



Hand in hand for tomorrow



## Product data sheet

Stroke module HLM 200

## 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.

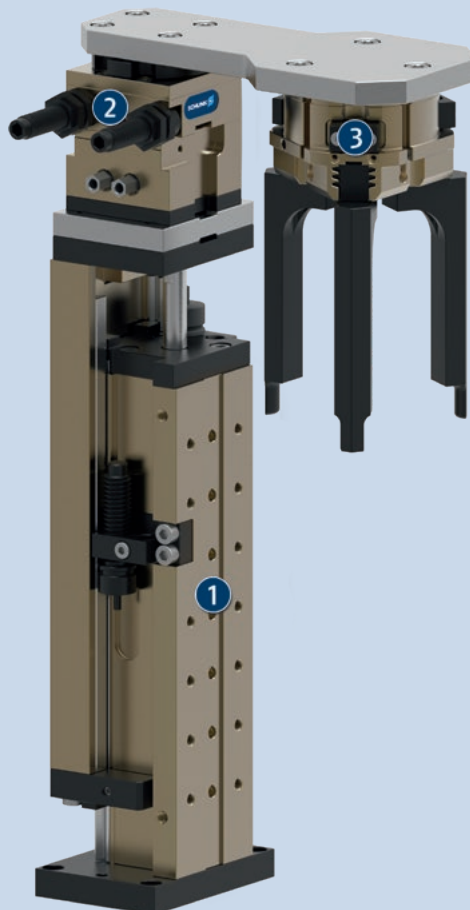
**Layout or control calculation:** For configuration or control calculation of the units, we recommend to use our Toolbox software, which is available online. A control calculation for the selected unit must be carried out to prevent overloading.

**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.

- ❶ HLM stroke module
- ❷ Vane swivel unit RM
- ❸ 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



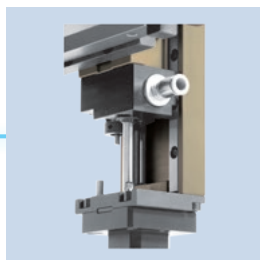
Gripper for small components



Universal gripper



Pressure maintenance valve



Rod lock



Pillar assembly system



Rotary gripper module



Inductive proximity switch

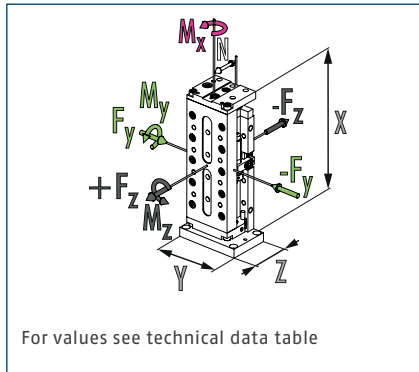
① For more information on these products can be found on the following product pages or at [schunk.com](https://www.schunk.com).

## 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.

**Food-grade lubrication:** The product contains food-compliant lubricants as standard. The requirements of standard EN 1672-2:2020 are not fully met. The relevant NSF certificates are available at <https://info.nsf.org/USDA/Listings.asp> using the lubricant information in the operating manual. Components such as rolling bearings, linear guides, or shock absorbers are not provided with food-compliant lubricants.

### Dimensions and maximum loads

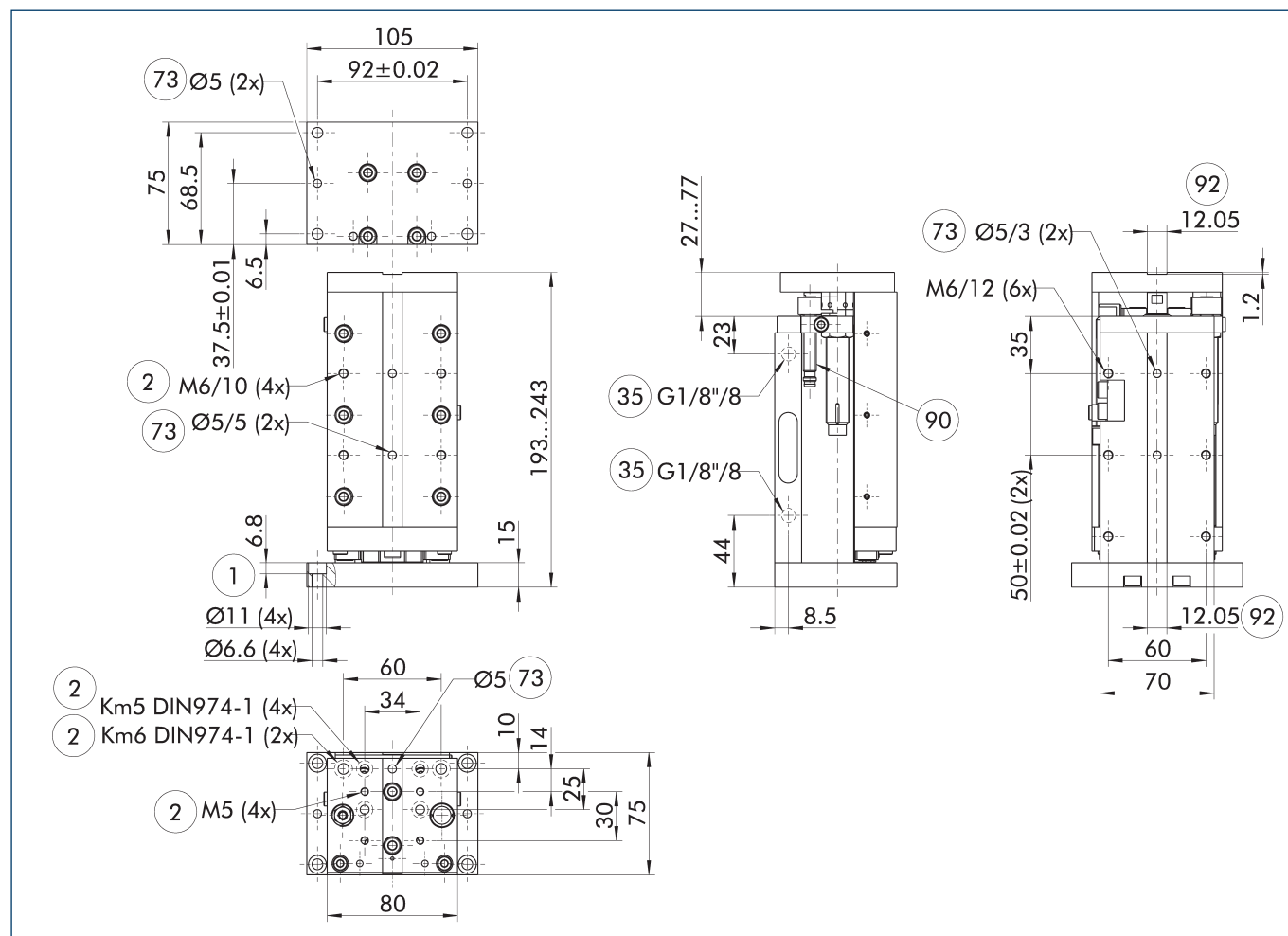


- ① The indicated forces and moments are maximum values for single load. If more than one force and/or torque occurs simultaneously, the case of application can be calculated by using the Toolbox. The force  $F_y$  can only be calculated by using the Toolbox.

### 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                |
| Cylinder volume/10 mm per double stroke         | [cm³] | 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                 |
| <b>Options and their characteristics</b>        |       |                      |                      |                      |
| 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                    |

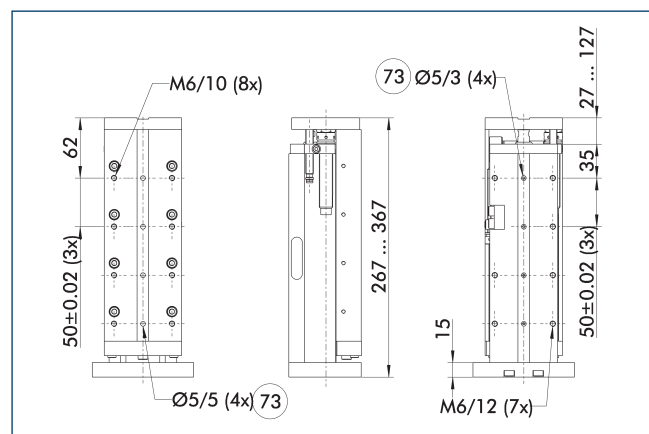
### HLM 200-H050 main view



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 switch
- ⑨② Fit for centering strip LMZL

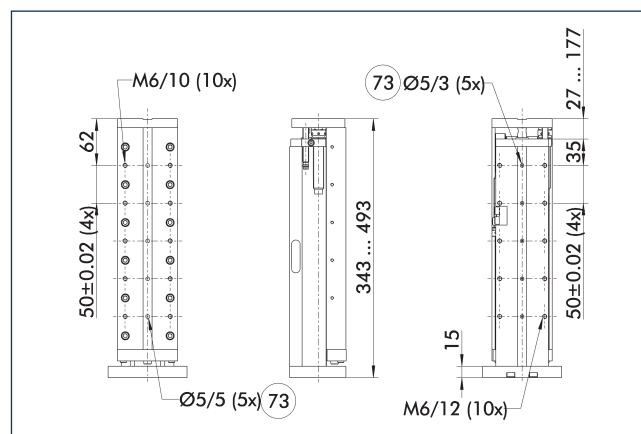
### HLM 200-H100 variant



- ⑦③ Fit for centering pins

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

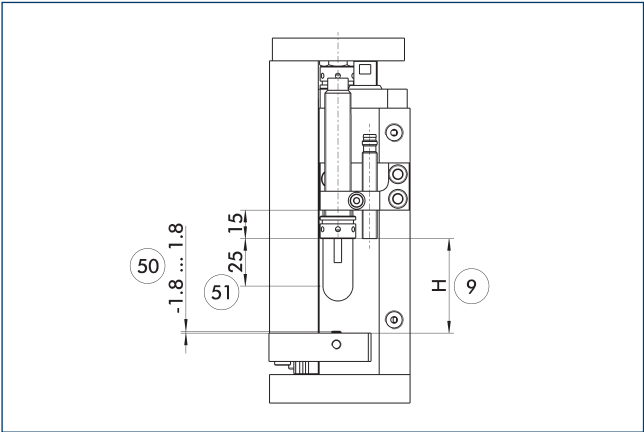
### HLM 200-H150 variant



- ⑦③ Fit for centering pins

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

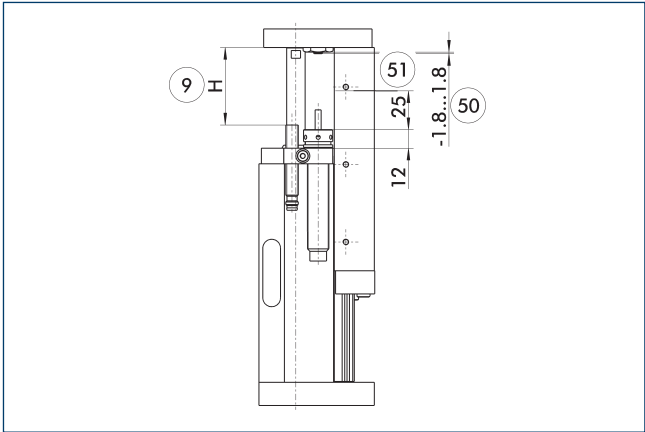
Fine adjustment, on the piston side



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

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

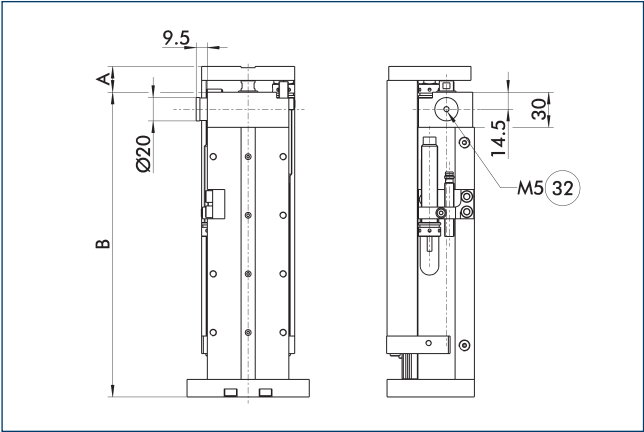
Fine adjustment, on the piston rod side



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

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

Rod lock

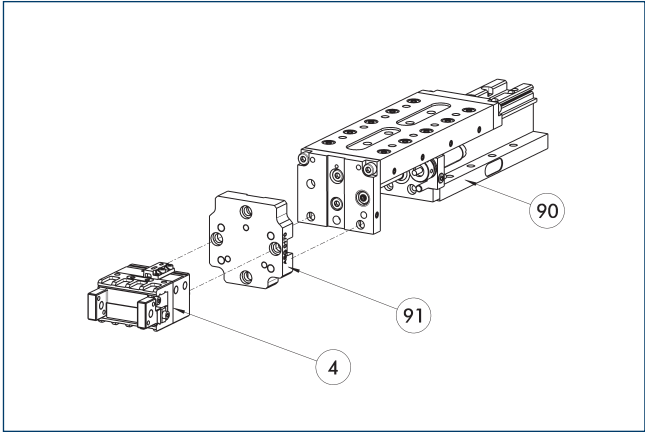


- 32 Pneumatic connection for holding brake

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

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

Modular Assembly Automation

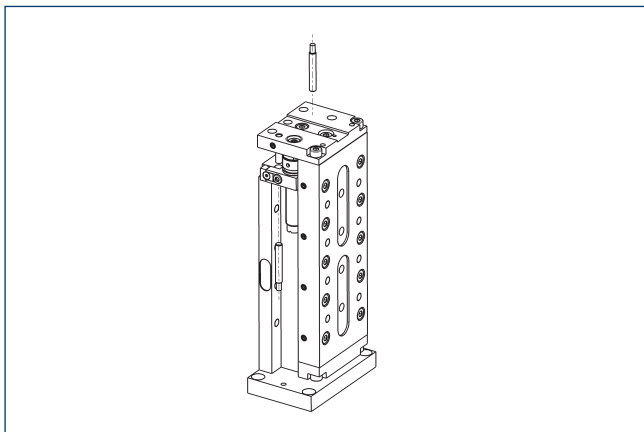


- 4 Grippers
- 90 Linear module CLM/KLM/LM/ELP/ELM/ELS/HLM
- 91 ASG adapter plate

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 switch |         |                |
| NI 30-KT                   | 0313429 |                |
| 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 |                |
| 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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