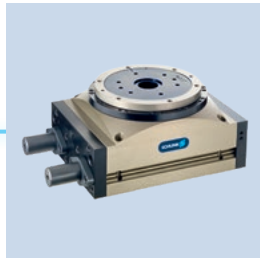


SCHUNK offers more ...

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



Vane swivel unit



Rotary indexing table



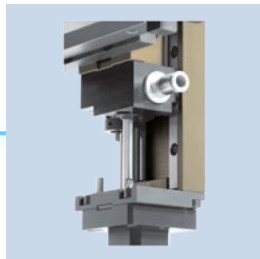
Gripper for small components



Universal gripper



Pressure maintenance valve



Rod lock



Pillar assembly system



Rotary gripper module



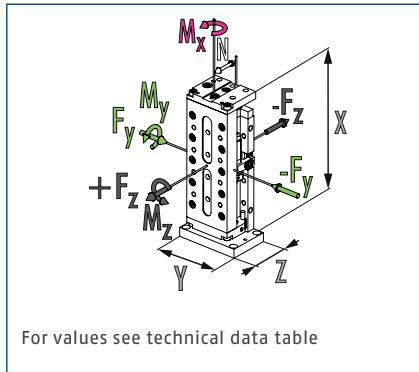
Inductive proximity switches

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

Options and special information

Version rod lock: prevents the structure from falling in the event of a sudden loss of energy. This module can be combined as standard with many elements from the modular system. We can assist you with questions.

Dimensions and maximum loads

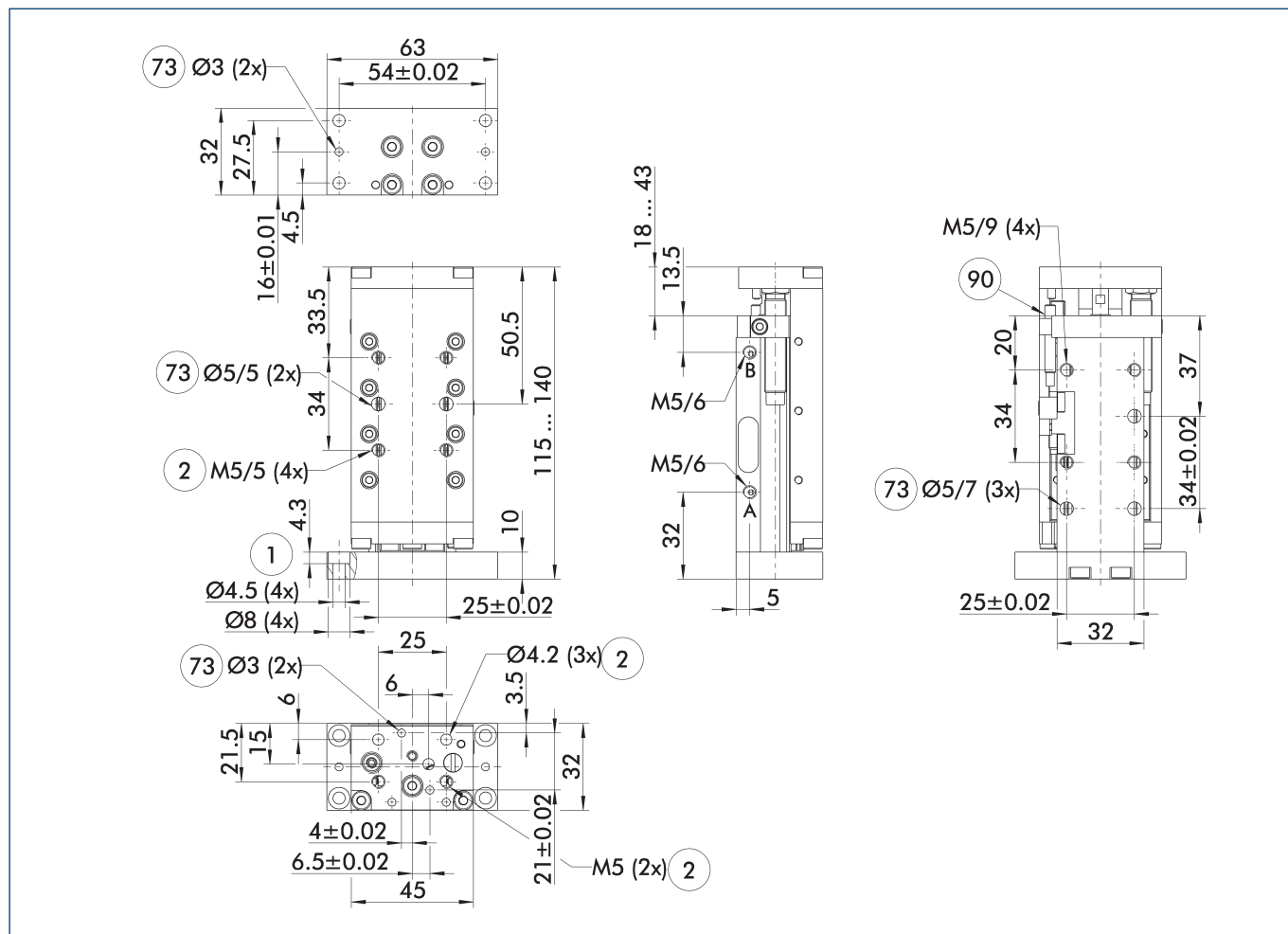


- ⓘ The indicated forces and moments are maximum values for single load. If more than one force and/or torque occurs simultaneously, the case of application can be calculated by using the Toolbox. The force F_y can only be calculated by using the Toolbox.

Technical data

Description		HLM 25-H025	HLM 25-H042	HLM 25-H059
ID		0314580	0314581	0314582
Stroke	[mm]	25	42	59
extend force	[N]	67	67	67
retracted force	[N]	50	50	50
Repeat accuracy	[mm]	0.01	0.01	0.01
Piston diameter	[mm]	12	12	12
Bar diameter	[mm]	6	6	6
Min./nom./max. operating pressure	[bar]	3/6/8	3/6/8	3/6/8
Fluid consumption/10 mm stroke	[cm ³]	1.13	1.13	1.13
Overall length	[mm]	115	140	165
IP protection class		40	40	40
Min./max. ambient temperature	[°C]	5/60	5/60	5/60
Weight	[kg]	0.5	0.58	0.66
Drive concept		Piston rod cylinders	Piston rod cylinders	Piston rod cylinders
Dimensions X x Y x Z	[mm]	115 x 63 x 32	140 x 63 x 32	165 x 63 x 32
Clearance N (for moment load)	[mm]	23	23	23
Moments Mx max./My max./Mz max.	[Nm]	6.1/4.7/2.35	7.3/5.7/2.85	8.5/6.7/3.35
Forces Fz max.	[N]	179	162	152

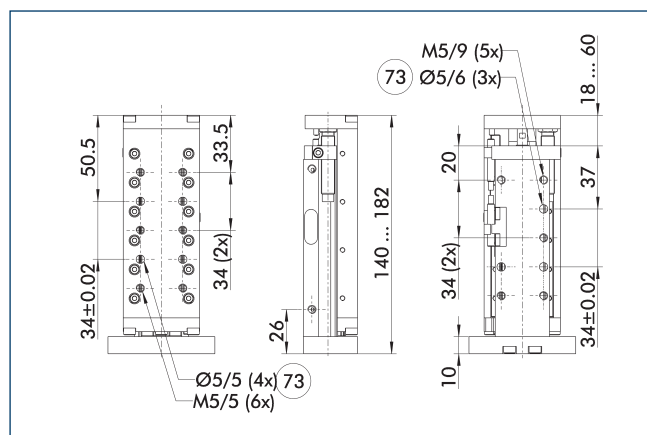
HLM 25-H025 main view



The drawing shows the stroke module with the slide retracted without the options described below.

- A Main connection - linear unit extended
- B Main connection - linear unit retracted
- 1 Connection linear unit
- 2 Attachment connection
- 73 Fit for centering pins
- 90 Inductive proximity switches

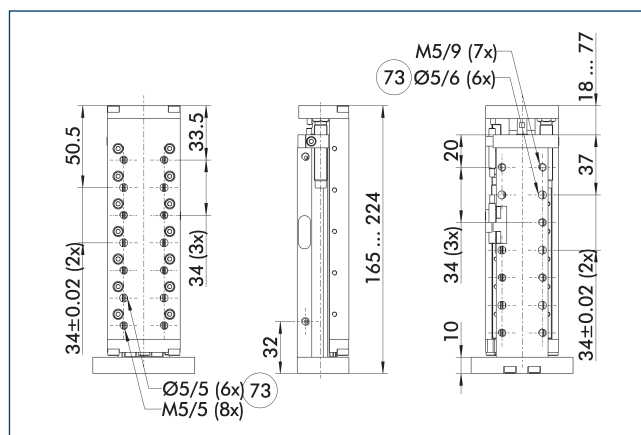
HLM 25-H042 variant



73 Fit for centering pins

Not all dimensions shown can be seen in the main view.

HLM 25-H059 variant



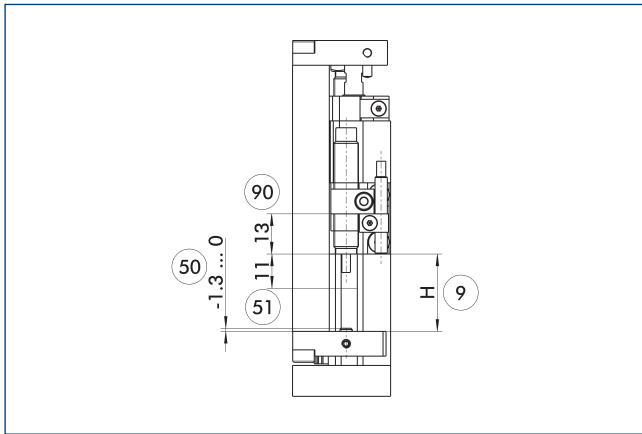
73 Fit for centering pins

Not all dimensions shown can be seen in the main view.

HLM 25

Stroke module

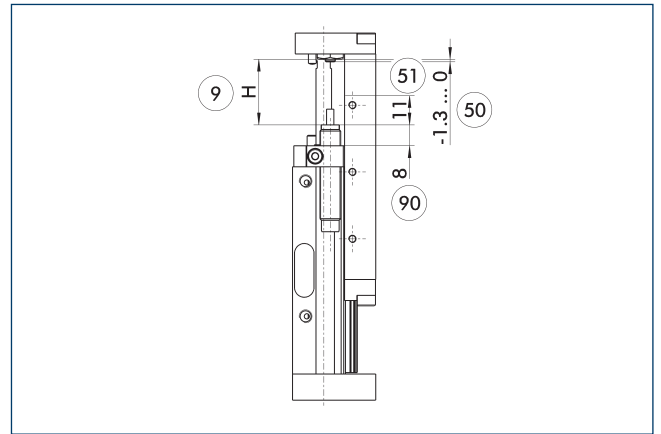
Fine adjustment, on the piston side



- ⑨ Nominal stroke
- ⑤① Stroke adjustment range
- ⑤① Damping stroke adjustment
- ⑨① This dimension may not drop below this minimum value.

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

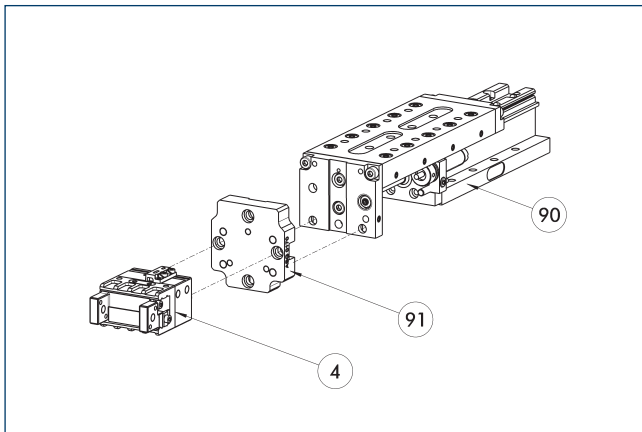
Fine adjustment, on the piston rod side



- ⑨ Nominal stroke
- ⑤① Stroke adjustment range
- ⑤① Damping stroke adjustment
- ⑨① This dimension may not drop below this minimum value.

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

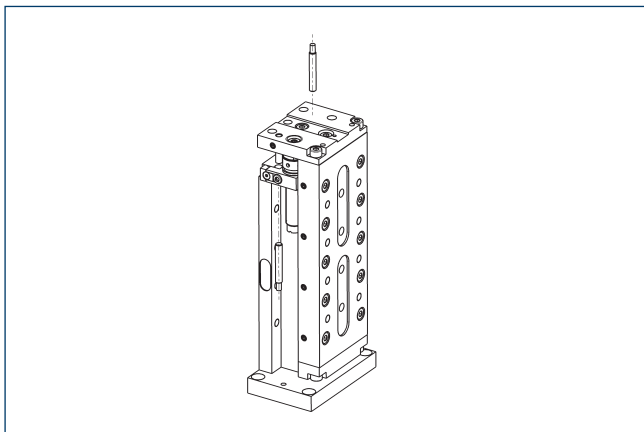
Modular Assembly Automation



- ④ Grippers
- ⑨① ASG adapter plate
- ⑨① Linear module CLM/KLM/LM/ELP/ELM/ELS/HLM

Grippers and linear modules can be combined with standard adapter plates from the modular assembly system. For more information see our main catalog "Modular Assembly Automation".

Inductive proximity switches



Directly mounted end position monitoring.

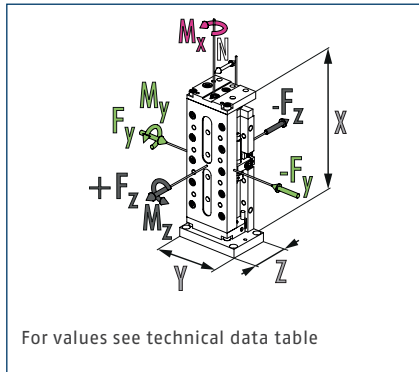
Description	ID	Often combined
Inductive proximity switches		
IN 40-S-M12	0301574	
IN 40-S-M8	0301474	●
INK 40-S	0301555	
Inductive proximity switch with lateral cable outlet		
IN 40-S-M12-SA	0301577	
IN 40-S-M8-SA	0301473	●
INK 40-S-SA	0301565	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 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	
Clip for connector/socket		
CLI-M12	0301464	
CLI-M8	0301463	
Cable extension		
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	
Sensor distributor		
V2-M12	0301776	●
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

- ① Two sensors are required per unit for monitoring two positions. On option, extension cables and sensor distributors are available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor system.

HLM 50

Stroke module

Dimensions and maximum loads

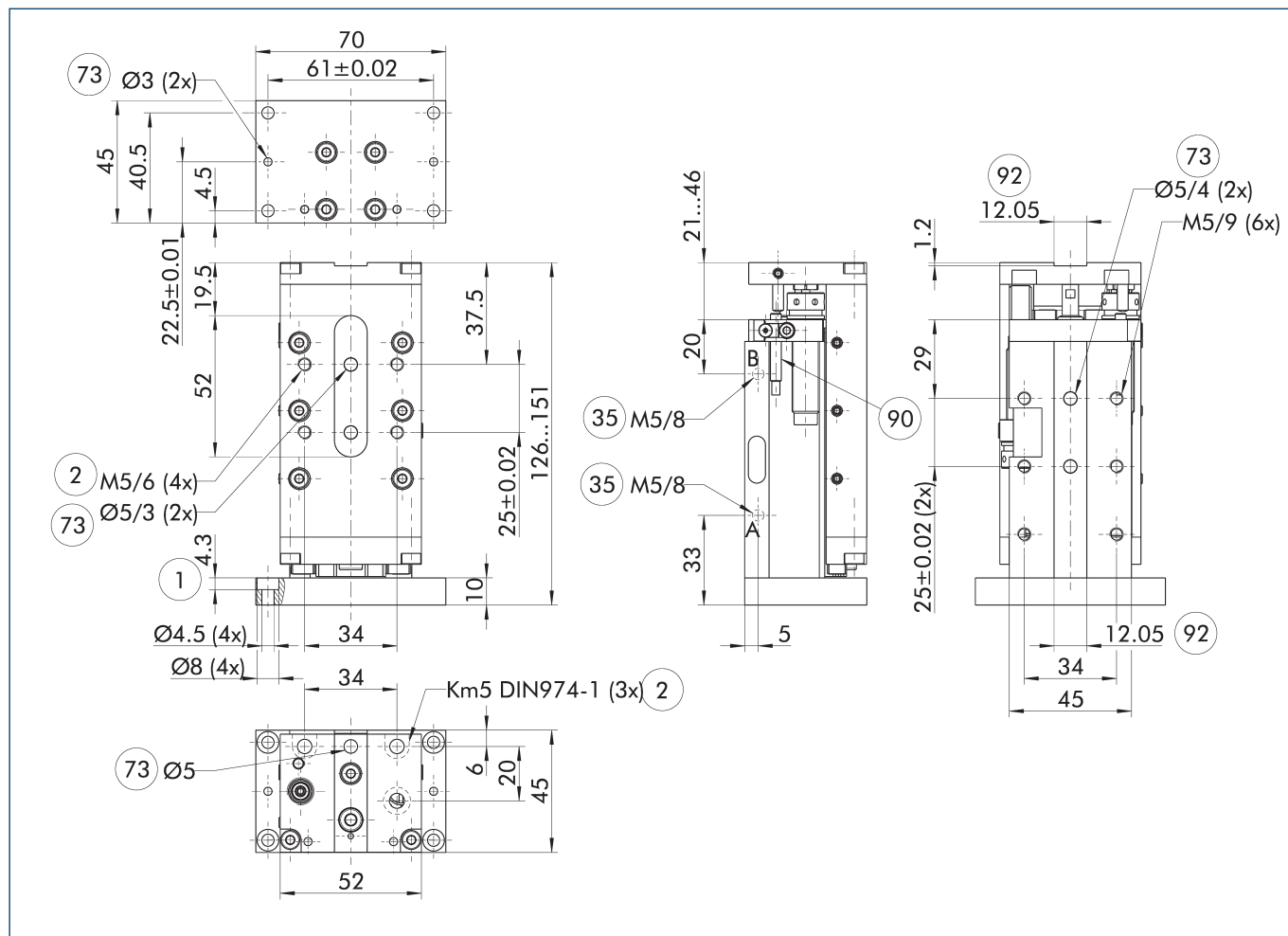


ⓘ The indicated forces and moments are maximum values for single load. If more than one force and/or torque occurs simultaneously, the case of application can be calculated by using the Toolbox. The force F_y can only be calculated by using the Toolbox.

Technical data

Description		HLM 50-H025	HLM 50-H050	HLM 50-H075	HLM 50-H100
ID		0314583	0314584	0314586	0314574
Stroke	[mm]	25	50	75	100
extend force	[N]	120	120	120	120
retracted force	[N]	103	103	103	103
Repeat accuracy	[mm]	0.02	0.02	0.02	0.02
Piston diameter	[mm]	16	16	16	16
Bar diameter	[mm]	6	6	6	6
Min./nom./max. operating pressure	[bar]	3/6/8	3/6/8	3/6/8	3/6/8
Fluid consumption/10 mm stroke	[cm ³]	2	2	2	2
Overall length	[mm]	126	166	201	241
IP protection class		40	40	40	40
Min./max. ambient temperature	[°C]	5/60	5/60	5/60	5/60
Weight	[kg]	0.85	1.07	1.25	1.36
Drive concept		Piston rod cylinders	Piston rod cylinders	Piston rod cylinders	Piston rod cylinders
Dimensions X x Y x Z	[mm]	126 x 70 x 45	166 x 70 x 45	201 x 70 x 45	241 x 70 x 45
Clearance N (for moment load)	[mm]	34	34	34	34
Moments Mx max./My max./Mz max.	[Nm]	14/11.6/5.8	17/15.1/7.55	20/18.6/9.3	23/22.1/11.05
Forces Fz max.	[N]	407	372	338	328
Options and their characteristics					
Rod lock version			HLM 50-H050-ASP	HLM 50-H075-ASP	HLM 50-H100-ASP
ID			0314585	0314587	0314577
Stroke loss of nominal stroke (on the rod side)	[mm]		10	10	10
Weight	[kg]		1.1	1.28	1.39
Static holding force	[N]		180	180	180
Max. axial play of the clamping	[mm]		0.2	0.2	0.2
Min. release pressure	[bar]		3	3	3

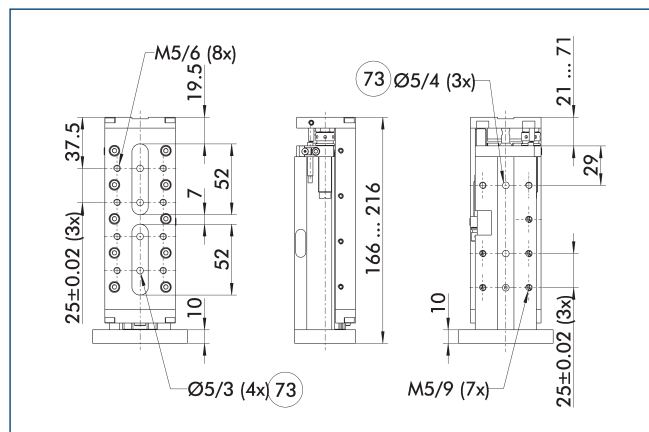
HLM 50-H025 main view



The drawing shows the stroke module with the slide retracted without the options described below.

- A Main connection - linear unit extended
- B Main connection - linear unit retracted
- ① Connection linear unit
- ② Attachment connection
- ③⑤ Back side
- ⑦③ Fit for centering pins
- ⑨⑩ Inductive proximity switches
- ⑨② Fit for centering strip LMZL

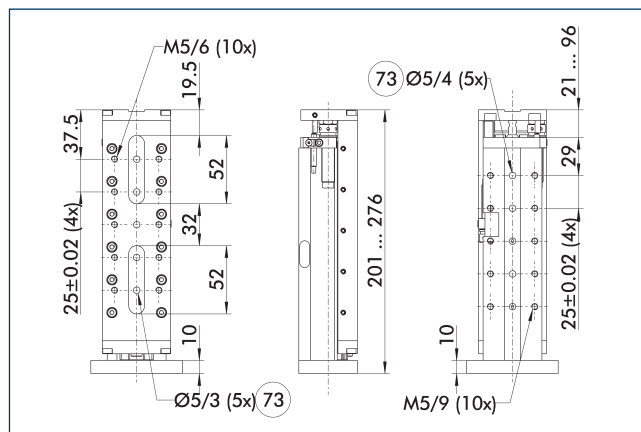
HLM 50-H050 variant



⑦③ Fit for centering pins

Not all dimensions shown can be seen in the main view.

HLM 50-H075 variant



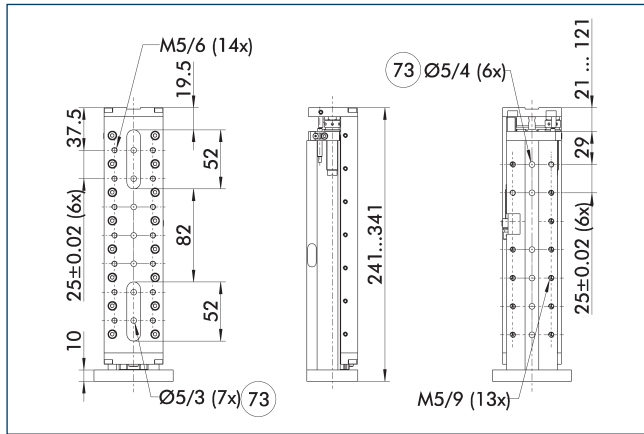
⑦③ Fit for centering pins

Not all dimensions shown can be seen in the main view.

HLM 50

Stroke module

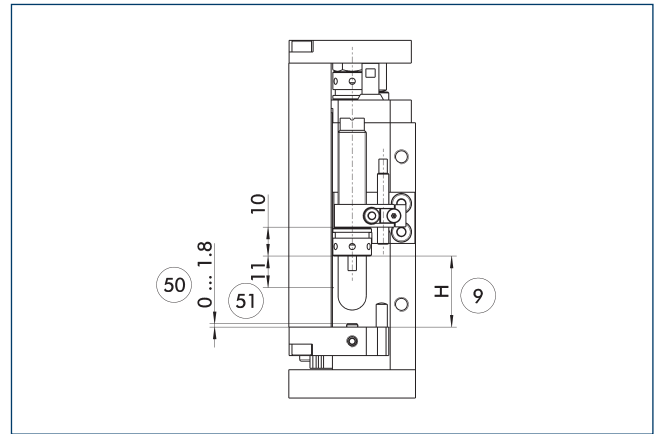
HLM 50-H100 variant



73 Fit for centering pins

Not all dimensions shown can be seen in the main view.

Fine adjustment, on the piston side



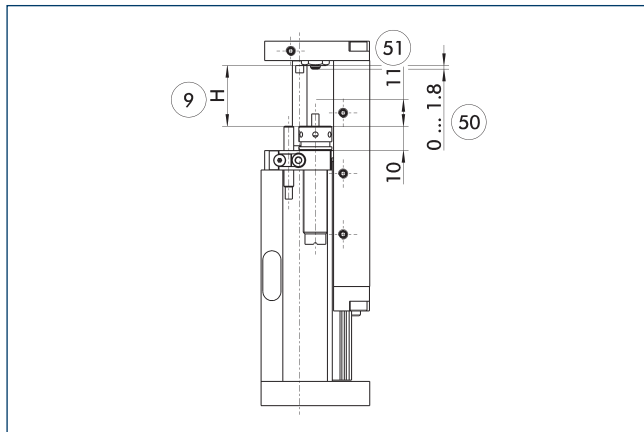
9 Nominal stroke

51 Stroke adjustment range

50 Damping stroke adjustment range

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

Fine adjustment, on the piston rod side



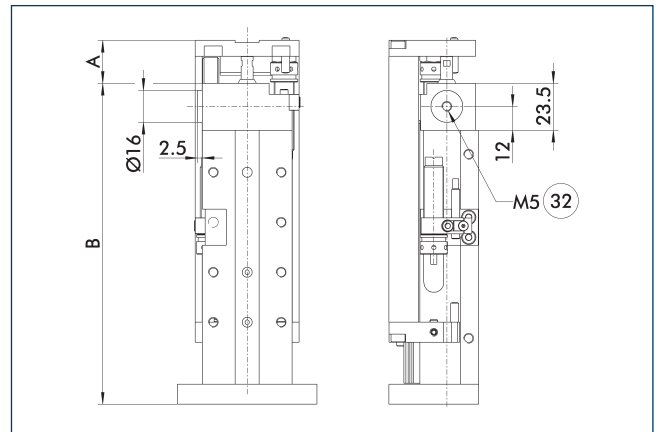
9 Nominal stroke

51 Stroke adjustment range

50 Damping stroke adjustment range

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

Rod lock

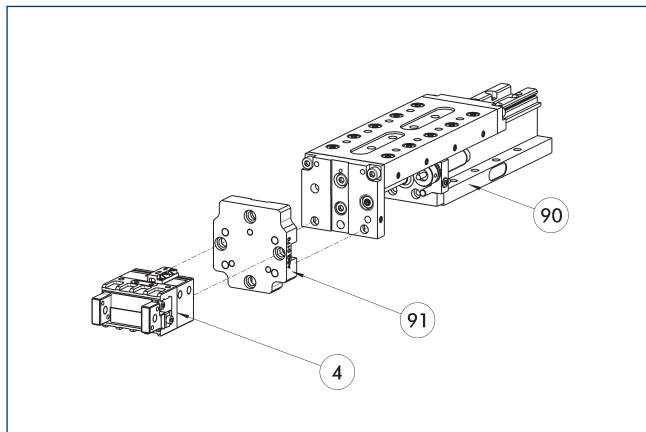


32 Pneumatic connection for holding brake

The rod lock prevents weights from falling in the event of energy loss, such as emergency stop scenarios.

Description	A [mm]	B [mm]	
HLM 50-H050-ASP	15.5	160.5	
HLM 50-H075-ASP	15.5	195.5	
HLM 50-H100-ASP	15.5	235.5	

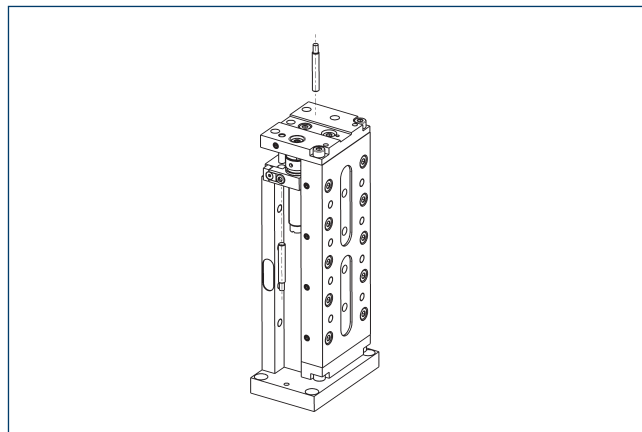
Modular Assembly Automation



- ④ Grippers
- ⑨① ASG adapter plate
- ⑨① Linear module CLM/KLM/LM/ELP/ELM/ELS/HLM

Grippers and linear modules can be combined with standard adapter plates from the modular assembly system. For more information see our main catalog "Modular Assembly Automation".

Inductive proximity switches

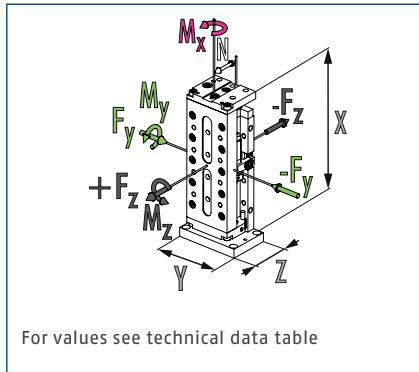


Directly mounted end position monitoring.

Description	ID	Often combined
Inductive proximity switches		
IN 40-S-M12	0301574	
IN 40-S-M8	0301474	●
INK 40-S	0301555	
Inductive proximity switch with lateral cable outlet		
IN 40-S-M12-SA	0301577	
IN 40-S-M8-SA	0301473	●
INK 40-S-SA	0301565	
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	
Clip for connector/socket		
CLI-M12	0301464	
CLI-M8	0301463	
Cable extension		
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	
Sensor distributor		
V2-M12	0301776	●
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

- ① Two sensors are required per unit for monitoring two positions. On option, extension cables and sensor distributors are available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor system.

Dimensions and maximum loads

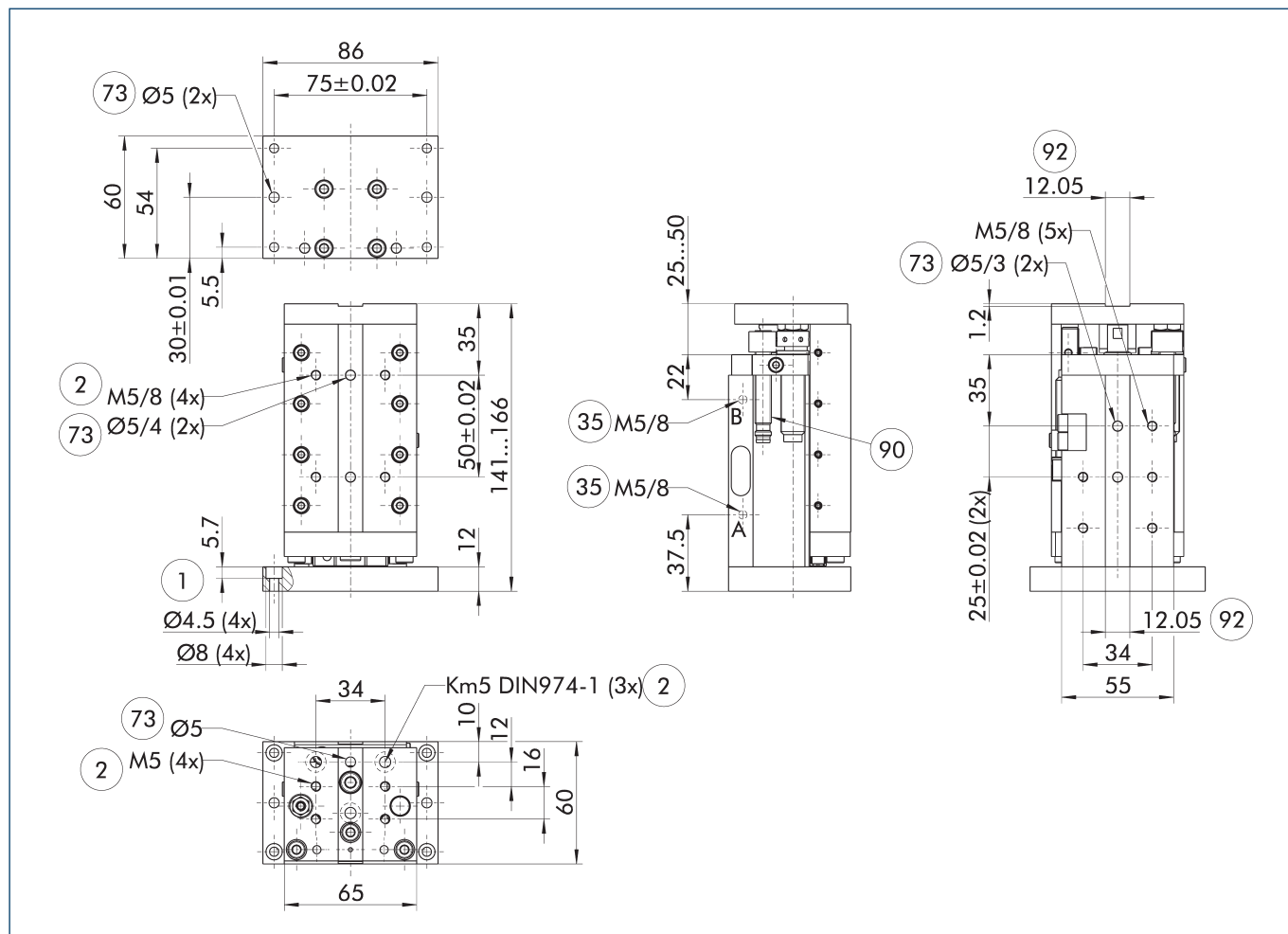


- ⓘ The indicated forces and moments are maximum values for single load. If more than one force and/or torque occurs simultaneously, the case of application can be calculated by using the Toolbox. The force F_y can only be calculated by using the Toolbox.

Technical data

Description		HLM 100-H025	HLM 100-H050	HLM 100-H075	HLM 100-H100	HLM 100-H125	HLM 100-H150
ID		0314588	0314589	0314591	0314593	0314575	0314576
Stroke	[mm]	25	50	75	100	125	150
extend force	[N]	294	294	294	294	294	294
retracted force	[N]	247	247	247	247	247	247
Repeat accuracy	[mm]	0.02	0.02	0.02	0.02	0.02	0.02
Piston diameter	[mm]	25	25	25	25	25	25
Bar diameter	[mm]	10	10	10	10	10	10
Min./nom./max. operating pressure	[bar]	3/6/8	3/6/8	3/6/8	3/6/8	3/6/8	3/6/8
Fluid consumption/10 mm stroke	[cm ³]	4.9	4.9	4.9	4.9	4.9	4.9
Overall length	[mm]	141	179	216	254	329	329
IP protection class		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	5/60	5/60	5/60	5/60	5/60	5/60
Weight	[kg]	1.62	1.92	2.27	2.57	3.17	3.17
Drive concept		Piston rod cylinders	Piston rod cylinders	Piston rod cylinders	Piston rod cylinders	Piston rod cylinders	Piston rod cylinders
Dimensions X x Y x Z	[mm]	141 x 86 x 45	179 x 86 x 60	216 x 86 x 60	254 x 86 x 60	329 x 86 x 60	329 x 86 x 60
Clearance N (for moment load)	[mm]	44	44	44	44	44	44
Moments Mx max./My max./Mz max.	[Nm]	30/26.4/13.2	37/33.1/16.55	44/39.7/19.85	51/46.3/23.15	58/52.9/26.45	65/59.6/29.8
Forces Fz max.	[N]	835	750	695	665	645	630
Options and their characteristics							
Rod lock version			HLM 100-H050-ASP	HLM 100-H075-ASP	HLM 100-H100-ASP	HLM 100-H125-ASP	HLM 100-H150-ASP
ID			0314590	0314592	0314594	0314578	0314579
Stroke loss of nominal stroke (on the rod side)	[mm]		12	12	12	12	12
Weight	[kg]		1.99	2.34	2.64	3.24	3.24
Static holding force	[N]		350	350	350	350	350
Max. axial play of the clamping	[mm]		0.25	0.25	0.25	0.25	0.25
Min. release pressure	[bar]		3	3	3	3	3

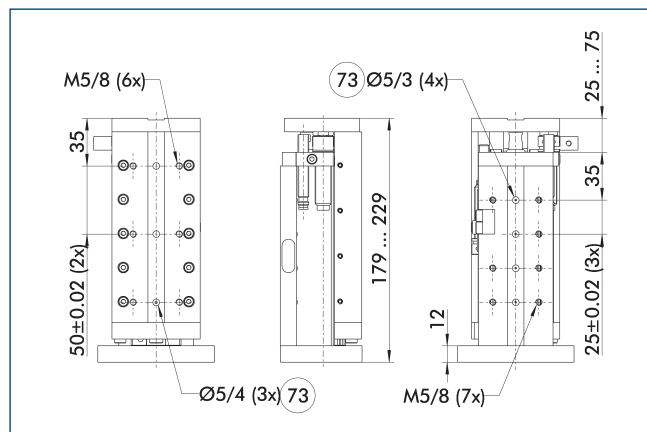
HLM 100-H025 main view



The drawing shows the stroke module with the slide retracted without the options described below.

- A Main connection - linear unit extended
- B Main connection - linear unit retracted
- 1 Connection linear unit
- 2 Attachment connection
- 35 Back side
- 73 Fit for centering pins
- 90 Inductive proximity switches
- 92 Fit for centering strip LMZL

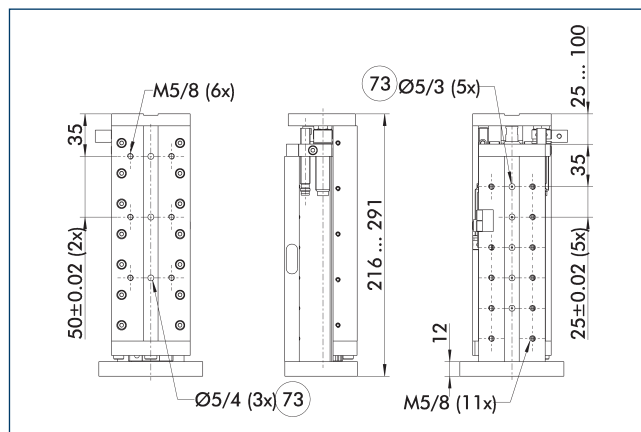
HLM 100-H050 variant



- 73 Fit for centering pins

Not all dimensions shown can be seen in the main view.

HLM 100-H075 variant



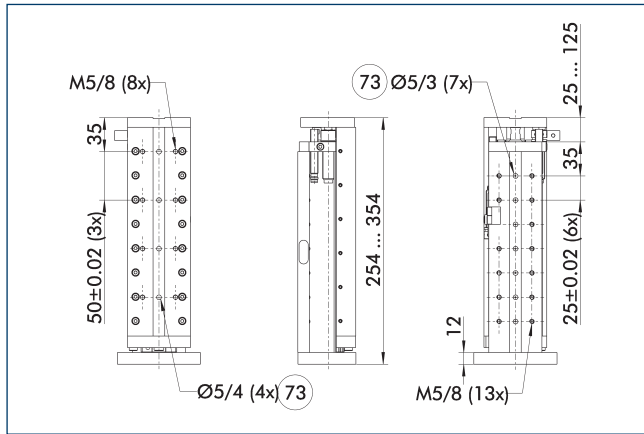
- 73 Fit for centering pins

Not all dimensions shown can be seen in the main view.

HLM 100

Stroke module

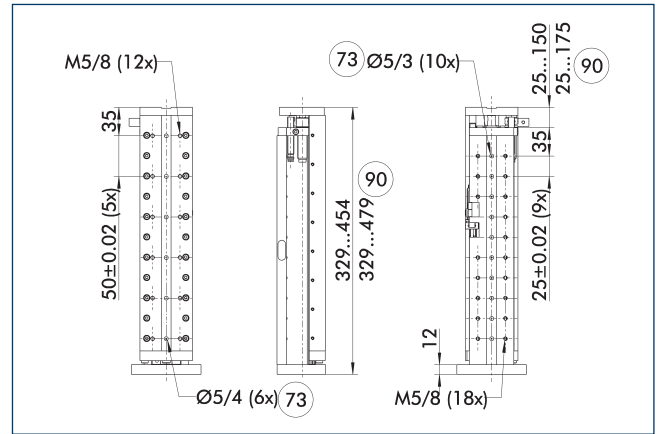
HLM 100-H100 variant



73 Fit for centering pins

Not all dimensions shown can be seen in the main view.

HLM 100-H125/150 variant

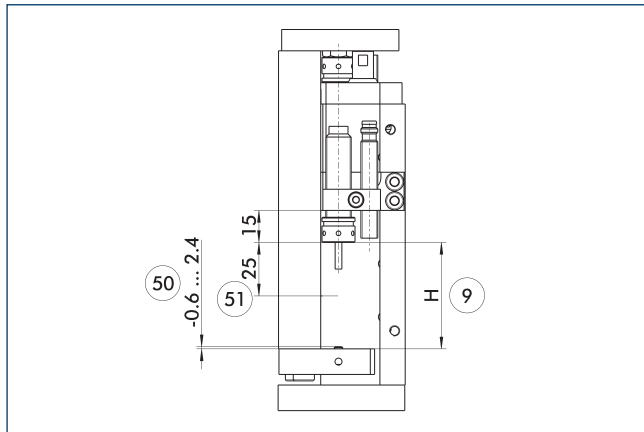


73 Fit for centering pins

90 Applicable stroke variant H150

Not all dimensions shown can be seen in the main view.

Fine adjustment, on the piston side



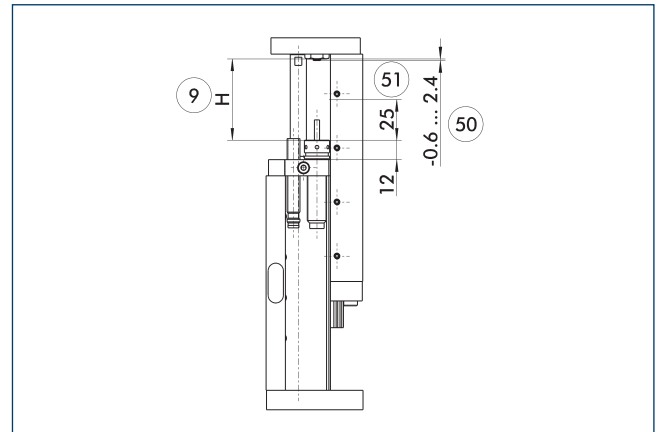
9 Nominal stroke

51 Stroke adjustment range

50 Damping stroke adjustment range

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

Fine adjustment, on the piston rod side



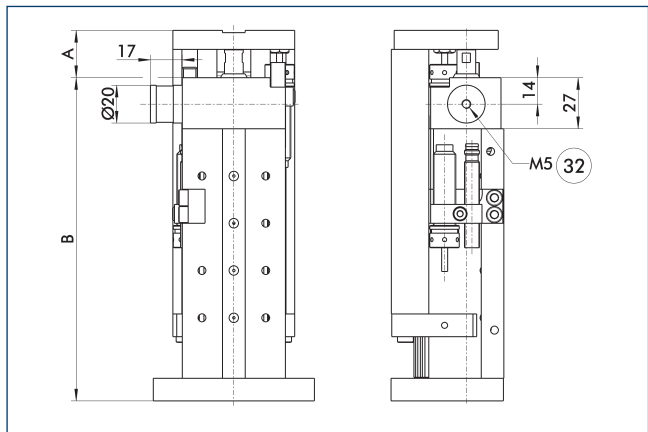
9 Nominal stroke

51 Stroke adjustment range

50 Damping stroke adjustment range

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

Rod lock

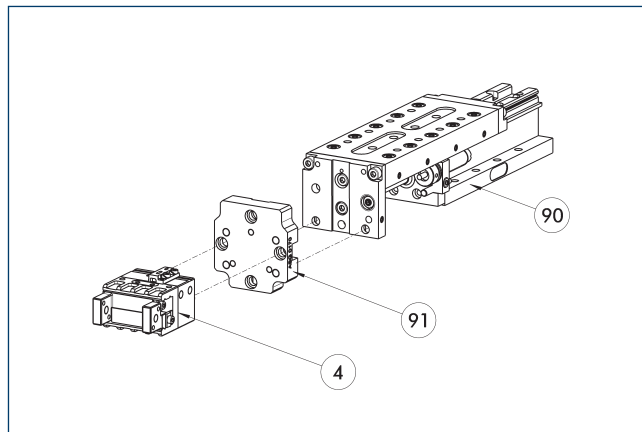


- 32 Pneumatic connection for holding brake

The rod lock prevents weights from falling in the event of energy loss, such as emergency stop scenarios.

Description	A [mm]	B [mm]
HLM 100-H050-ASP	20	159
HLM 100-H075-ASP	20	208
HLM 100-H100-ASP	20	246
HLM 100-H125-ASP	20	321
HLM 100-H150-ASP	20	321

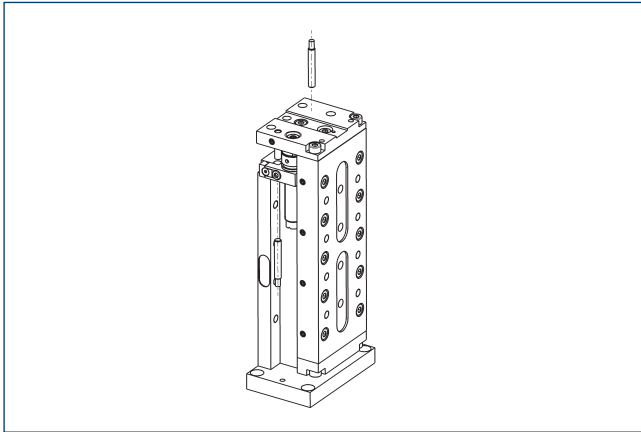
Modular Assembly Automation



- 4 Grippers
- 90 Linear module CLM/KLM/LM/ELP/ELM/ELS/HLM
- 91 ASG adapter plate

Grippers and linear modules can be combined with standard adapter plates from the modular assembly system. For more information see our main catalog "Modular Assembly Automation".

Inductive proximity switches

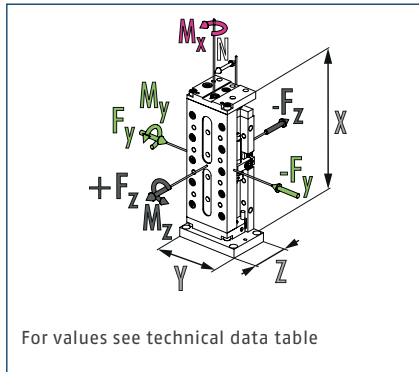


Directly mounted end position monitoring.

Description	ID	Often combined
Inductive proximity switches		
NI 30-KT	0313429	
NI 32	0313425	
Connection cables		
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	
Clip for connector/socket		
CLI-M8	0301463	
Cable extension		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●

- ① Two sensors are required per unit for monitoring two positions. On option, extension cables and sensor distributors are available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor systems. The NI 30-KT is to be used for the basic module. The NI 32 is to be used for the variant with rod lock.

Dimensions and maximum loads

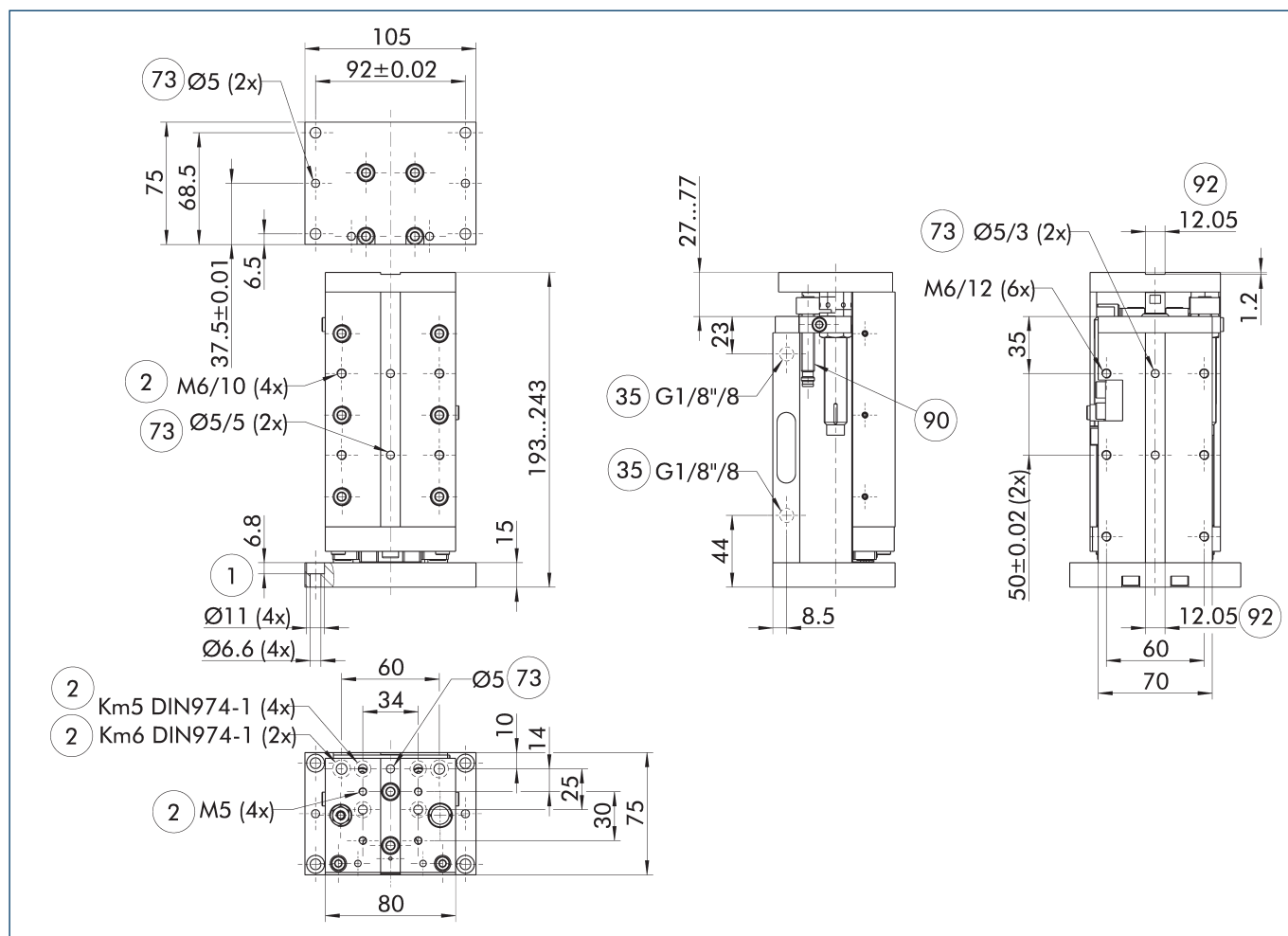


ⓘ The indicated forces and moments are maximum values for single load. If more than one force and/or torque occurs simultaneously, the case of application can be calculated by using the Toolbox. The force F_y can only be calculated by using the Toolbox.

Technical data

Description		HLM 200-H050	HLM 200-H100	HLM 200-H150
ID		0314595	0314596	0314598
Stroke	[mm]	50	100	150
extend force	[N]	482	482	482
retracted force	[N]	415	415	415
Repeat accuracy	[mm]	0.02	0.02	0.02
Piston diameter	[mm]	32	32	32
Bar diameter	[mm]	12	12	12
Min./nom./max. operating pressure	[bar]	3/6/8	3/6/8	3/6/8
Fluid consumption/10 mm stroke	[cm ³]	8.04	8.04	8.04
Overall length	[mm]	193	267	343
IP protection class		40	40	40
Min./max. ambient temperature	[°C]	5/60	5/60	5/60
Weight	[kg]	3.42	4.47	5.57
Drive concept		Piston rod cylinders	Piston rod cylinders	Piston rod cylinders
Dimensions X x Y x Z	[mm]	193 x 105 x 75	267 x 105 x 75	343 x 105 x 75
Clearance N (for moment load)	[mm]	56.5	56.5	56.5
Moments Mx max./My max./Mz max.	[Nm]	50/63/31.5	72/90/45	94/117/58.5
Forces Fz max.	[N]	1250	1185	1160
Options and their characteristics				
Rod lock version			HLM 200-H100-ASP	HLM 200-H150-ASP
ID			0314597	0314599
Stroke loss of nominal stroke (on the rod side)	[mm]		15	15
Weight	[kg]		4.54	5.64
Static holding force	[N]		600	600
Max. axial play of the clamping	[mm]		0.25	0.25
Min. release pressure	[bar]		3	3

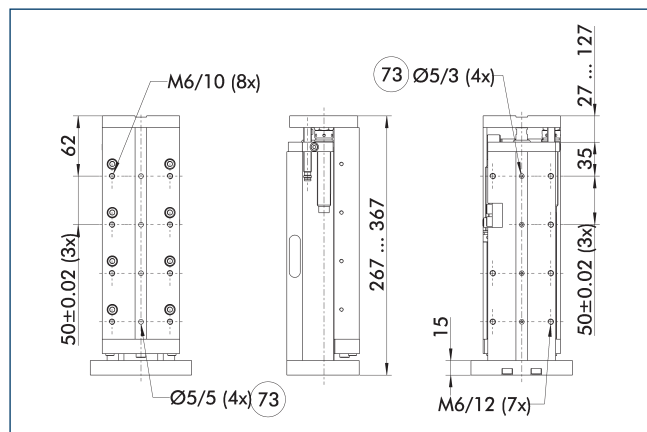
HLM 200-H050 main view



The drawing shows the stroke module with the slide retracted without the options described below.

- A Main connection - linear unit extended
- B Main connection - linear unit retracted
- ① Connection linear unit
- ② Attachment connection
- ③⑤ Back side
- ⑦③ Fit for centering pins
- ⑨⑩ Inductive proximity switches
- ⑨② Fit for centering strip LMZL

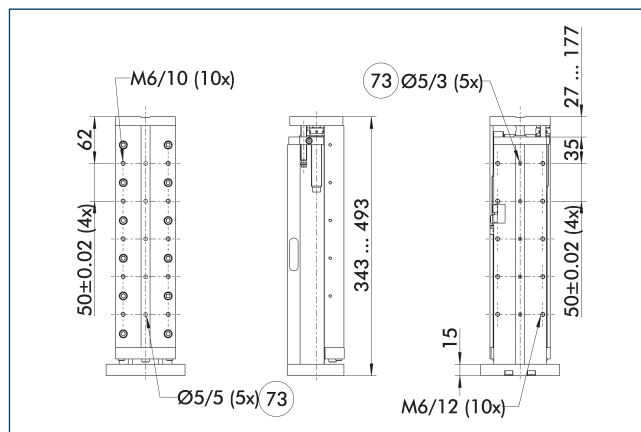
HLM 200-H100 variant



- ⑦③ Fit for centering pins

Not all dimensions shown can be seen in the main view.

HLM 200-H150 variant



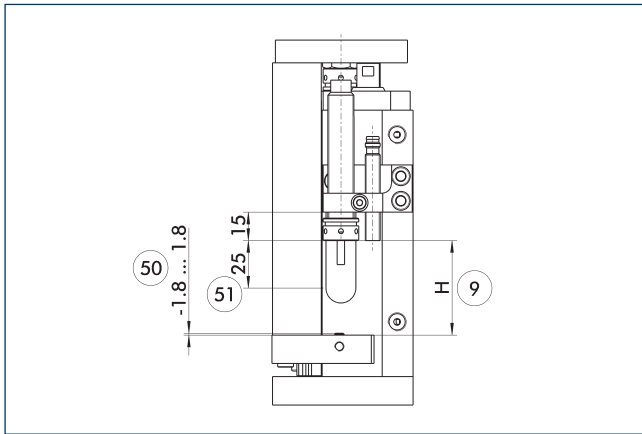
- ⑦③ Fit for centering pins

Not all dimensions shown can be seen in the main view.

HLM 200

Stroke module

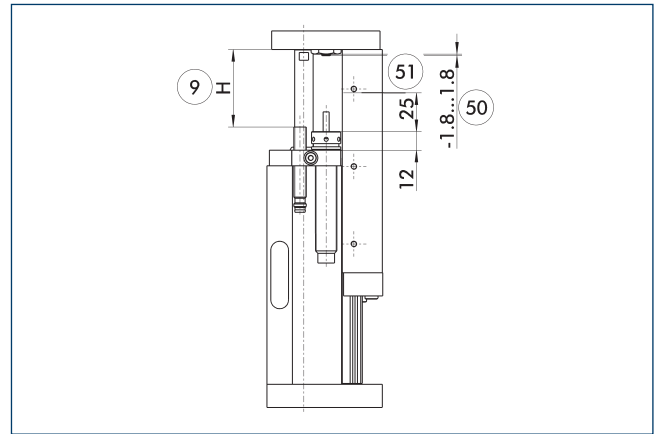
Fine adjustment, on the piston side



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

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

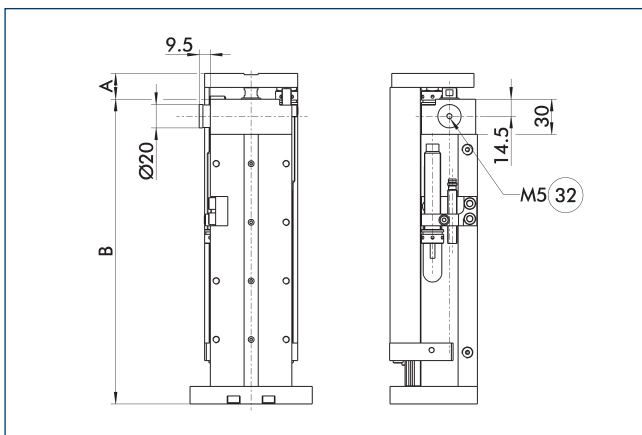
Fine adjustment, on the piston rod side



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

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

Rod lock

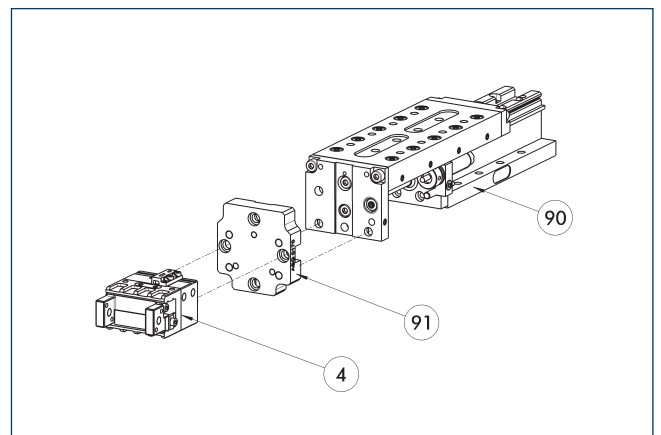


- ③② Pneumatic connection for holding brake

The rod lock prevents weights from falling in the event of energy loss, such as emergency stop scenarios.

Description	A [mm]	B [mm]	
HLM 200-H100-ASP	22	260	
HLM 200-H150-ASP	22	336	

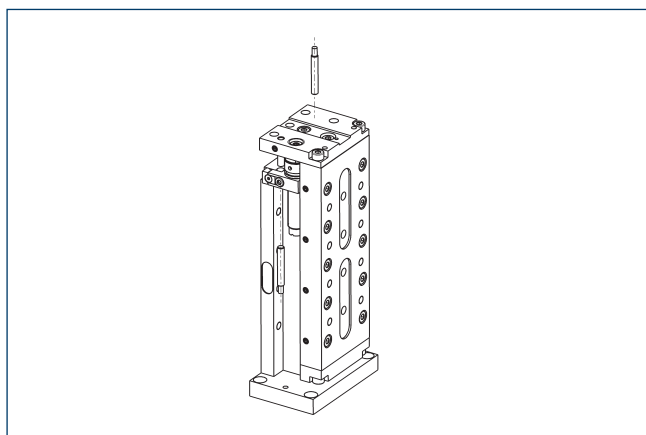
Modular Assembly Automation



- ④ Grippers
- ⑨① ASG adapter plate
- ⑨② Linear module CLM/KLM/LM/ELP/ELM/ELS/HLM

Grippers and linear modules can be combined with standard adapter plates from the modular assembly system. For more information see our main catalog "Modular Assembly Automation".

Inductive proximity switches



Directly mounted end position monitoring.

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Inductive proximity switches		
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Connection cables		
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KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
Cable extension		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●

- ① Two sensors are required per unit for monitoring two positions. On option, extension cables and sensor distributors are available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor system.



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