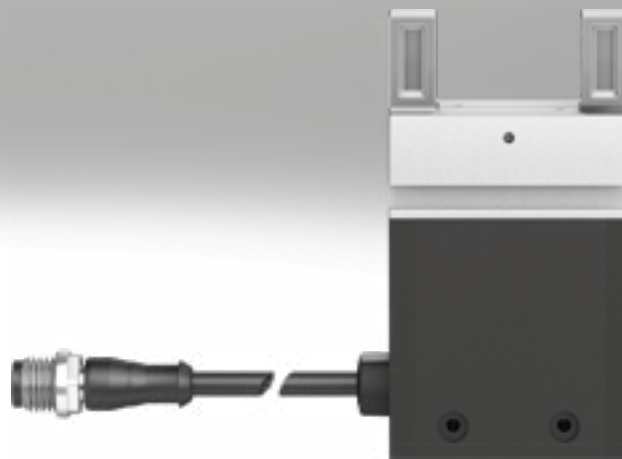


Parallel grippers EHPS, electric

FESTO



Characteristics

At a glance

| Electrically actuated | Actuation | Adjustable gripping force (4 settings) | Sensing option of gripper jaws |
|--|---|--|---|
| <ul style="list-style-type: none"> Minimal installation effort – no valves, tubing or air preparation required Low noise pollution Electrical safety to DIN EN 61010-1:2010 | <ul style="list-style-type: none"> Via digital I/O or IO-Link No external controller required Connection options: <ul style="list-style-type: none"> For digital I/O: connection via terminal strip to terminal CPX or controller CECC For IO-Link: plug for direct connection to an IO-Link master | <ul style="list-style-type: none"> Adaptation of the gripping force to sensitive workpieces Simple adjustment Very powerful | <ul style="list-style-type: none"> For digital I/O: direct position sensing possible via external sensors on the gripper head For IO-Link: integrated position sensors for sensing the gripper jaws |

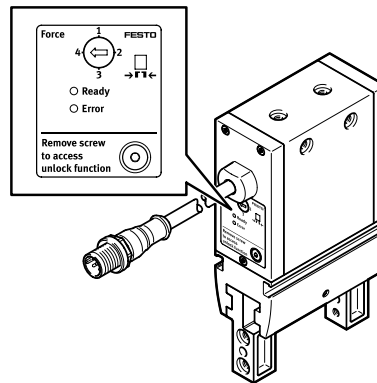


Adjusting the gripping force For gripper with digital I/O

The speed for the gripping force of the gripper can be adjusted using the rotary switch. The switch has four settings and therefore four force levels, with no intermediate levels.

The speed has an effect on the gripping force and is not linearly adjustable.

- Setting 1: approx. 50% of the max. force
- Setting 2: approx. 70% of the max. force
- Setting 3: approx. 85% of the max. force
- Setting 4: max. force

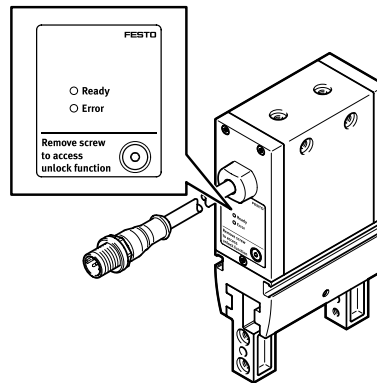


For grippers with IO-Link

The gripping force is set via an IO-Link master. The adjustment has four settings and therefore four force levels. There are no intermediate levels. (Values for settings 1 to 4 as for I/O version).

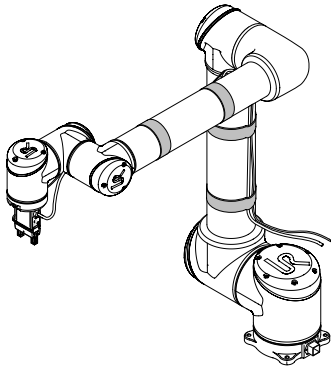
There are also three gripping modes to choose from. This allows a shorter gripping time in the application.

- External gripping:**
The object is gripped from the outside. The gripper jaws move with the specified gripping force/speed during the gripping process. On releasing, the gripper jaws move at the maximum speed
- Internal gripping:**
The object is gripped from the inside. The gripper jaws move with the specified gripping force/speed during the gripping process. On releasing, the gripper jaws move at the maximum speed
- Universal gripping:**
The specified gripping force is used in both directions of movement during the gripping process



Characteristics

Fast and intuitive integration on a robot arm

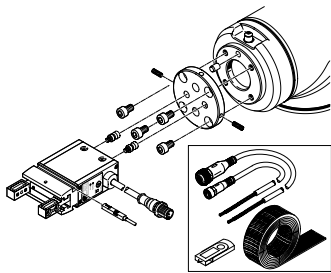


The gripper with robot connection EHPS-...-RA1 enables fast integration on a light-weight robot.

In order to mount the gripper on the robot arm, an adapter plate and the necessary mounting accessories are included in the kit, in addition to the gripper itself. It also contains the required proximity switches and a software plug-in (on a USB stick).

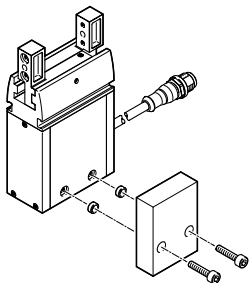
The plug-in is a simple means for integrating the gripper directly into the program sequence of the robot control system (→ page 5).

So as not to overload the internal cables of the Universal Robot, the connecting cables must be routed externally on the Universal Robot and secured using the included velcro strips.

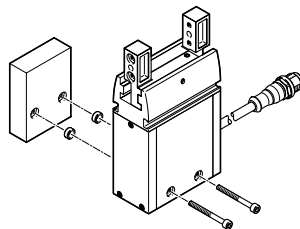


Mounting options

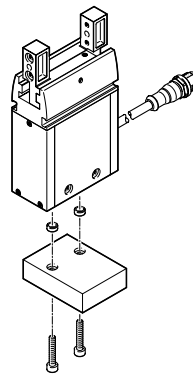
At the side
Via thread



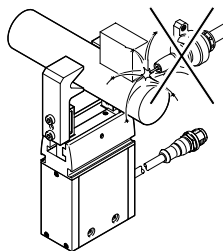
Via through-hole



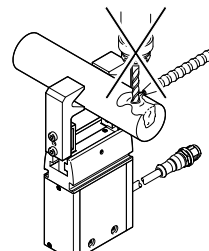
On the front



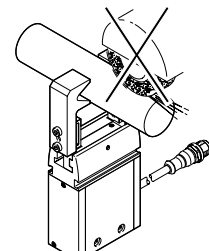
Note
These grippers are not designed for the following or similar applications:



- Welding spatter



- Machining
- Aggressive media



- Grinding dust

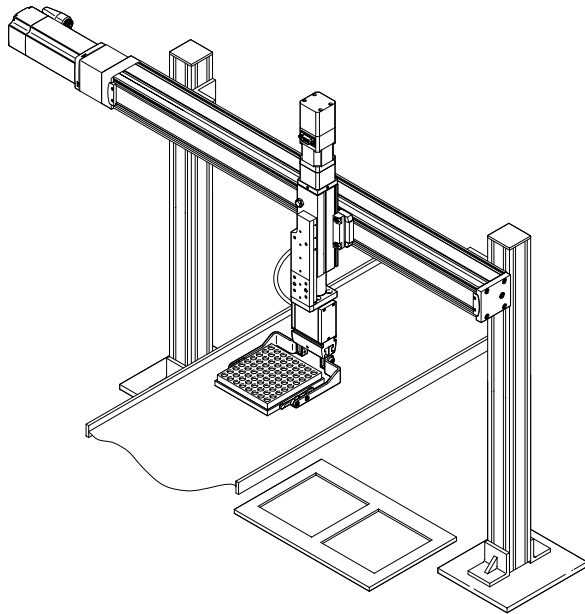
Key features

Application examples

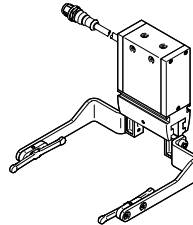
For laboratory diagnostics and pharmaceutical research

Gripper jaws specially developed for the parallel gripper EHPS-16 enable microwell plates to be picked up and transported (for SBS/ANSI formats).

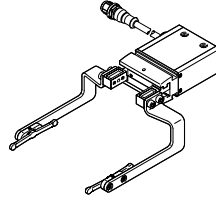
Ordering data → page 16



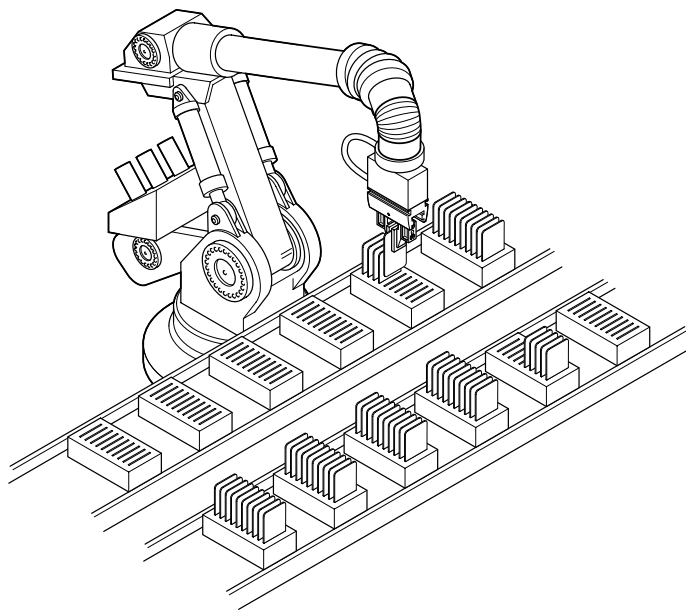
Gripper jaw mounting vertical



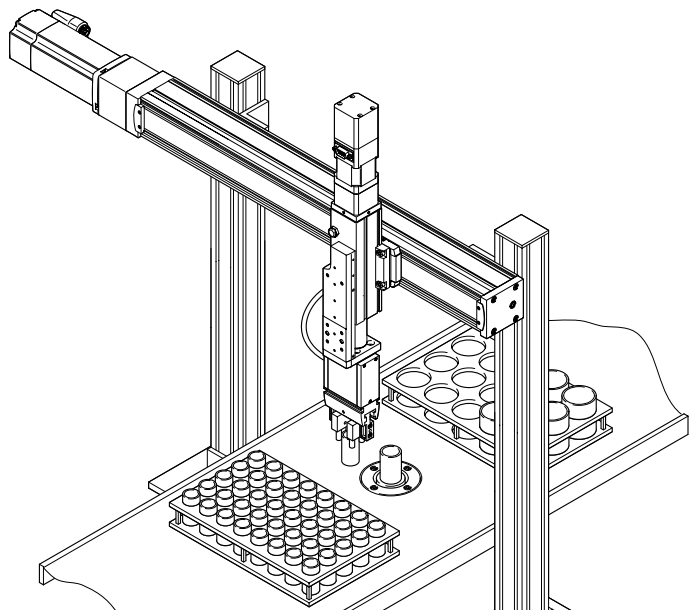
Gripper jaw mounting horizontal



Card handling

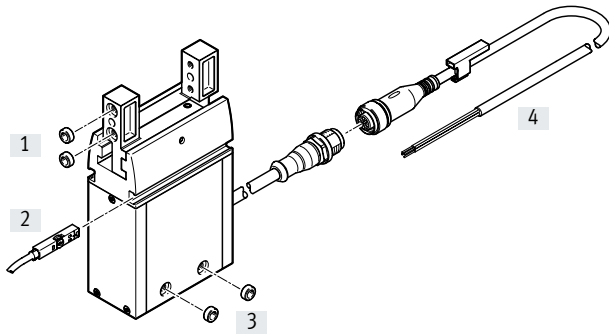


Sample preparation device with liquid dosing

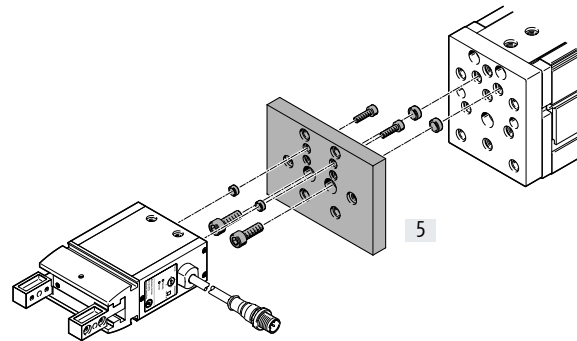


Peripherals overview

Peripherals overview



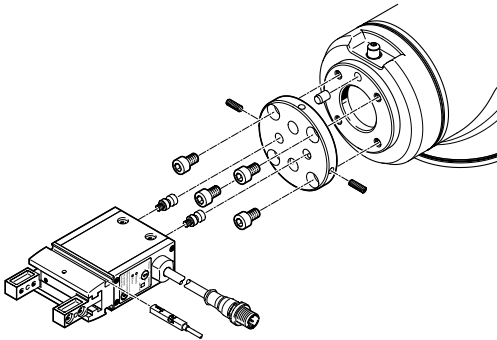
System product for handling and assembly technology



Accessories

| Type/order code | Description | → Page/Internet |
|--|--|-----------------|
| [1] Centring sleeve ZBH | <ul style="list-style-type: none"> For centring the gripper fingers on the gripper jaws 4 centring sleeves included in the scope of delivery of the gripper | 18 |
| [2] Proximity switch SMT-8M-A, SMT-8G | <ul style="list-style-type: none"> For sensing the gripper jaw position | 18 |
| Position transmitter SMAT-8M | <ul style="list-style-type: none"> Continuously senses the position of the gripper jaws. It has an analogue output with an output signal that is proportional to the gripper jaw position | 19 |
| [3] Centring sleeve ZBH | <ul style="list-style-type: none"> For centring the gripper during mounting 2 centring sleeves included in the scope of delivery of the gripper | 18 |
| [4] Connecting cable NEBU-M12G5 | <ul style="list-style-type: none"> For controlling the parallel gripper | 18 |
| [5] Adapter kit DHAA-G-H1 | <ul style="list-style-type: none"> Connecting plate between drive and gripper | 17 |

System product for robot connection



If feature EHPS-...-RA1 is used, the delivery includes all the connection components in addition to the gripper:

- Proximity switch
- Connecting cable for connecting the gripper and proximity switches
- Velcro strip for fixing the connecting cables in place
- Adapter kit for mounting on the robot arm
- USB stick for plug-in

Ordering data → page 16

Type codes

| | | |
|-------------|---------------------------|--|
| 001 | Series | |
| EHPS | Electric parallel gripper | |

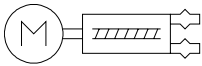
| | | |
|-----------|------|--|
| 002 | Size | |
| 16 | 16 | |
| 20 | 20 | |
| 25 | 25 | |



| | | |
|----------|----------------------|--|
| 003 | Position sensing | |
| A | For proximity sensor | |

| | | |
|-----------|-------------------------|--|
| 004 | Bus protocol/activation | |
| | None | |
| LK | IO-Link® | |

| | | |
|------------|------------------|--|
| 005 | Robot connection | |
| | None | |
| RA1 | Universal Robots | |

Data sheet



-  Size
16 ... 25
-  Stroke per gripper jaw
10 ... 16 mm



| General technical data | | | | |
|---|--|--------|--------|--------|
| Size | 16 | 20 | 25 | |
| Design | Worm gear Gear rack/pinion | | | |
| Guide | Plain-bearing guide with T-slot | | | |
| Control elements | Latched switch | | | |
| Ready status indication | LED | | | |
| Gripper function | Parallel | | | |
| Number of gripper jaws | 2 | | | |
| Total gripping force | [N] | 154 | 218 | 312 |
| Stroke per gripper jaw | [mm] | 10 | 13 | 16 |
| Max. mass per gripper finger | [g] | 100 | 150 | 230 |
| Max. switching frequency ¹⁾ | [Hz] | 2.2 | 1.7 | 1.3 |
| Repetition accuracy | [mm] | ≤ 0.03 | ≤ 0.01 | ≤ 0.01 |
| Max. interchangeability | [mm] | ≤ 0.2 | | |
| Rotational symmetry | [mm] | ≤ 0.2 | | |
| Max. gripper jaw backlash | [mm] | ≤ 0.05 | ≤ 0.05 | ≤ 0.04 |
| Max. gripper jaw angular backlash | [°] | 0.4 | 0.3 | 0.3 |
| Minimum travel | [mm] | 0.5 | | |
| Position sensing | For proximity switch and position transmitter Via IO-Link | | | |
| Type of mounting | Via through-holes and centring sleeves Via female thread and centring sleeves | | | |
| Electrical connection | M12x1, 5-pin Cable with plug | | | |
| Mounting position | Any | | | |
| Bending radius, fixed cable installation | [mm] | 25 | | |
| Bending radius, flexible cable installation | [mm] | 50 | | |
| Product weight | [g] | 296 | 532 | 904 |

1) At the maximum switching frequency, the gripper heats up to above 60°C.

**Note**

The maximum gripping force is only achieved if the gripper jaws are moved through the minimum travel (see above) with no load.

Data sheet

| Electrical data | | 16 | 20 | 25 |
|--|--------|----------------|----|----|
| Size | | | | |
| Motor type | | DC servo motor | | |
| Nominal operating voltage | [V DC] | 24 ±10% | | |
| Max. current consumption ¹⁾ | [A] | 1 | 2 | 2 |
| Quiescent current | [mA] | 30 | | |

1) During the movement.

| Operating and environmental conditions | |
|--|---|
| Ambient temperature | [°C] +5 ... +60 |
| Degree of protection | IP40 |
| Noise level | [dB(A)] 70 |
| Corrosion resistance CRC ¹⁾ | 1 |
| CE marking (see declaration of conformity) ³⁾ | To EU EMC Directive ²⁾ To EU RoHS Directive |
| UKCA marking (see declaration of conformity) | To UK instructions for EMC To UK RoHS instructions |
| KC mark | KC EMC |
| Certification | RCM compliance mark |

1) Corrosion resistance class CRC 1 to Festo standard FN 940070

Low corrosion stress. Dry internal application or transport and storage protection. Also applies to parts behind coverings, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).

2) The product is suitable for industrial purposes only (Class A). Measures to suppress radio interference may be required in residential areas (Class B).

3) Additional information www.festo.com/sp → Certificates.

| Technical data – IO-Link | |
|--------------------------|-----------------------------|
| SIO-mode support | No |
| Communication mode | COM3 (230.4 kBaud) |
| Port class | Device B |
| Number of ports | Device 1 |
| Process data width OUT | [bytes] 8 |
| Process data content OUT | [bit] 16 (ControlWord) |
| | [bit] 16 (GrippingPosition) |
| | [bit] 8 (GrippingForce) |
| | [bit] 8 (GrippingMode) |
| | [bit] 8 (GrippingTolerance) |
| | [bit] 8 (WorkpieceNo) |
| Process data width IN | [bytes] 6 |
| Process data content IN | [bit] 16 (ActualPosition) |
| | [bit] 16 (ErrorNumber) |
| | [bit] 16 (StatusWord) |
| Minimum cycle time | [ms] 5 |
| Data memory required | [Kilobyte] 0.5 |
| Protocol version | Device V 1.1 |

Data sheet

Opening and closing times [ms] as a function of setting 1 ... 4

The opening and closing times stated have been measured with vertically mounted gripper, gripper jaws pointing up and without gripper fingers.

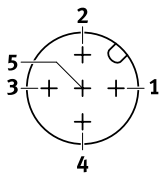
| Size Setting | 16 | 20 | 25 |
|-----------------|-----|-----|-----|
| 1 | 337 | 470 | 580 |
| 2 | 291 | 408 | 507 |
| 3 | 271 | 362 | 449 |
| 4 | 245 | 295 | 404 |

Materials

| | |
|-------------|----------------------------|
| Housing | Anodised aluminium |
| Gripper jaw | High-alloy stainless steel |
| O-ring | NBR |

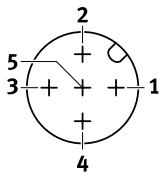
Pin allocation of the connector plug

For digital I/O



| Plug M12, 5 pin | | |
|-----------------|------------|--|
| Pin | Connection | Function |
| 1 | +24 V DC | Supply voltage |
| 2 | Input 1 | Gripper jaw opening (with external gripping) |
| 3 | 0 V | - |
| 4 | Input 2 | Gripper jaw closing (with external gripping) |
| 5 | n.c. | Not connected |

For IO-Link



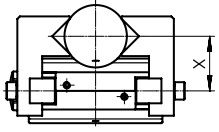
| Plug M12, 5 pin | | |
|-----------------|-------------------|--|
| Pin | Connection | Function |
| 1 | +24 V DC sensor | Sensor: Supply voltage for IO-Link communication |
| 2 | +24 V DC actuator | Actuator: supply voltage |
| 3 | GND sensor | Sensor: Supply voltage for IO-Link communication |
| 4 | C/Q | IO-Link communication |
| 5 | GND actuator | Actuator: supply voltage |

Deviation from the specification IO-Link port class B, without galvanic isolation between primary and secondary power supply. This can lead to malfunction or damage of the IO-Link master and the connected IO-Link devices.

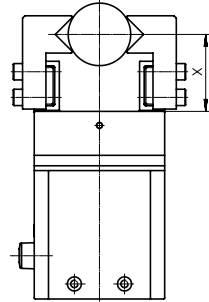
Data sheet

Total gripping force F_H as a function of lever arm x , mounting position, external/internal gripping and setting 1 ... 4

Horizontal mounting position



Vertical mounting position



The max. achievable forces refer solely to central gripping of non-elastic components.

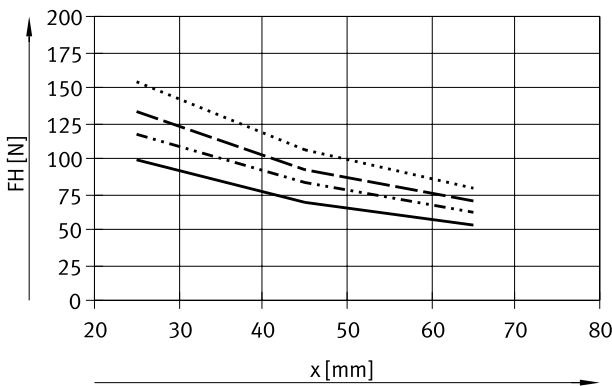
The gripping position and gripping force is not readjusted.

The design of the gripper jaw has a significant influence on the forces to be achieved.

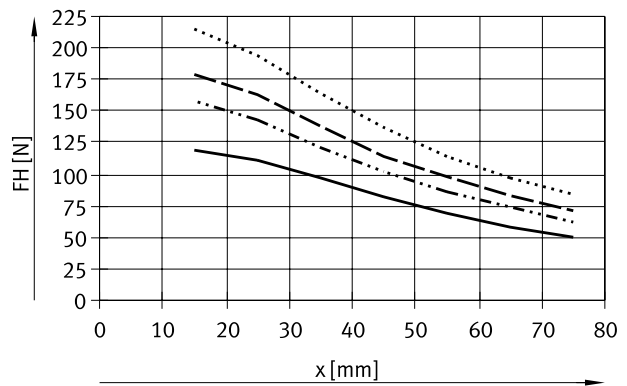
For particular gripping situations, it may be necessary to transmit a further gripping signal (max. 3 in one direction).

EHPS-16

External gripping, horizontal



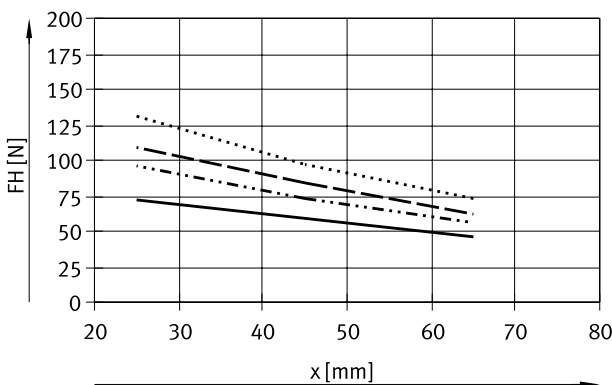
External gripping, vertical



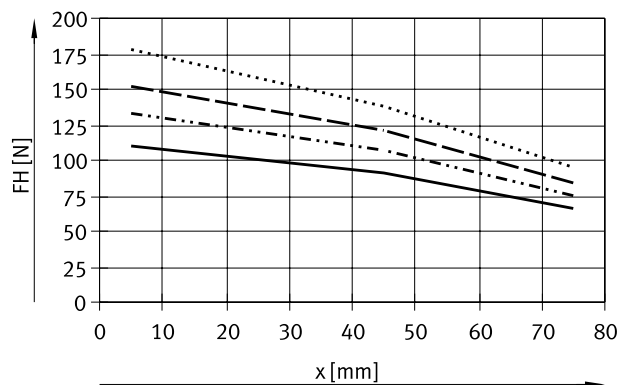
| Lever arm [mm] | F_H [N] at setting | | | |
|----------------|----------------------|-----|-----|-----|
| | 1 | 2 | 3 | 4 |
| 25 | 98 | 116 | 132 | 154 |
| 45 | 68 | 84 | 92 | 106 |
| 65 | 54 | 62 | 70 | 78 |

| Lever arm [mm] | F_H [N] at setting | | | |
|----------------|----------------------|-----|-----|-----|
| | 1 | 2 | 3 | 4 |
| 15 | 118 | 158 | 178 | 214 |
| 45 | 82 | 102 | 114 | 138 |
| 75 | 50 | 62 | 72 | 84 |

Internal gripping, horizontal



Internal gripping, vertical



| Lever arm [mm] | F_H [N] at setting | | | |
|----------------|----------------------|----|-----|-----|
| | 1 | 2 | 3 | 4 |
| 25 | 72 | 96 | 108 | 130 |
| 45 | 58 | 72 | 84 | 96 |
| 65 | 46 | 56 | 62 | 74 |

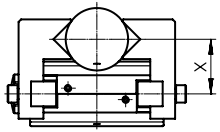
| Lever arm [mm] | F_H [N] at setting | | | |
|----------------|----------------------|-----|-----|-----|
| | 1 | 2 | 3 | 4 |
| 15 | 110 | 134 | 152 | 178 |
| 45 | 90 | 108 | 122 | 138 |
| 75 | 66 | 74 | 84 | 94 |

- Setting 1
- · - · - Setting 2
- - - - - Setting 3
- · · · · Setting 4

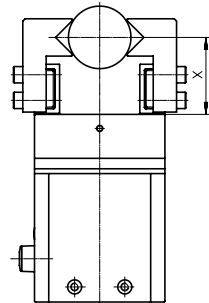
Data sheet

Total gripping force F_H as a function of lever arm x , mounting position, external/internal gripping and setting 1 ... 4

Horizontal mounting position



Vertical mounting position



The max. achievable forces refer solely to central gripping of non-elastic components.

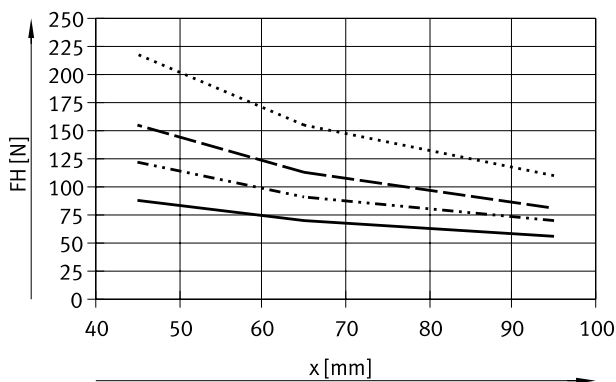
The gripping position and gripping force is not readjusted.

The design of the gripper jaw has a significant influence on the forces to be achieved.

For particular gripping situations, it may be necessary to transmit a further gripping signal (max. 3 in one direction).

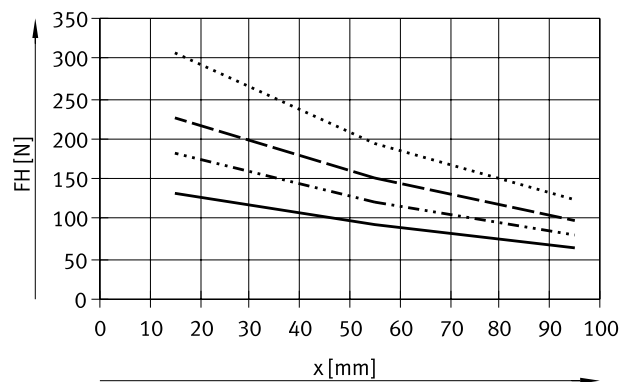
EHPS-20

External gripping, horizontal



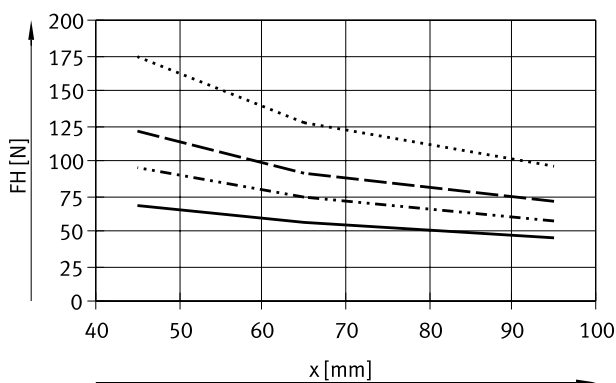
| Lever arm [mm] | F_H [N] at setting | | | |
|----------------|----------------------|-----|-----|-----|
| | 1 | 2 | 3 | 4 |
| 45 | 88 | 122 | 156 | 218 |
| 65 | 70 | 90 | 114 | 154 |
| 95 | 56 | 70 | 82 | 110 |

External gripping, vertical



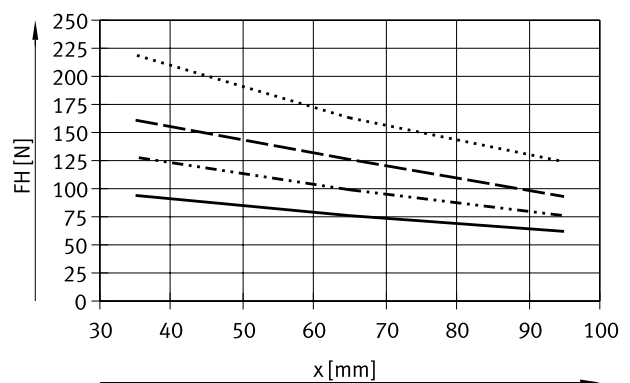
| Lever arm [mm] | F_H [N] at setting | | | |
|----------------|----------------------|-----|-----|-----|
| | 1 | 2 | 3 | 4 |
| 15 | 132 | 182 | 226 | 306 |
| 55 | 94 | 120 | 150 | 194 |
| 95 | 64 | 80 | 98 | 124 |

Internal gripping, horizontal



| Lever arm [mm] | F_H [N] at setting | | | |
|----------------|----------------------|----|-----|-----|
| | 1 | 2 | 3 | 4 |
| 45 | 68 | 96 | 120 | 174 |
| 65 | 56 | 74 | 92 | 128 |
| 95 | 46 | 58 | 72 | 96 |

Internal gripping, vertical



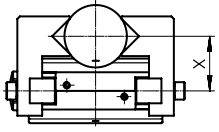
| Lever arm [mm] | F_H [N] at setting | | | |
|----------------|----------------------|-----|-----|-----|
| | 1 | 2 | 3 | 4 |
| 35 | 94 | 128 | 160 | 220 |
| 65 | 76 | 100 | 126 | 162 |
| 95 | 62 | 76 | 92 | 124 |

- Setting 1
- · - · - Setting 2
- - - - - Setting 3
- · · · · Setting 4

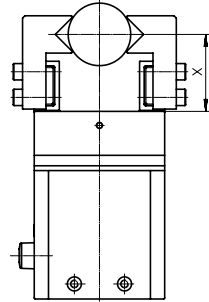
Data sheet

Total gripping force F_H as a function of lever arm x , mounting position, external/internal gripping and setting 1 ... 4

Horizontal mounting position



Vertical mounting position



The max. achievable forces refer solely to central gripping of non-elastic components.

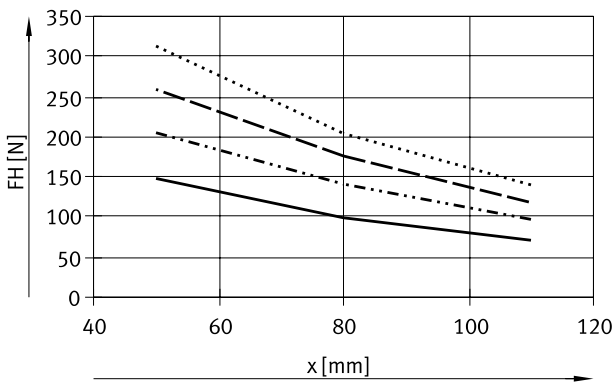
The gripping position and gripping force is not readjusted.

The design of the gripper jaw has a significant influence on the forces to be achieved.

For particular gripping situations, it may be necessary to transmit a further gripping signal (max. 3 in one direction).

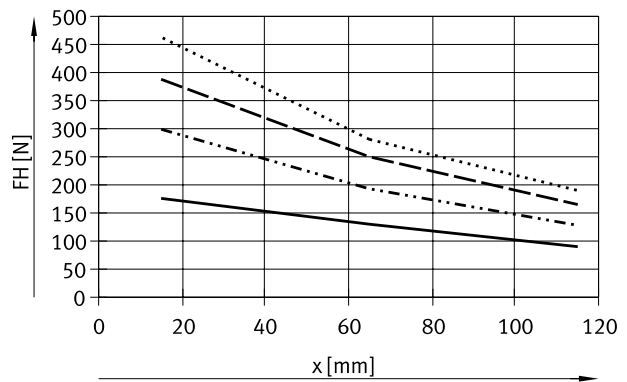
EHPS-25

External gripping, horizontal



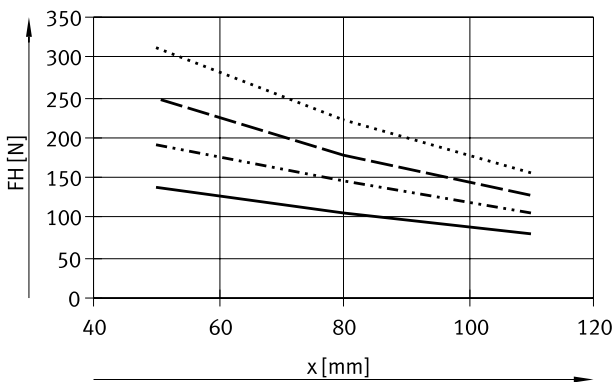
| Lever arm [mm] | F_H [N] at setting | | | |
|----------------|----------------------|-----|-----|-----|
| | 1 | 2 | 3 | 4 |
| 50 | 148 | 204 | 260 | 312 |
| 80 | 98 | 140 | 176 | 204 |
| 110 | 70 | 96 | 118 | 140 |

External gripping, vertical



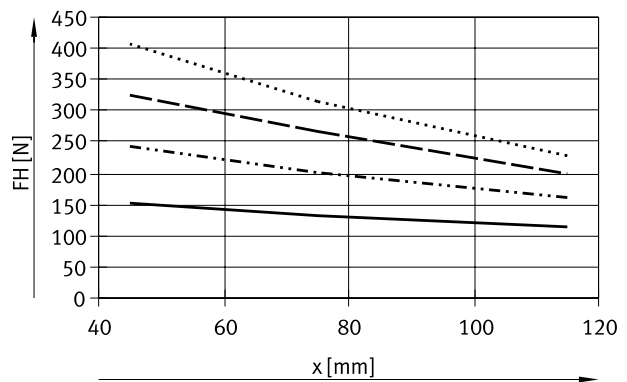
| Lever arm [mm] | F_H [N] at setting | | | |
|----------------|----------------------|-----|-----|-----|
| | 1 | 2 | 3 | 4 |
| 15 | 176 | 298 | 388 | 462 |
| 65 | 130 | 194 | 250 | 280 |
| 115 | 90 | 128 | 166 | 190 |

Internal gripping, horizontal



| Lever arm [mm] | F_H [N] at setting | | | |
|----------------|----------------------|-----|-----|-----|
| | 1 | 2 | 3 | 4 |
| 50 | 138 | 192 | 250 | 312 |
| 80 | 106 | 146 | 178 | 222 |
| 110 | 80 | 106 | 128 | 156 |

Internal gripping, vertical

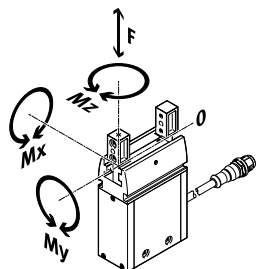


| Lever arm [mm] | F_H [N] at setting | | | |
|----------------|----------------------|-----|-----|-----|
| | 1 | 2 | 3 | 4 |
| 45 | 152 | 242 | 326 | 406 |
| 75 | 132 | 200 | 266 | 314 |
| 115 | 114 | 162 | 198 | 228 |

- Setting 1
- · - · - Setting 2
- - - - - Setting 3
- · · · · Setting 4

Data sheet

Static characteristic load values at the gripper jaws

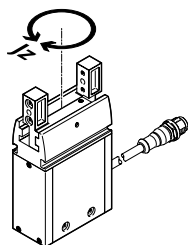


The indicated permissible forces and torques apply to a single gripper jaw. They include the lever arm, additional applied loads due to the workpiece or external gripper fingers and acceleration forces occurring during movement.

The zero coordinate line (gripper jaw guide slot) must be taken into consideration when calculating the torques.

| Size | | 16 | 20 | 25 |
|-------------------------------|------|-----|-----|-----|
| Max. permissible force F_z | [N] | 200 | 325 | 450 |
| Max. permissible torque M_x | [Nm] | 7 | 13 | 28 |
| Max. permissible torque M_y | [Nm] | 4.4 | 8 | 16 |
| Max. permissible torque M_z | [Nm] | 7 | 13 | 28 |

Mass moment of inertia



Under the following conditions:

- The reference point is the central axis
- Without external gripper fingers
- In a load-free state

| Size | | 16 | 20 | 25 |
|------------------------|----------------------|------|------|------|
| Mass moment of inertia | [kgcm ²] | 0.78 | 2.02 | 5.24 |

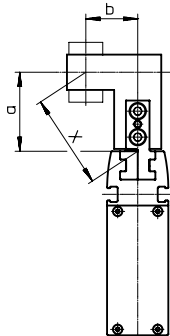
Data sheet

Gripping force F_H per gripper jaw as a function of lever arm x and eccentricity a and b

The following formula must be used to calculate the lever arm x with eccentric gripping:

$$x = \sqrt{a^2 + b^2}$$

The gripping force F_H can be read from the graphs (→ page 10) using the calculated value x .

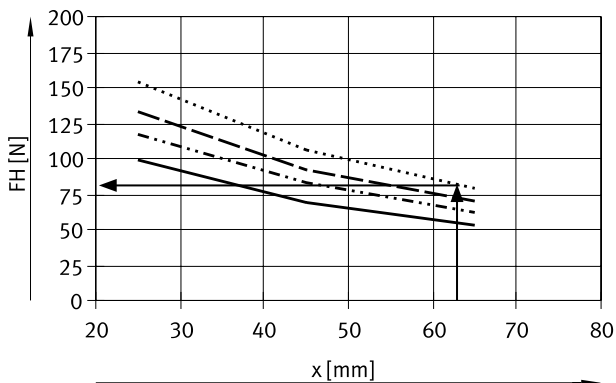


Calculation example

Given:
 Distance $a = 40$ mm
 Distance $b = 50$ mm
 To be calculated:
 The gripping force in setting 4, with an EHPS-16-A, used as an external gripper and in horizontal mounting position.

Approach:
 Calculating the lever arm x
 $x = \sqrt{40^2 + 50^2}$
 $x = 64$ mm

The graph (→ page 10) gives a value of $F_H =$ approx. 77 N for the gripping force.

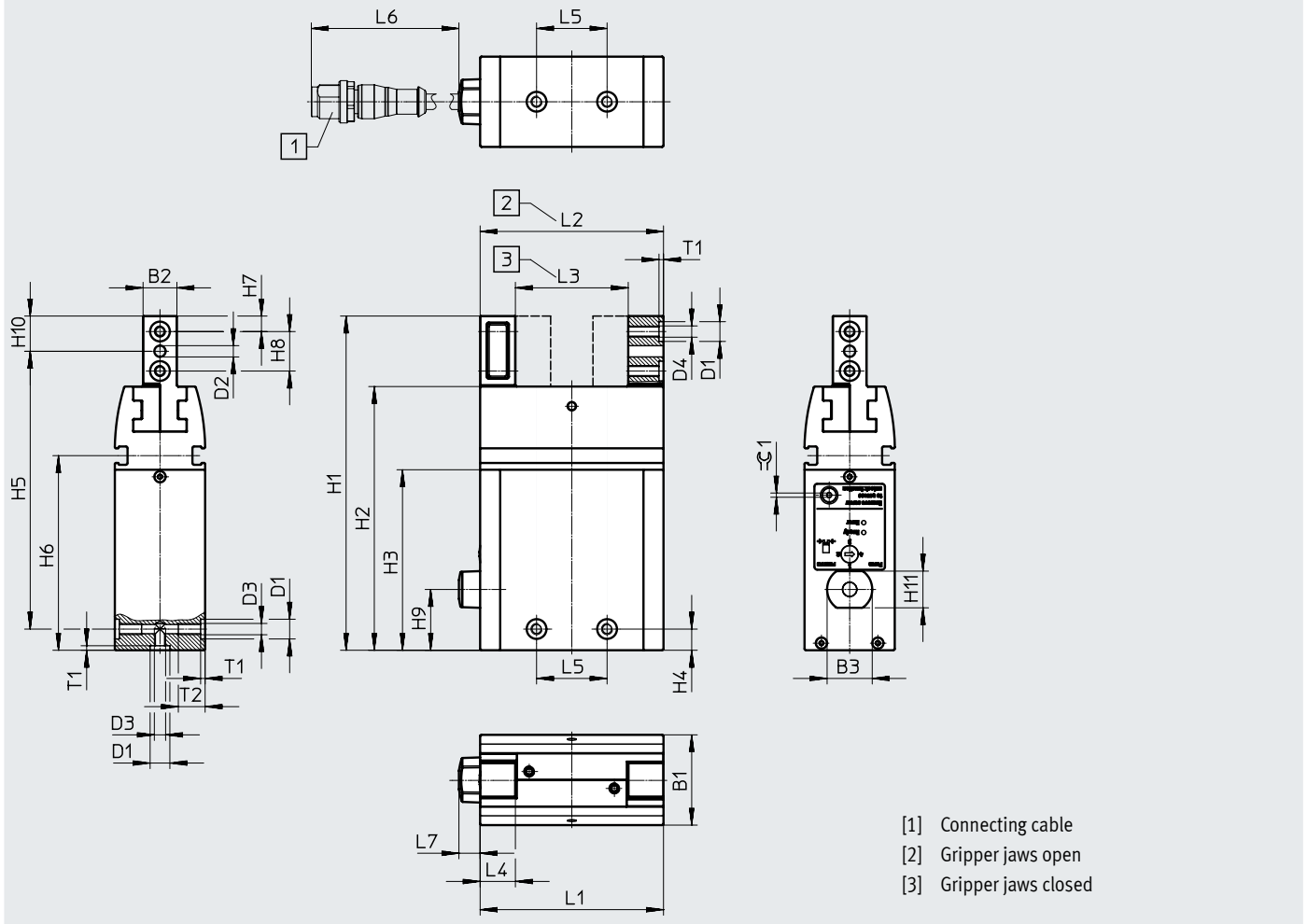


- Setting 1
- Setting 2
- - - Setting 3
- · - · - Setting 4

Data sheet

Dimensions

Download CAD data → www.festo.com



| Size | B1 ±0.03 | B2 ±0.05 | B3 | D1 ∅ H8 | D2 ∅ H8 | D3 | D4 | H1 ±0.1 | H2 |
|------|-------------|-------------|----|---------------|---------------|----|----|------------|------|
| 16 | 26 | 10 | 16 | 7 | 3 | M4 | M4 | 99.5 | 78 |
| 20 | 32 | 12 | 16 | 7 | 4 | M4 | M4 | 118.5 | 93.5 |
| 25 | 39 | 15 | 16 | 9 | 4 | M6 | M5 | 139.5 | 110 |

| Size | H3 | H4 ¹⁾ | H5 ±0.2 | H6 | H7 ¹⁾ | H8 ¹⁾ | H9 | H10 | H11 |
|------|----|------------------|------------|------|------------------|------------------|------|------|-----|
| 16 | 55 | 7.5 | 82 | 59.8 | 4.5 | 11 | 14.5 | 10 | 13 |
| 20 | 64 | 7.5 | 98.5 | 69 | 5.5 | 14 | 21.6 | 12.5 | 32 |
| 25 | 75 | 12.5 | 112 | 80 | 7 | 16 | 28.6 | 15 | 39 |

| Size | L1 ±0.3 | L2 +1 | L3 ±0.5 | L4 ±0.05 | L5 ¹⁾ | L6 | L7 | T1 +0.1 | T2 min. | ≅C1 |
|------|------------|----------|------------|-------------|------------------|-----|-----|------------|------------|-----|
| 16 | 53.8 | 53.8 | 33.8 | 10.5 | 25 | 300 | 7.5 | 1.6 | 9.5 | 1.5 |
| 20 | 65 | 65 | 39 | 12.5 | 25 | 300 | 7.5 | 1.6 | 9.5 | 1.5 |
| 25 | 79.4 | 79.4 | 47.4 | 15 | 29 | 300 | 7.5 | 2.1 | 12 | 2 |

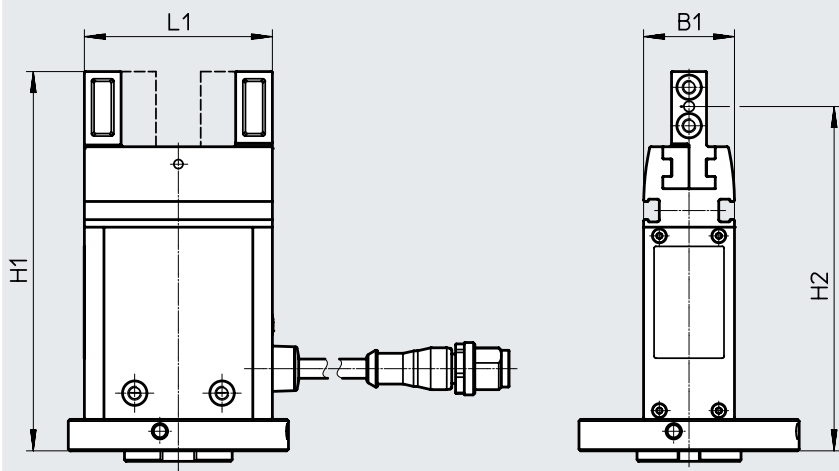
1) Tolerance for centring hole ±0.02 mm
Tolerance for thread ±0.1 mm

Data sheet

Dimensions

Download CAD data → www.festo.com

With robot connection



| Size | B1 | H1 | H2 | L1 |
|------|----|-------|-------|------|
| 16 | 26 | 108.5 | 98.5 | 53.8 |
| 20 | 32 | 127.5 | 115 | 65 |
| 25 | 39 | 148.5 | 133.5 | 79.4 |

Ordering data

| | Size | Part no. | Type |
|----|-----------------------|----------------|--------------|
| | With I/O interface | | |
| | 16 | 8070832 | EHPS-16-A |
| | 20 | 8070831 | EHPS-20-A |
| | 25 | 8070830 | EHPS-25-A |
| | With IO-Link | | |
| | 16 | 8103809 | EHPS-16-A-LK |
| | 20 | 8103810 | EHPS-20-A-LK |
| | 25 | 8103811 | EHPS-25-A-LK |
| | With robot connection | | |
| 16 | 8119111 | EHPS-16-A-RA1 | |
| 20 | 8119112 | EHPS-20-A-RA1 | |
| 25 | 8119113 | EHPS-25-A-RA1 | |


Ordering information – Gripper jaws for microwell plates



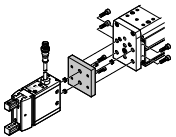
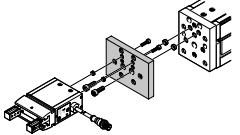
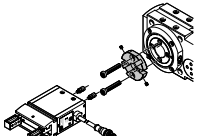
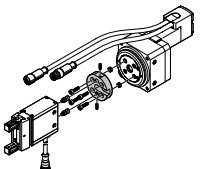
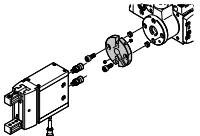
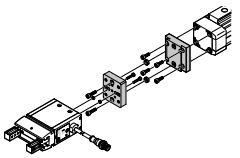
| | Size | Part no. | Type |
|--|----------------------------------|----------------|------------------------|
| | Gripper jaw mounting horizontal | | |
| | 16 | 8146633 | EHAA-G1-B18-16-GGA1 |
| | Gripper jaw mounting vertical | | |
| | 16 | 8146634 | EHAA-G1-B18-16-GGA1-AP |
| | Gripper jaws for microwell plate | | |
| | 16 | 8119108 | DHAS-GG-B18-16-A1 |

Accessories

Adapter kit
DHAA, HAPG, HMSV


Material:
Wrought aluminium alloy
Free of copper and PTFE
RoHS-compliant

 **Note**
The kit includes the individual mounting interface as well as the necessary mounting material.

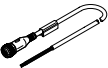

| Permissible drive/gripper combinations with adapter kit | | | | | | | Download CAD data → www.festo.com | |
|---|--------------------------|-----------------|---|---|-------------------------|------------|--|--|
| Combination | Drive Size | Gripper Size | Mounting option | | Adapter kit | | | |
| | | |  |  | CRC ¹⁾ | Part no. | Type | |
|  | EGSC | EHPS | | | HMSV | | | |
| | 60 | 16, 20 | ■ | ■ | 2 | 8106581 | DHAA-G-E8-60-B18-16 | |
|  | EGSL | EHPS | | | HMSV | | | |
| | 45, 55 | 16 | ■ | ■ | 2 | 548785 | HMSV-55 | |
| | 75 | 20, 25 | ■ | ■ | | 548786 | HMSV-56 | |
|  | ERMB | EHPS | | | HAPG | | | |
| | 20 | 16, 20 | ■ | ■ | 2 | 184479 | HAPG-SD2-3 | |
| | 25 | 16, 20 | ■ | ■ | | 184482 | HAPG-SD2-6 | |
| | 20 | 25 | ■ | ■ | | 184480 | HAPG-SD2-4 | |
| | 25 | 25 | ■ | ■ | | 184483 | HAPG-SD2-7 | |
| | 32 | 25 | ■ | ■ | | 184485 | HAPG-SD2-9 | |
| | | | | | | | | |
|  | ERMO | EHPS | | | DHAA | | | |
| | 16 | 16 | ■ | ■ | 2 | 8079173 | DHAA-G-R3-16-B18-16 | |
| | 25 | 16, 20 | ■ | ■ | | 8071956 | DHAA-G-R3-25-B18-16 | |
| | 32 | 20 | ■ | ■ | | 8079214 | DHAA-G-R3-32-B18-20 | |
| | 32 | 25 | ■ | ■ | | 8079208 | DHAA-G-R3-32-B18-25 | |
| | | | | | | | | |
|  | EHMB | EHPS | | | HAPG | | | |
| | 20 | 25 | ■ | ■ | 2 | 184485 | HAPG-SD2-9 | |
| | 25, 32 | 25 | ■ | ■ | | 8078739 | DHAA-G-H1-25-B18-25 | |
|  | DGPL | EHPS | | | HMVA, HAPG, HMSV | | | |
| | Direct mounting | | | | | | | |
| | 25, 32 | 16 | ■ | ■ | 2 | 196788 | HMVA-DLA18/25 | |
| | | | | | | 193922 | HAPG-37-S4 | |
| | 40 | 16 | ■ | ■ | | 196790 | HMVA-DLA40 | |
| | | | | | | 193922 | HAPG-37-S4 | |
| | Dovetail mounting | | | | | | | |
| | 25 | 16 | ■ | ■ | 2 | 196788 | HMVA-DLA18/25 | |
| | | | | | | 177768 | HMSV-28 | |
| | 40 | 16, 20 | ■ | ■ | | 196790 | HMVA-DLA40 | |
| | | | | 177768 | | HMSV-28 | | |
| 40 | 25 | ■ | ■ | 196790 | | HMVA-DLA40 | | |
| | | | | 177769 | HMSV-29 | | | |



1) Corrosion resistance class CRC 2 to Festo standard FN 940070
Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment.


Accessories



| Ordering data | | | | | | |
|--|---------------|---|------------|----------------|----------------|------------------|
| | For size [mm] | Description | Weight [g] | Part no. | Type | PU ¹⁾ |
| Centring sleeve ZBH Data sheets → Internet: zbh | | | | | | |
|  | 16, 20 | Included in the scope of delivery of the gripper: 4 centring sleeves for the gripper jaws and 2 for mounting the gripper | 1 | 8146544 | ZBH-7-B | 10 |
| | 25 | | 1 | 150927 | ZBH-9 | |

1) Packaging unit

| Ordering data – Connecting cables for the gripper's connector plugs | | | | | | |
|--|-------------------------------|-------------------------------|------------------|----------------|-----------------------------------|--|
| | Electrical connection, left | Electrical connection, right | Cable length [m] | Part no. | Type | |
|  | Straight socket, M12x1, 5-pin | Cable, open end, 4-wire | 2.5 | 550326 | NEBU-M12G5-K-2.5-LE4 | |
| | | | 5 | 541328 | NEBU-M12G5-K-5-LE4 | |
| | Angled socket, M12x1, 5-pin | Cable, open end, 4-wire | 2.5 | 550325 | NEBU-M12W5-K-2.5-LE4 | |
| | | | 5 | 541329 | NEBU-M12W5-K-5-LE4 | |
|  | Straight socket, M12x1, 5-pin | Straight socket, M12x1, 5-pin | 5 | 574321 | NEBU-M12G5-E-5-Q8N-M12G5 | |
| | | | 7.5 | 574322 | NEBU-M12G5-E-7.5-Q8N-M12G5 | |
| | Straight socket, M12x1, 5-pin | Angled socket, M12x1, 5-pin | 0.5 | 8003617 | NEBU-M12G5-K-0.5-M12W5 | |
| | | | 2 | 8003618 | NEBU-M12G5-K-2-M12W5 | |

| Ordering data – Proximity switches for T-slot, magneto-resistive | | | | | | |
|--|---|------------------|-----------------------|------------------|---------------|----------------------------------|
| | Type of mounting | Switching output | Electrical connection | Cable length [m] | Part no. | Type |
| N/O contact Data sheets → Internet: smt | | | | | | |
|  | Inserted in the slot from above, short design | PNP | Cable, 3-wire | 2.5 | 574335 | SMT-8M-A-PS-24V-E-2,5-OE |
| | | | Plug M8x1, 3-pin | 0.3 | 574334 | SMT-8M-A-PS-24V-E-0,3-M8D |
| | | NPN | Cable, 3-wire | 2.5 | 574338 | SMT-8M-A-NS-24V-E-2,5-OE |
| | | | Plug M8x1, 3-pin | 0.3 | 574339 | SMT-8M-A-NS-24V-E-0,3-M8D |
| N/C contact | | | | | | |
|  | Inserted in the slot from above, short design | PNP | Cable, 3-wire | 7.5 | 574340 | SMT-8M-A-PO-24V-E-7,5-OE |

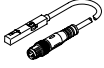
| Ordering data – Proximity switches for T-slot, magneto-resistive | | | | | | |
|--|------------------------------------|------------------|---|------------------|----------------|---------------------------------|
| | Type of mounting | Switching output | Electrical connection, outlet direction of connection | Cable length [m] | Part no. | Type |
| N/O contact Data sheets → Internet: smt | | | | | | |
|  | Insertable in the slot length-wise | PNP | Cable, 3-wire, lateral | 2.5 | 547859 | SMT-8G-PS-24V-E-2,5Q-OE |
| | | | Plug M8x1, 3-pin, lateral | 0.3 | 547860 | SMT-8G-PS-24V-E-0,3Q-M8D |
| | | NPN | Cable, 3-wire, lateral | 2.5 | 8065028 | SMT-8G-NS-24V-E-2,5Q-OE |
| | | | Plug M8x1, 3-pin, lateral | 0.3 | 8065027 | SMT-8G-NS-24V-E-0,3Q-M8D |


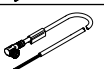
| Ordering data – Connecting cables | | | | | | |
|--|------------------------------|------------------------------|------------------|---------------|----------------------------|--|
| | Electrical connection, left | Electrical connection, right | Cable length [m] | Part no. | Type | |
| Data sheets → Internet: nebu | | | | | | |
|  | Straight socket, M8x1, 3-pin | Cable, open end, 3-wire | 2.5 | 541333 | NEBU-M8G3-K-2.5-LE3 | |
| | | | 5 | 541334 | NEBU-M8G3-K-5-LE3 | |
|  | Angled socket, M8x1, 3-pin | Cable, open end, 3-wire | 2.5 | 541338 | NEBU-M8W3-K-2.5-LE3 | |
| | | | 5 | 541341 | NEBU-M8W3-K-5-LE3 | |

Accessories

Position transmitter

The position transmitter continuously senses the position of the gripper jaws. It has an analogue output with an output signal that is proportional to the gripper jaw position.

| Ordering data – Position transmitters for T-slot | | | | | | | | Data sheets → Internet: position transmitter |
|---|-----------|--------------------------|---------------------|-----------------------------|---------------------------|------------------|----------|--|
| | For size | Position measuring range | Analogue output [V] | Type of mounting | Electrical connection | Cable length [m] | Part no. | Type |
|  | 10 ... 35 | 0 ... 40 | 0 ... 10 | Inserted in slot from above | Plug M8x1, 4-pin, in-line | 0.3 | 553744 | SMAT-8M-U-E-0,3-M8D |

| Ordering data – Connecting cables | | | | | Data sheets → Internet: nebu |
|---|------------------------------|------------------------------|------------------|----------|------------------------------|
| | Electrical connection, left | Electrical connection, right | Cable length [m] | Part no. | Type |
|  | Straight socket, M8x1, 4-pin | Cable, open end, 4-wire | 2.5 | 541342 | NEBU-M8G4-K-2.5-LE4 |
| | | | 5 | 541343 | NEBU-M8G4-K-5-LE4 |
|  | Angled socket, M8x1, 4-pin | Cable, open end, 4-wire | 2.5 | 541344 | NEBU-M8W4-K-2.5-LE4 |
| | | | 5 | 541345 | NEBU-M8W4-K-5-LE4 |